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'Genderising' Aspects of Birth-Related Leave Policies and Fertility Behaviour in Europe:

Understanding Policy from an Individual's Perspective

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Abstract

In the context of population ageing and its consequences for future welfare state support, the issue of low fertility in Europe has become very topical over the past two decades. The role of policy and gender equality in explaining fertility behaviour has gained a prominent position in the literature and even today represents two streams that are believed to be important predictors of the current fertility outcomes in Europe.

When building arguments regarding the policy effects on fertility behaviour, authors often implicitly assume that everyone living in a given country is entitled to support from particular statutory policy and/or that each individual is entitled to the same amount of support. However, although everyone of reproductive age is likely to make a decision about having children, the policy support does not mean the same thing for each one of them. Instead the set of rules on eligibility conditions clearly states who is entitled to welfare state support and how extensive this support is going to be. These rules consequently mediate the impact a child is going to have on an individual's circumstances and therefore may influence the decision of whether or when to start a family and how big this family is going to be.

The issue of within-country variation in the distribution of entitlements to policy support has been largely ignored in the comparative welfare state literature and has not been sufficiently acknowledged in fertility research. By focusing on the birth-related leave schemes in Europe, this thesis aims to address this gap. It does so by linking the individual-level survey data from EU-SILC with legislative rules from 27 European countries. Such an approach allows the identification of individuals that would be entitled to birth-related leave and compares how their socio-economic situation would change if they were to have a child. Apart from that the thesis is set into a wider context of contemporary fertility research that examines the role of gender issues in fertility behaviour. As such the thesis is particularly interested in the

distribution of entitlements to birth-related leave between men and women and in the analyses pays special attention to the policy designs that strengthen traditional gender roles and whether they are associated with fertility behaviour.

Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated otherwise by reference or acknowledgement, the work presented is entirely my own.

Den Haag, 24th February 2016   Alžběta Bártová

Acknowledgement

baby daughter Josefina who puts theory into practice and gives me the amazing opportunity to share the experience of many women whom this research is about.

List of Abbreviations

AT   Austria

BE   Belgium

BG   Bulgaria

CY   Cyprus

CZ   the Czech Republic

DK   Denmark

EE   Estonia

EPIC   European Platform for Investing in Children

ES   Spain

EU   European Union

EU-SILC   European Union Statistics on Income and Living Conditions

FI   Finland

FR   France

GR   Greece

HU   Hungary

IE   Ireland

IS   Iceland

IT   Italy

LP&R   International Network on Leave Policies & Research

LT   Lithuania

LU   Luxembourg

LV   Latvia

MISSOC   Mutual Information System on Social Protection

MT   Malta

NL   the Netherlands

NO   Norway

PL   Poland

RO   Romania

SE   Sweden

SI   Slovenia

SK   Slovakia

UK   the United Kingdom

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1 INTRODUCTION

The fertility rates in many European countries have been steadily declining over the past decades, and below-replacement fertility has become a new norm (Frejka & Sobotka 2008). The shift in fertility behaviour is a phenomenon that directly touches upon welfare issues and public finances. Low fertility is seen as one of the main, although not the sole, driving factors behind population ageing in Europe - a process in which the age composition shifts away from the economically active cohorts towards older, economically dependent population (Rowland 2003; Lutz et al. 2008; Sander et al. 2015). The shrinking of the economically active population is undisputedly associated with lower income for the exchequer, as public expenses grow continuously if the welfare state support remains unchanged (Sanz & Velázquez 2007; Tepe & Vanhuysse 2010; Bjørner & Arnberg 2012; Kluge 2013). Nevertheless, it is widely believed that the population ageing problem is politically manageable (Jaumotte 2003; Haverland & Marier 2008; Prettner et al. 2013; Lee & Mason 2014; Kluge et al. 2014; Smeeding 2014). Possible solutions include the alternation of the pension benefits calculations (Meier & Werding 2011), discouragement of early retirement (Van Dalen & Henkens 2002; Ebbinghaus 2006; Gendron 2011), prolongation of the threshold for retirement age (Hviding & Mérette 1998; van Sonsbeek 2010; Vogel et al. 2015; Bielecki et al. 2016), improvement in integration of older workers into the labour market (OECD 2006; Maestas & Zissimopoulos 2010; Wasilewska 2013; Sonnet et al. 2014) and increase in female labour market participation (Bongaarts 2004; Carone et al. 2005; Kitterod et al. 2013). In addition to such measures, even modest recoveries in fertility rates could also help slow the process of societal ageing.

Many scholars believe that the fertility rates will not again reach the population replacement levels of 2.1 children per woman despite the recent increase in period fertility rates (Goldstein et al. 2009; Bongaarts & Sobotka 2012; Reher 2015; Burkimsher 2015). We

cannot even find consolation in the fact that period fertility rates often underestimate actual fertility levels (Kohler & Ortega 2002; Sobotka 2003; Myrskylä et al. 2013). This is because completed cohort fertility rates, which provide more accurate information about fertility trends, have also been declining below the population replacement rate, even if at a much slower pace (Sobotka et al. 2012; Myrskylä et al. 2013). This trend indicates that the issues associated with the population ageing process are here to stay. However, before accepting the current fertility outcomes as unalterable, we should ask whether contemporary fertility outcomes also correspond with fertility preferences of individuals who are of reproductive age. The research shows that over the decades the ideal number of children reported by respondents of various surveys has not significantly changed, and instead has remained stable with a clear preference for a two-child family, with only minor deviations across countries (Testa 2012; Sobotka & Beaujouan 2014). However, the completed cohort fertility rates are currently below the population replacement rate in many developed countries (Myrskylä et al. 2013). Given these outcomes, the discrepancy between the fertility preferences and the actual fertility outcomes suggests that a considerable number of individuals do not succeed in realising of their ideal family size by the end of their reproductive period.

There are many reasons for such outcomes, from lack of appropriate life partners to insufficient economic resources for young families. Some researchers see the 'fertility gap', i.e. the difference between ideal and actual fertility, as an opportunity for social policies to provide people with conditions under which they will be able to pursue their fertility preferences (e.g. Chesnais 1998; Bonoli 2008). Although policy-makers often consider fertility to be a personal issue not be meddled with (e.g. Schippers 2011), the role of policy in fertility behaviour is still worth exploring. This is because policy measures directly interfere with people's lives and socioeconomic situation, even in cases where the explicit intention of policy is unrelated to fertility. The alteration of the socioeconomic conditions of

the women and couples through the policy support (or lack of thereof) may in fact play a role in people's personal decisions including whether or when to start a family, or how many children to have.

For instance, the presence of a child considerably changes the situation of a couple, with demand for constant care in the early years of the child's life. The couple's socio-economic situation and the welfare state support will determine whether and when the parent/s will be able to return to work after birth, and how large a share of their income will be lost due to childcare. This question is regulated mainly by maternity, paternity, and parental leave designs which ensure working parents time off work to provide childcare, and also guarantee that they will not lose their jobs by doing so. Another such policy is the support for formal childcare services such as nurseries or kindergartens. Apart from the guaranteed return to the same employer, the leave policies often compensate parents for the time they spent on childcare and as such, partially determine how the presence of a young child impacts families' finances. The role of policy support in fertility behaviour is then determined by the extent to which it allows the couple's socioeconomic situation to change following birth. Arguably, the less favourable conditions a couple would have after childbirth, the more likely they will be to postpone their decision to start a family for more financially stable times. Alternatively, they may reconsider their fertility plans and opt for smaller family.

Similar arguments have been made by researchers who described and analysed the association between female employment and fertility. The increase in female labour force participation and their rising employment rates were seen as one of the important driving forces behind the fertility decline in the second half of the 20th century. However, some researchers have observed that the association between the total fertility rates and female employment rate changed from negative to positive in the 1980s (Ahn & Mira 2002; Billari & Kohler 2004). The ability of women to better combine work and family responsibilities was often used as an explanation of the high fertility outcomes in countries with high female

employment rates. Such findings were unexpected, as they opposed traditional economic explanations of fertility behaviour, which held that raising a child is a high opportunity cost for working and highly educated women (Willis 1973; de Laat & Sevilla-Sanz 2011). The relationship between employment and fertility behaviour was therefore expected to be negative. Reconciliation policies, which facilitate maternal employment, were hypothesised to be responsible for these unexpected observations. Although the macro-level findings had been questioned and re-examined (Engelhardt & Prskawetz 2004; Engelhardt et al. 2004; Kögel 2004), many micro-level research studies have also shown that working women have higher propensity to have children (Hoem 2000; Vignoli 2013; Ciganda 2015; Miettinen et al. 2015).

About two decades ago, the issue of gender equality emerged as an important explanatory factor for fertility variation across developed countries when researchers noticed that gender empowerment leads to different fertility outcomes in developing and developed countries. This 'feminist paradox', as it was labelled by Jean-Paul Chesnais (1996), points out that while in developing countries, the stronger position of women in the society is often associated with fertility decline (Mason 1995; Abadian 1996; Fargues 2005), in some developed countries (e.g. Nordic countries) women's stronger societal position prevented fertility rates from declining to the lowest-low levels[1] (Chesnais 1998; McDonald 2000b; Santangelo 2011). Australian demographer Peter McDonald formulated a hypothesis based on these observations: McDonald argues that inconsistencies in the degree of gender equity on an individual and societal level lead to low fertility outcomes (McDonald 2000a). Similarly, according to Gøsta Esping-Andersen, contemporary Western societies find themselves in a state of multiple equilibria, a transitional phase between traditional and gender-egalitarian equilibrium that lacks clear norms and expectations (Esping-Andersen et

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[1] The term lowest-low fertility marks the fertility rate that is below 1.3 child per woman (Kohler et al. 2002) but the threshold of 1.4 is sometimes used instead (Esping-Andersen 2013).

al. 2013; Esping-Andersen & Billari 2015). According to this theoretical perspective, the presence of multiple equilibria is associated with low fertility that is expected to rise again once the new gender egalitarian equilibrium emerges (Esping-Andersen 2009; Arpino et al. 2015; Esping-Andersen & Billari 2015). The theory predicts this to happen when the gender egalitarian norms are adopted by a sufficiently large share of the population. However, the authors suspect this process to be very slow in stratified societies where gender egalitarian values are held primarily by highly educated individuals; they argue that policy supporting gender egalitarian norms have the capacity to facilitate the diffusion of the new norm to the lower social strata (Esping-Andersen & Billari 2015).

The policy therefore plays an important role in both economic and sociological explanations of fertility outcomes. However, policy is often viewed as a phenomenon that shapes the context in which the individuals live, and how they make their fertility decisions. The theoretical approaches and many empirical studies see policy as a societal characteristic and implicitly assume that all individuals living in the same country are subjected to the same policy support. What is more, they often assume that they are entitled to the same amount of support. But such an assumption is not necessarily correct. If we take into consideration those policies that facilitate the combination of work and family responsibilities, such as flexible employment, these benefits may not be attainable to women who are employed in shift work or low-skilled work. Similarly, maternity and parental leave designs are based on complex rules that determine who is eligible for support and how extensive this support will be. Often the eligibility conditions require the mother to be employed and to have a working history of a certain length. Consequently, such policy support may be unattainable to women with insecure positions on the labour market. Since women who tend to be employed in low skilled work and those with unstable positions on the labour market tend to have lower educational attainment, it is possible that policy support is stratified and available only to women from higher social strata. Overlooking this within-country variation in the policy

entitlements may provide misleading information about the role of the policies in the fertility behaviour. Consequently, it can also lead to our misunderstanding of fertility variation across European countries.

1.1   The aim and scope of the thesis

This thesis aims to explore the issue of the within-country variation in the policy entitlements and their role in the fertility behaviour and its variation across European countries. Since the issue of the within-country variation in comparative perspective has not been empirically challenged in existing literature, the thesis focuses only on one form of a policy support rather than on a whole set of policy measures. The birth-related leave policy measure was selected for this study due to its complex policy design with a strong potential for stratification of its entitlements and the potential impact on the gender division of labour following childbirth. This approach contrasts the mainstream social policy and welfare state research that emphasises the importance of studying the policy system rather than studying individual policy measures (Daly 1994; Kammer et al. 2012). The holistic approach has found its place also in the fertility literature (e.g. Matysiak & Weziak-Bialowolska 2016). However, an approach that focuses on the whole system does not allow room to thoroughly study and understand the individual policy measures and their role in the overall policy support. Moreover, policy-makers are often inclined to make partial changes in existing policies rather than redesigning the whole system of welfare support. Omitting the detailed analysis of individual policy measures from the research agenda therefore provides limited sources for policy-makers to adopt an evidence-based decision regarding policy reforms. The focus on one specific policy measure with its individual characteristics and their combination set in cross-country comparative study therefore provides a considerable contribution to knowledge about birth-related leave policy designs and their associations with fertility behaviour.

In order to conduct such an analysis, this thesis introduces an innovative approach to the measurement of the birth-related leave policies and complex policy designs in general. Up until now, the common approach to operationalising birth-related leave policies has been to use an indicator, or a set of indicators, based on legislative rules. For instance, the minimum and maximum threshold on the benefit payment is often overlooked in the quantification of the indicator, and the replacement rate stated in the legislation is used instead. In cases where the financial support provided by a birth-related scheme is based on a flat-rate benefits, the authors commonly compare this flat-rate benefit to some indicator of an average income (Gauthier & Hatzius 1997; De Henau, Meulders & Sile O'Dorchai 2008a; Ray et al. 2010; OECD Family Database 2015b). At the same time, the macro-level measures do not contain an information about how many women would be entitled to such a policy support, should they have a child in any given year. Consequently, the macro-level indicators implicitly assume that all women in the country are entitled to particular policy support, as has been already noted in the previous section. An alternative way of operationalising the birth-related leave policies is to determine the actual use of this welfare support measure by parents. However, such an approach is subjected to a selection effect, as it cannot take into account the potential role of policy design on the type of people that select themselves for parenthood. The approach to policy operationalisation proposed in this thesis corrects the limitations of the existing approaches by measuring birth-related leave policy support from the position of women and their socioeconomic circumstances.

This alternative approach to the operationalization of the birth-related leave policies combines the legislative rules from 27 European countries with the information about women surveyed about their economic and living conditions. Such an approach combines strengths of macro- and micro-level approaches. It has the ability of macro-level policy indicators because the information obtained through the data enriching process can be used in research on the association between policy and transitions to first birth. At the same time,

it has the comprehensive nature of the individual level studies. To create such measures, comprehensive survey data from the European Union Statistics on Income and Living Conditions (EU-SILC) is used to identify women in the survey who would be eligible for birth-related leave support if they were to have a child in any given year. These women are identified according to the eligibility rules collected primarily from the Annual Review provided by the International Network on Leave Policies & Research (LP&R), and from the database of the Mutual Information System on Social Protection (MISSOC). Moreover, the same data sources will be used to determine how long a leave each woman in the survey would be entitled to, and to estimate the amount of financial compensation they would receive. In other words, this approach is designed to estimate the extent of the support from the birth-related leave scheme for each woman in the survey before they become parents or have another child.

A large number of countries were selected for the analysis in order to contribute to our understanding of the role that birth-related leave policies play in contemporary fertility outcomes in Europe and to fertility variation across countries. This would not be possible with a smaller number of countries. However, the final number of countries was limited by data availability. The EU-SILC survey was selected because it provides longitudinal data that are appropriate for study of fertility behaviour and also is the largest dataset currently available that contains comprehensive information about the socioeconomic circumstances in the majority of European countries. Comprehensive information on the socioeconomic circumstances is vital for the operationalization of the birth-related leave policies as previously described. Unfortunately, there is no individual source of data on the birth-related leave legislations in the 27 European countries that would provide detailed descriptions of the policy rules. Thus, several data sources had to be used in order to identify the eligibility conditions and the extent of support for each woman in the EU-SILC data. Among those sources, the most prominent are the Annual Reviews provided by the LP&R and the

MISSOC database. The former yields a peer-reviewed report of birth-related leave systems provided mostly by researchers from the individual countries participating in the International Network on Leave Policies & Research (LP&R). In contrast, the MISSOC database provides data submitted by government representatives. Both of the sources were critically assessed against each other and in cases with contradictory information, the priority was given to the one presented in the MISSOC database.

To study the within-country variation, women of childbearing age (20-40 years old) are categorized according to their educational attainment and their birth-related leave entitlements are compared across the 27 European countries. This approach uses an aggregated form of the constructed birth-related leave indicators. However, their original personalised values are used later on in the empirical examination of the association between the individual aspects of the birth-related leave (eligibility, leave duration and financial compensation) and fertility behaviour. The distinction between the individual aspects of the birth-related leave policies in the analytical model represents a contribution to the field of social policy and fertility research. It allows us to gain fuller understanding of the roles of the individual aspects of the policy and their interactions in fertility behaviour. The role of the eligibility conditions has been often neglected in research (for exception see e.g. Zabel 2009), while leave duration and financial compensation have been often pooled together in so-called full-rate equivalent that indicates how long a leave would be if it was compensated on 100% of women's previous earnings (OECD 2015b). However, such treatment does not allow one to see how different combinations of the leave duration and benefit generosity are associated with fertility outcomes. The more detailed examination presented in this thesis therefore provides more comprehensive understanding of the birth-related leave measures and as such, may be particularly informative for policy-makers.

The analysis is conducted separately on two samples of women of childbearing age (20-40 years old). The first sample is comprised of childless women who cohabit with their male

partners, either in married or unmarried unions. The second sample consists of cohabiting mothers, either in married or unmarried unions, with one child who is less than 11 years old. It is important to point out that women who are in relationships but who do not cohabit with their partners were excluded from the analysis because the EU-SILC data does not recognise this form of relationship status. Several factors motivated the sample separation. First of all, to the author's knowledge, this is the first attempt to measure the association between the individualised birth-related leave entitlements and transition to first birth. Previously, such an approach would not have been possible because the individualised information about the policy entitlement could have been obtained only through the information about the actual use of such policy measures, and therefore applicable only to mothers or parents. Moreover, although first-time mothers are likely to possess some knowledge about the welfare support they will receive after birth through their social networks, their understanding is likely to be limited in comparison to the experience of mothers. Additionally, the motivation to have a first child and start a family may be driven by other factors than having subsequent child. All of these factors could influence the estimated associations between birth-related leave policies and fertility behaviour if the analysis did not distinguish between first-time and second-time mothers.

The theoretical perspectives introduced by the gender equity theory and the multiple equilibria framework is used to analyse the association between the leave entitlements and fertility behaviour in European countries. In order to apply the principles introduced in the theoretical explanations, the individual aspects of the birth-related leave policies are examined from the gender perspective using a concept of 'genderisation'. This concept marks policy support that "*promotes different gender roles for men and women*" (Saxonberg 2013, p.33) and was prioritised over the other gender concepts adopted in the welfare state research for its explicit focus on a birth-related leave. To empirically test the association between birth-related leave entitlements and fertility behaviour, a multilevel logistic

regression is used. This thesis emphasizes the different birth-related leave policy designs and how they are associated with fertility behaviour. The multilevel analytical model allows studying the individual-level processes and at the same time takes into account and corrects for the potential differences in the fertility outcomes that could be caused by country-specific factors such as culture norms. For this reason, the multilevel approach is appropriate for the purpose of this thesis. This section has outlined the scope of the thesis, but before introducing the structure of the thesis, it is important to define the term *birth-related leave policies* that is used throughout the thesis.

1.2   The definition and classification of birth-related leaves

Mothers of newborn children in all European countries are entitled to some form of leave and financial support under the condition that they fulfil certain eligibility requirements. The set of leaves aimed at mothers and parents more generally are summarised under different titles such as family-related leaves (OECD 2011), child-related leaves (OECD 2007; Thévenon 2011), childbirth-related leaves (Waldfogel 2001; Javornik 2014; Schober 2014a) or in a broader sense, parental leave policies (Bernal & Fruttero 2007; Ciccia & Verloo 2012). These umbrella terms usually include maternity, paternity, parental and childcare leave policies, and leave from work to care for a sick child. Although the differences between these overarching terms are subtle, their use may be misleading in some cases. For instance, family-related or child-related leaves can refer to the leave dedicated to parents of small children, leave targeted at parents of older children with long-term health problems or disabilities (Riedmann et al. 2006), or to child-related sick leaves. Apart from that, family-related leave can also refer to career interruptions due to care for an older relative. The term 'parental leave policies' is sometimes used as an umbrella term for leaves that are aimed at parents of small children (Dearing n.d.). However, since one of the policies is actually parental leave itself, this title is highly confusing, particularly in comparative research. In

contrast, the term childbirth- or birth-related leaves is more specific and includes only those leave policies that are associated with pregnancy and/or care following childbirth (i.e. maternity, paternity and parental leave) (OECD 2010). Since leave policies aimed at parents of small children are the focal point of this thesis, the label '*birth-related leaves*' or '*birth-related leave policies*' is being used as a unifying term for these policies. Such term was used for instance by Rasmussen (2010) or by D'Addio et al. (2013). Later in the thesis the term is also used to describe a composite leave indicator that combines the maternity and parental leave entitlements for individual women. Before analysing these policies across European countries, it is necessary to specify how the individual forms of birth-related leaves are defined in this thesis. The main focus of this thesis is women, their entitlements to birth-related leave policy, and their chances to resume employment following childbirths. Although men's access to a birth-related leave can ease the transition of their female partners back to the labour market, their entitlements have been omitted from the analysis because this issue goes beyond the scope of this thesis. Nonetheless, birth-related leave entitlements for fathers should be addressed in a future research.

Maternity leave is a job-protected leave generally targeted at employed pregnant women (Haas 2003; OECD 2007). Apart from job security, its main purpose is to protect the health of the mother and the child (European Council 1992; Landau & Beigbeder 2008). The first maternity leave was introduced in Germany in 1883 and by 1919 it was internationally recognised by the International Labour Office (ILO) through the Maternity Protection Convention (Kamerman & Moss 2009). Currently, maternity leave has been introduced in all European countries. The Council Directive 92/85/EEC recommends the duration of maternity leave to be at least 14 weeks, of which at least 2 weeks must be taken before and/or after birth (European Council 1992). All European Member States now fulfil the minimum requirements recommended by the Council Directive (Moss 2014). Some countries set a minimum number of weeks that a woman *must* take before and/or after birth

(e.g. Ireland, Sweden, Luxembourg), while other countries determine how much of the maternity leave *can* be taken before and/or after birth but leave the decision on the mother (e.g. Poland, the UK). In 2014 the maternity leave duration varied from 14 weeks (Germany) to 52 weeks (Poland, the UK) and eligible women in all the European countries were entitled to financial compensation (Moss 2014).

Although the definition of maternity leave is rather consistent across institutions and research studies, the definition of parental leave varies considerably. For instance, Linda Haas defines parental leave as a "gender-neutral, job-protected leave from employment designed to facilitate employed parents' care for small children at home" (Haas 2003, p. 91). The OECD also defines parental leave as a job-protective leave that is addressed solely to employed parents and which usually follows maternity and paternity leave (OECD 2007; OECD 2014). However, such definitions do not take into account that financial benefits for time spent on childcare is not limited to employed women, and in some countries is available also to unemployed and economically inactive women. The parental leave therefore does not have to be understood only as leave from employment, but instead as a leave in broader terms that provides parents a 'legitimate' reason for their economic inactivity. This can be the case of registered unemployed women that are not expected to get a job when entitled to parental leave support. To account for this broader application of the parental leave concept, LP&R opts for a more liberal definition and describes parental leave as a "leave generally available equally to mothers and fathers" (Moss 2009, p.7). The OECD has adopted a different way of accounting for this condition and distinguishes a separate leave type – the home-care leave, a leave for parental childcare that may be a form of a parental leave but is not tied to conditions of employment or economic activity (OECD 2007). In contrast, LP&R uses the same expression to define a form of leave that is in place in some European countries and works as a supplement of the parental leave (Moss 2009). The inconsistencies in the definition of parental leave make operationalisation of the leave policies difficult.

Therefore for the purpose of this thesis, *parental leave* is defined as a temporary break from economic activity (or inactivity) aimed at mothers and fathers following either childbirth or maternity and paternity leave.

Parental leave that was equally available to both parents was introduced for the first time in 1974 by Swedish government (Sundström & Stafford 1992). However, parental leave that was only available to mothers was introduced before this in Hungary in 1967 (Kamerman & Moss 2009). There was also a divide between the motivations behind the introduction of parental leave policies in Western Europe and countries of former Eastern block. While the main purpose of parental leave in Western Europe was to provide parental care for very young children, encourage gender equality, and ensure children's right to time with both parents (Fagnani & Boyer 2007; Kvande 2007; Abrahamson 2011; International Labour Organization 2012), the original motivation behind the introduction of parental leave policies in socialist countries was mainly driven by pronatalist intentions (Macura 1974; Frejka 1980). More recently, the reforms to parental leave introduced in Germany in 2007 were also partially motivated by fertility concerns (Henninger et al. 2008). Parental leave is currently available in all European countries and provides the right to care for a small child to both mothers and fathers either through an individual non-transferable right or as a family right that allows parents to share their entitlements, as they prefer.

Each of the birth-related leaves has specific characteristics regarding the type of entitlement, financial compensation and transferability of the rights. Entitlements to maternity leave is based on an individual right that cannot be transferred from mother to father and vice versa. Some exceptions are allowed in certain countries that enable fathers to take maternity leave in situations such as the death of the mother. More recently, some countries have introduced so-called shared maternity leave where mothers can transfer part of her leave to the father (e.g. Kocourková 2014). Usually maternity leave is also available to adoptive parents. Financial compensation associated with maternity leave is also an individual and non-

transferable entitlement. Parental leave, on the other hand, is a collection of various combinations of entitlement rights (Moss 2007).

The eligibility conditions to parental leave itself can be based on an individual right that is non-transferable, or on a family right that allows parents to share the leave as they wish. The entitlements to financial compensation can be also based on an individual right or a family right and this does not have to be in accordance with the eligibility right for parental leave. For instance, parental leave in the Czech Republic is an individual entitlement but the financial compensation is a family entitlement. In some countries there is no maternity or paternity leave but only a form of a post-natal leave that combines the individual and family rights to leave (e.g. Iceland, Sweden).

This section has shown that the concept of birth-related leaves is not straightforward. The complexities arise when discussing the characteristics of the parental leave across European countries. On one hand, in some countries the entitlements to time off work to take care of a newborn child and a financial compensation for the time spent on childcare is specified within one policy and is strictly associated with working women (and parents). On the other hand, some European countries separate the support for the new mothers (and parents) into entitlements to time off work that is available only to working women, and into entitlements to financial compensation for the time spent on childcare that is available to every new mother (or parents). A question that arises is whether it is possible to refer to a birth-related leave when we also include non-working women, because strictly speaking they are not on a leave. However, in this thesis the leave is understood in broader terms as a 'leave from economic inactivity' and reflects motherhood as a valid socio-economic status. Although this understanding of the birth-related leave concept is rather controversial it is preferred over alternative terms such as birth-related support. Such alternative terms suggest that this thesis also refers to other welfare support for new mothers such as baby bonuses or child benefits. Although the method of the policy operationalization would be appropriate for determining

such forms of entitlements, these policies are not the interest of this thesis. Nonetheless, future research could take the option of extending the policy operationalization method to account for these policies.

1.3   Structure of the thesis

The *second* chapter reviews the literature on fertility behaviour in Europe in order to map the contemporary trends and potential gaps in fertility research. It first looks at the formation of fertility intentions, factors that help to shape it, and how are they associated with actual fertility outcomes. The chapter then focuses on the role of the gender attitudes and division of labour, both at home and on the labour market, in shaping fertility behaviour before it turns to the literature that examines the importance of the policy support for fertility. The chapter closes with a discussion of empirical research that considers the consequences of birth and care for young children on the personal and professional life of the parents. The *third* chapter then introduces gender equity theory and the multiple equilibria hypothesis, which are used in the conceptualisation of the theoretical framework of this thesis. It introduces the main research questions and hypotheses, which will be empirically tested in this thesis. The chapter also clarifies the analytical framework of this thesis with special attention to the way the policy is understood and measured. The conceptualization of the policy measurement used in the thesis is put in the context of the policy indicators that are commonly used in empirical research. Chapter *four* then provides a comprehensive description of the data and the process of creating the personalised values of leave entitlements. The chapter also provides a description of the analytical approach and statistical methods applied in the analysis.

Chapter *five* first describes the individual characteristics of the birth-related leave policies to provide a justification for the hypothesised degree of within and cross-country variation analysed in the second part of the chapter. In order to analyse the within-country variation,

the chapter observes the differences in the entitlements of prospective mothers depending on their level of educational attainment. Chapter *six* then assesses which characteristics of the birth-related leave policies have the potential to interfere with women's career progress and position on the labour market following childbirth. To do so, the chapter uses the concept of genderisation and degenderisation introduced by Steven Saxonberg (2013). Chapter *seven* then analyses the association between the individual characteristics of the birth-related leave and the transition to first birth, whilst the *eighth* chapter conducts a similar analysis on the transition to second birth. The thesis concludes with a summary of the findings, limitations and directions for future research.

2   REVIEW OF CONTEMPORARY RESEARCH ON FERTILITY

This chapter focuses on the sole dependent variable in this thesis – fertility behaviour. It reviews the contemporary literature on the issue in order to identify current research trends and potential gaps. The chapter first looks at how fertility decisions are formed, how they transform into fertility behaviour, and what factors influence this process. The chapter then looks at those determinants that are believed to play a prominent role in fertility outcomes – gender roles, women's employment, and welfare support. Finally, the effect of a child on people's private and professional lives will be discussed, as it is believed that the anticipation of the change can be also associated with fertility decision-making and behaviour (Tanturri & Mencarini 2008; Settle & Brumley 2014). Although the process that leads to the birth of a child combines psychological, sociological, economic and biological aspects (Becker 1992; Potts 1997; Aassve et al. 2012), here I will primarily discuss the first three aspects and omit the biological side of fertility behaviour, which is rather distant from the focus of this thesis.

2.1   Formation of fertility intentions and fertility behaviour

This section looks at the formation of fertility decisions and how they lead to actual fertility. To explain this process, sociologists and demographers have often turned to a prominent theory in social psychology – the theory of planned behaviour (see e.g. Dommermuth et al. 2011; Ajzen & Klobas 2013; Williamson & Lawson 2015). According to this theory, human behaviour is a result of the complex formation of attitudes and intentions (Ajzen 1991; Ajzen 2012). Miller and Pasta (1995; 1996) modified the theory of planned behaviour for the explanation of fertility behaviour. According to their theoretical framework, the basis for one's fertility intentions are being formed in early childhood. These fertility traits, as they

call them, are slowly transformed into one's fertility attitudes and motivations, creating fertility desires, which are purely individual preferences. In interaction with a partner and other life-course events, these fertility desires transform themselves into fertility intentions about whether to have a child, the number of children, and the timing of the individual births (Miller & Pasta 1995). In contrast to fertility desires, these fertility intentions already represent certain commitments adopted by the individual in light of the perceived fertility desires of their partner and other external factors. According to the theory of planned behaviour, human behaviour represents the materialization of these intentions, unless there are obstacles to their realisation.

Figure 2.1 Completed cohort fertility rate at the age of 44 (1965 birth cohort)
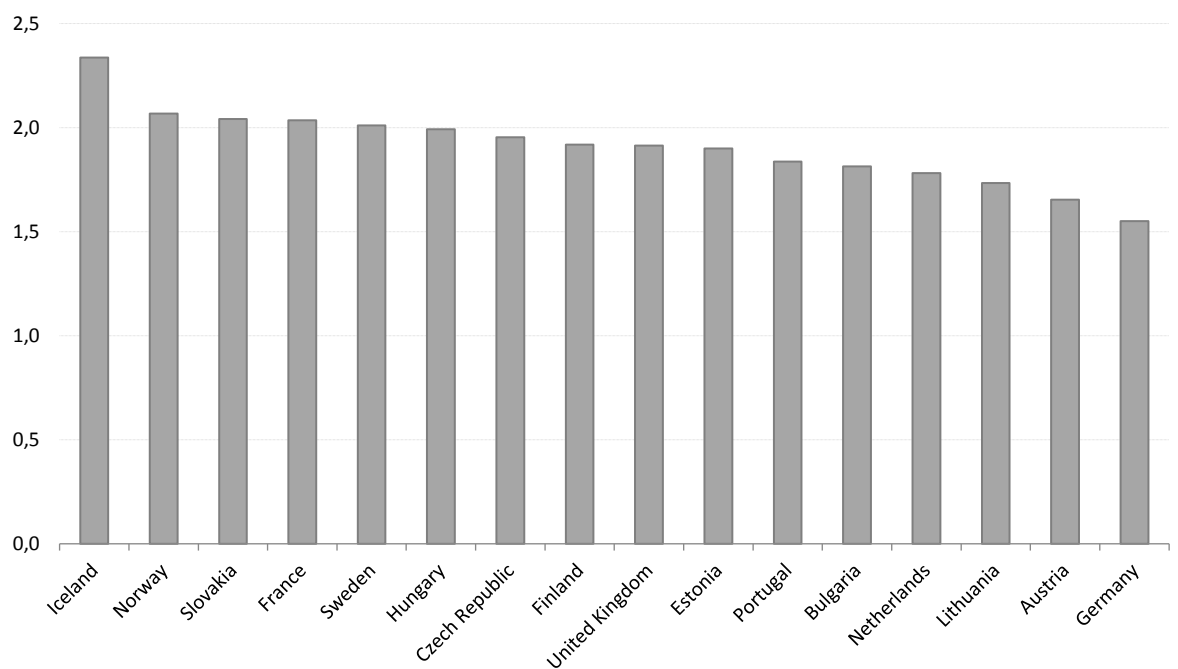
Source: Human Fertility Database, update from 22.5.2015

Figure 2.2 Mean age at first birth
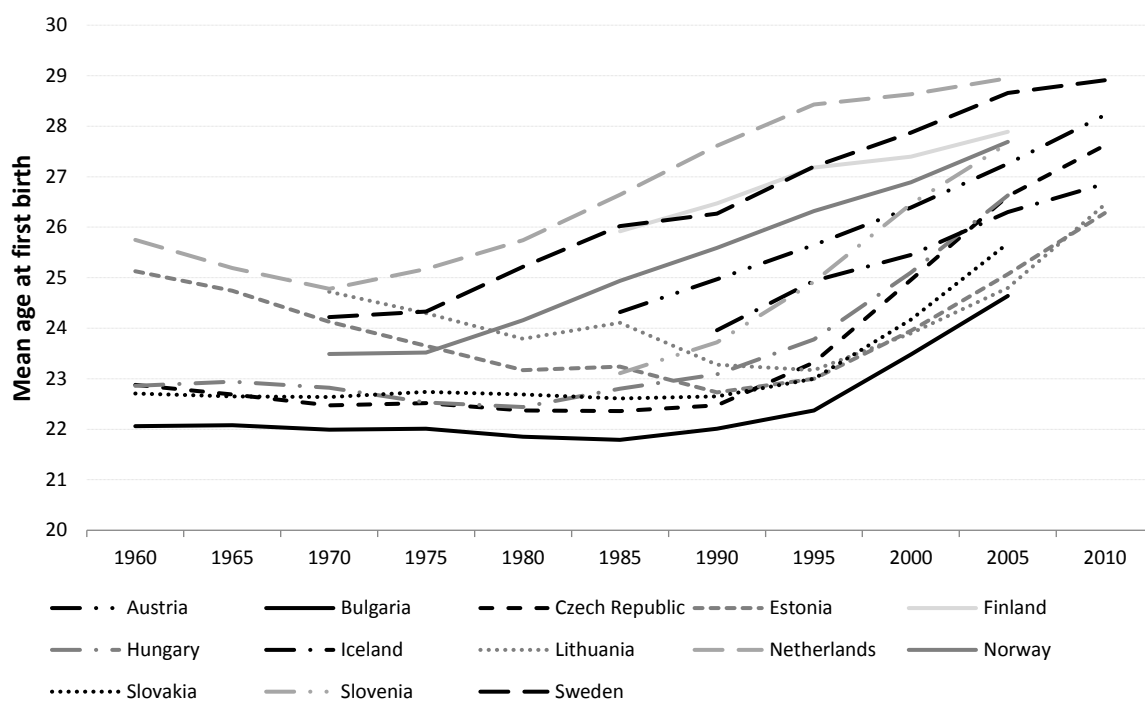
Source: Human Fertility Database, update from 22.5.2015

The theoretical perspective has been supported through empirical findings. With respect to the fertility desires, existing research suggests that the vast majority of women and men would like to become parents one day (Weston et al. 2004; Franco-Borges et al. 2010; Thompson & Lee 2011; Roberts et al. 2011; Kessler et al. 2012). Contemporary parenthood is motivated mainly by psychological gains. Respondents consistently mention the fulfilment that comes with raising a child, giving and receiving love, and among those who already live in a partnership, the creation of a family and completing their relationship through a child are also important factors (Langdridge et al. 2000; Langdridge et al. 2005; Dyer et al. 2008; Thompson & Lee 2011). The desired number of children has been quite stable across countries and cohorts over the past decades, and tends to vary between two and three children (Girard & Roussel 1982; Goldstein et al. 2003; Šťastná 2007; Testa 2012). In terms

of fertility timing, people often report that the ideal age to start a family is before 30 while the upper limit for having any (more) children is marked by the age of 40 (Mynarska 2010; Van Bavel & Nitsche 2013).

Unfortunately, the observed fertility outcomes do not often correspond with reported fertility desires. Despite the wide-spread motivation for parenthood, the proportion of childless women at the end of their reproductive period has increased over the past decades (Rowland 2007; Tanturri & Mencarini 2008). Similarly, compared to the wide preference of a two-child family, recent data on completed cohort fertility rates indicate that a large proportion of women at the end of their reproductive period have less than 2 children (Figure 2.1). And although the age at first birth is still below the age of 30, it has been rising steadily over the past decades (Figure 2.2). Such outcomes suggest that the reported fertility desires are being compromised by various factors external to the individuals involved. Amongst those are the socioeconomic circumstances of each individual but also factors arising from the interaction with the partner's own fertility ideals and preferences. I will first look at the existing research concerning the socioeconomic factors that shape fertility intentions of each individual, and then will discuss the literature that looks at the transformation of individuals' fertility intentions in interaction with fertility preferences of their partners.

Financial and job security stands out amongst the socioeconomic factors that are important for the formation of individuals' fertility intentions (Roberts et al. 2011; Gauthier & DeMontigny 2013). For instance, women who are not working (Philipov et al. 2006), whose employment status is insecure (Modena & Sabatini 2012), or are working part-time (Lutz et al. 2013) do not intend to have a child in the short-run. In other words, they are prone to postpone their fertility plans until more favourable times. The precarious economic situation and inability to deal with unexpected expenditures, or an unfavourable financial situation also reduce couples' confidence in their ability to achieve their fertility intentions (Testa & Basten 2014) and negatively affect the number of intended children (Fiori et al. 2013;

Modena et al. 2014). Amongst other factors, women's education level plays a role in the intended number of children, with highly educated women intending to have more children compared to their counterparts with less educational achievements (Mills et al. 2008; Testa 2014). However, all of these factors are likely to be interconnected. For example, highly educated women are more likely to gain a stable position on the labour market and consequently be more confident in their ability to reach their fertility intentions than women with lower educational attainment whose position on the labour market may be interwoven with unemployment spells or insecurity. This relationship points to a potential educational gradient in the formation of fertility intentions and the importance of labour market conditions for fertility plans.

Apart from the financial circumstances, research indicates that people's fertility intentions are positively influenced by gender egalitarian attitudes (Puur et al. 2008; Miettinen et al. 2011) and the equal division of household duties between partners (Mills et al. 2008; Pinnelli & Fiori 2008; Fiori 2011). On the same note, policies that allow the better combination of work and family life, and therefore contribute to gender equality in division of paid and unpaid work, were found to be positively associated with fertility intentions as well (Drago et al. 2010; Begall & Mills 2011; Billingsley & Ferrarini 2014). Similar factors also influence the couples' disagreements in the partners' individual fertility aspirations, as the disagreement appears mainly in couples where the woman is not satisfied with the division of household labour (Rosina & Testa 2009) or where employed women do not have sufficient access to childcare facilities (Cavalli & Rosina 2011; Cavalli 2012). Although research shows that the vast majority of couples share an agreement in their fertility intentions (Thomson 1997; Cavalli & Rosina 2011; Cavalli 2012; Testa et al. 2014; Schytt 2014), in the case of disagreement, couples tend to actively seek a consensus. In doing so, it appears that none of the partners have a clearly stronger negotiating position (Jansen & Liefbroer 2006; Testa 2014; for exception see e.g. Stein et al. 2014). Regardless of gender, in

the vast majority of cases the partner who desires a(nother) child lowers their expectations in favour of the partner who does not want a(nother)child (Thomson 1997; Thomson & Hoem 1998; Iacovou & Tavares 2011). However, these are not uniform findings, as some studies found that when partners disagree in their fertility intentions, it is usually the woman who has stronger bargaining power in the negotiation process (Stein et al. 2014).

However, the question that has not been addressed in this literature review so far is whether fertility intentions are good predictors of fertility behaviour. In fact, a considerable body of research in this matter has shown that fertility intentions are very strong predictors of actual fertility behaviour (Schoen et al. 1999; Meggiolaro 2010). As with the research findings from studies that observed the negotiation of couples' fertility intentions, studies that examine the relationship between fertility intentions and behaviour also found similar ambiguous outcomes with respect to the role of each partner. Specifically, whilst some studies found that the fertility intentions of women and men are equally important for the couples fertility behaviour (Bauer & Kneip 2013), others provided evidence for women's intentions being the decisive factor in a couple's actual fertility behaviour (Hener 2010; Fan & Maitra 2013). Apart from the partners' relative position, the kind of fertility intention is also important for fertility outcomes as couples with negative fertility intentions (i.e. do not want a/nother child) are much more likely to be successful in the realisation of their fertility intentions compared to people with positive fertility intentions (i.e. do want a/nother child) (Schoen et al. 1999; Testa & Toulemon 2006; Régnier-Loilier & Vignoli 2011; Cavalli & Klobas 2013). This means that preventing a conception is much easier for couples than pursuing parenthood. Such findings support the argument for the potentially important role of obstacles to couples' agreed fertility intentions.

The obstacles to the realisation of positive fertility intentions can be related to couple characteristics, or can be external to the couple, for instance, related to societal norms, labour market conditions, or institutional support. One of the most important internal factors is the

amount of confidence individuals have in their ability to fulfil these intentions (Miller & Pasta 1995; Thomson & Hoem 1998; Schoen et al. 1999; Testa & Toulemon 2006; Cavalli & Klobas 2013). For instance, men's earnings have been found to be an important determinant of success (Kaufman & Bernhardt 2012) together with couples' overall employment and employment security (Spéder & Kapitány 2009; Régnier-Loilier & Vignoli 2011; Rinesi et al. 2011). In contrast, in some countries, mothers who are temporarily economically inactive due to childcare responsibilities are more likely to realise their intentions compared to women who are working (Spéder & Kapitány 2014). Such contradictory findings point to cross-country variation in the effect of maternal economic status on the ability to fulfil their fertility intentions. This may reflect the variation in birth-related leave policies that are particularly long in the countries of Central and Eastern Europe (CEE) compared to Western European countries. The positive effect of temporary economic inactivity on the propensity to birth could be potentially explained through the cross-country difference in the length of the birth-related leave policies. In other words, while mothers who live in countries with short birth-related leave are already back in their jobs when planning to have another child, mothers in countries with very long birth-related leave policy can still be at home on a job-protected leave with their previous child, while planning for another.

In search for the factors that might allow couples to fulfil their positive fertility intentions, researchers also found that highly educated couples and individuals are more likely to be successful in pursuing their fertility plans (Testa & Toulemon 2006; Spéder & Kapitány 2009; Rinesi et al. 2011). However, the importance of education and the direction of its effect appears to vary across countries (Régnier-Loilier & Vignoli 2011). Apart from that, married and childless couples are much more likely to succeed in the realisation of their positive intentions than couples who cohabit or have at least one child (Schoen et al. 1999; Spéder & Kapitány 2009; Kapitány & Spéder 2012).

Nonetheless, fertility intentions do not concern only the possibility of having a/nother child, but also the timing of individual births. The issue of fertility timing and birth spacing can be quite important for the final fertility outcome at the end of women's reproductive period. The postponing of the transition to motherhood can influence the timing of the second and any subsequent birth. Women who become mothers in their 30s, therefore, have a smaller time frame to fulfil their fertility intentions compared to women who start family in their 20s. Consequently, they may be less successful in fulfilment of their intentions. There is indeed empirical evidence that in the vast majority of European countries, a considerable proportion of women fail to realise their fertility intentions in the time frame within which they planned to have a child (Harknett & Hartnett 2014). Nonetheless, there appears to be a geographical divide in the ability to have a child within the intended time frame. For instance, women from Eastern and Southern Europe were found to be somewhat less likely to realise their intentions compared to women from Western Europe (Régnier-Loilier & Vignoli 2011; Kapitány & Spéder 2012; Spéder & Kapitány 2014). Based on the finding discussed in this section, such a difference could be explained by the ability of women in these countries to obtain and maintain a position on the labour market or ensure economic stability. Unfortunately, in most of the studies, the available data did not allow researchers to further examine the cross-country variation in the ability of some individuals and couples to achieve their positive fertility intentions (e.g. Régnier-Loilier & Vignoli 2011). The following section will therefore look away from the fertility intentions and their realisation, and focus on those factors that were identified in contemporary research as important predictors of fertility behaviour.

2.2   Other determinants of fertility behaviour

The previous section showed that people's individual fertility desires are not always realised. Research on the formation of fertility intentions and subsequent fertility behaviour

systematically points to individuals' positions on the labour market and at home to be important determinants of both the transformation of intentions and the role of intentions in fertility behaviour. There is also evidence that in particular, women's role and position in these two domains is crucial in the process. Although other factors, such as marriage (Perelli-Harris et al. 2012; Dominguez-Folgueras & Castro-Martin 2013; Berghammer et al. 2014), relationship stability (Sihvo et al. 2003; Slepičková & Bartošová 2008; Olafsdottir et al. 2011) or completed education (Bankole et al. 1998; Broen et al. 2005; Olafsdottir et al. 2011; Bhrolcháin & Beaujouan 2012), are positively associated with fertility, this section will focus particularly on those aspects that go beyond the demographic or life-course perspectives – gender equality, labour market position and social policy.

2.2.1   Gender attitudes and division of unpaid labour

When looking at the role of gender dynamics within a couple, the findings from the research on the formation of fertility intentions revealed that more egalitarian attitudes and more symmetrical division of labour between partners are positively associated with a couple's short-term fertility intentions and their intentions to have more children (Mills et al. 2008; Pinnelli & Fiori 2008; Puur et al. 2008; Fiori 2011; Miettinen et al. 2011). In addition to fertility intentions, the association between the gender division of unpaid labour and fertility outcomes tends to differ across countries and the type of unpaid work. The research reveals that men's contributions to routine housework and to childcare seems to have different implications for a couples' fertility. For instance, a positive association between partners' equal division of housework and fertility was found in Sweden (Nilsson 2010). Similarly, women in Finland and Australia who engage more in the housework than their male partners have lower propensity to birth compared to women who share their household duties more equally with their partners (Craig & Siminski 2010; Miettinen et al. 2015). In contrast, American data provided some evidence that the association between division of unpaid work and fertility is U-shaped, with traditional and gender egalitarian division of housework both

being positively associated with fertility outcomes (Torr et al. 2004). Regarding the share of childcare responsibilities, men's involvement was found to be positively associated with the transition to second birth in Finland and in Italy, but no such relationship was found in Spain (Cooke 2008; Miettinen et al. 2015). This difference in the findings is puzzling. It is difficult to explain the variation in the direction of the relationship, or the absence thereof.

On the other hand, some researchers decided to combine the actual division of labour between partners with their gender attitudes and found that it is the inconsistency between the attitudes of the individuals and their actual division of housework that decreases the couples' fertility outcomes rather than the share of household duties itself (Goldscheider et al. 2013; Aassve et al. 2015). Moreover, the societal gender attitudes and expectations about gender roles also seem to be associated with fertility outcomes, as countries where the majority of people believe in a more balanced share of responsibilities between men and women have higher fertility rates, compared to countries where a large proportion of people believe that the roles should still be somewhat separated (Arpino et al. 2015). Such findings suggest that the relationship between gender roles and fertility may be much more complex.

Nonetheless, there is little consideration in the fertility literature of the possibility that institutional factors may shape the division of labour between parents and the society's ideal gender roles. This is particularly true with respect to the availability of flexible employment, childcare facilities, or leave policies appropriate for fathers, which all allow a more equal division of household responsibilities between partners and consequently also greater gender equality on the labour market. Up until now, the discussed research has concerned only the gender division of unpaid work. The division of paid work between partners and female employment in general has been subjected to more extensive research. The following section reviews findings from such studies.

2.2.2   Employment status and fertility behaviour

Previously in this chapter, women's position on the labour market was shown to play an important role in the formation of couples' fertility intentions, and was shown to help to determine the successful realisation of these intentions. Apart from fertility intentions, a considerable number of studies focused on the effect of female employment, employment insecurity and unemployment on fertility behaviour. This research found that the effect of unemployment and economic inactivity tends to differ depending on women's characteristics, country and birth parity. For instance, in Germany mothers of one child who are economically inactive are more likely to have another child, compared to mothers who have returned to the labour market; however, the opposite was found in Denmark, where maternal economic activity is positively associated with higher order births (Andersson et al. 2014). With respect to the transition to motherhood, a positive association with female employment was found in Hungary and Finland but the opposite was found in Italy (Vikat 2004; Matysiak & Vignoli 2013; Busetta & Giambalvo 2014).

Unemployment is generally negatively associated with fertility outcomes, but this association is particularly strong for women under the age of 30 (Hoem 2000; Adserà 2004; Akin & Vlad 2007; Neels et al. 2013; Currie & Schwandt 2014). The stronger effect for younger women is likely due to their attempt to establish a stable position on the labour market before they become parents. But the effect of unemployment varies by education, as unemployed women with lower educational attainment have greater first birth risks compared to their counterparts with higher educational profiles (Kravdal 2002; Özcan et al. 2010; Schmitt 2012a). A recent study from France shows that the unemployment effect can be further moderated by gender attitudes. It shows that unemployed women who hold traditional views on roles of women and men have a higher propensity to have a child compared to unemployed women with more egalitarian gender attitudes (Ciganda 2015). The educational gradient can be explained by the possibility of greater career ambitions among

highly educated women, and the opportunity cost they face when having a child. Moreover, the higher propensity to have a child among unemployed women with lower educational attainment could be also explained by the relatively low opportunity cost, as well as by welfare state support. Some countries provide financial support to mothers regardless of their economic status and employment history, which can provide mothers with some economic security, particularly if it is available for an extended period of time. Such an option could be attractive particularly when women face difficult labour market prospects, either due to having limited skills or due to macro-economic downturns.

The educational gradient in propensity to birth was found also amongst working women. For instance, in Italy working women are generally less likely to become mothers compared to their economically inactive or unemployed counterparts, but the negative effect is strongest among women with low educational attainment (Vignoli 2013). This educational difference is likely associated with the timing of the first births rather than abandoning parenthood amongst women with a higher educational profile. Some studies have focused on this issue and concluded that highly educated women tend to postpone their transition to motherhood when their employment position and economic stability is insecure (Kreyenfeld 2009; Schmitt 2012b; Kreyenfeld & Andersson 2014; Barbieri et al. 2015). Apart from female employment, a male partner's economic status is also important, as couples in which the man is unemployed are less likely to have a child (Cooke 2004; De Wachter & Neels 2011; Schmitt 2012a).

The quality of the job and labour market trends are also important predictors of fertility behaviour. Labour market insecurities, and working in the private sector are associated with lower fertility outcomes (Hondroyiannis 2010; Hoffmann & Hohmeyer 2013; Martín-García & Castro-Martín 2013). There is also a variation in the meaning of certain job qualities for fertility outcomes. For instance, in the Netherlands, part-time employment is negatively associated with the transition to parenthood, but the effect is opposite for second order births

(Begall et al. 2014). This is likely because part-time employment does not provide sufficient financial security for starting a family (Modena & Sabatini 2012), but for parents it represents a form of work flexibility and likely voluntary shortening of working hours in order to better combine childcare with employment while ensuring financial security (Del Boca 2002).

2.2.3   Social policy and fertility

The notion that institutional settings may moderate the effect of female employment on fertility was first systematically studied in the 1960s, when countries of the former Eastern block adopted policies to deal with their rapidly decreasing fertility (Heer & Bryden 1966; Macura 1974). The issue gained new attention at the beginning of 2000s when researchers noticed that since approximately the mid-1980s, the countries with the highest female employment rates also have the highest fertility rates (e.g. Brewster & Rindfuss 2000; Engelhardt & Prskawetz 2004). Since then, employment has become associated with greater birth risks, when compared to economic inactivity and unemployment (Hondroyiannis 2010; Pailhé & Solaz 2012; Hoffmann & Hohmeyer 2013; Jalovaara & Miettinen 2013). The variation in welfare state support across European countries, particularly the support for work-family balance, and labour market conditions, are both commonly used as an explanation for this shift in association between female employment and fertility (Adserà 2004; Hilgeman & Butts 2009; Adsera 2011).

Despite the considerable amount of research conducted about the effect of economic activity on fertility behaviour, research that would also examine the influence of policy is relatively scarce. Since contemporary research on fertility decision-making and behaviour highlights the importance of gender role issues, as well as financial or job security, the most influential policies for fertility outcomes can be expected to be those that influence the gender division of labour, employment, and income stability following birth. As previously mentioned, those

policies include (a) birth-related leave, which helps determine the length of interruption in economic activity; (b) childcare services that can facilitate the return to work or the labour market in general; and (c) flexible employment that would allow better combinations of home-based childcare and paid work. All three of these policy measures also influence the extent of a child's impact on family income through financial compensation from birth-related leave schemes, or labour income from a return to employment.

The association between flexible employment and fertility behaviour was already discussed in the previous section. With respect to childcare facilities, research tends to present a positive association between availability and accessibility of childcare services and fertility behaviour (Baizán 2009; Rindfuss et al. 2010; Haan & Wrohlich 2011). However, there is some indication that women with a higher educational profile respond better to these services compared to women with lower educational attainment, whose fertility decisions seem to be unaffected by them (Van Bavel & Rozanska-Putek 2010). The difference can be potentially explained through the accessibility of these women to childcare facilities. While highly educated women are more likely to have financial resources and higher motivation to use public childcare facilities, women with a lower educational profiles may not be able to afford childcare services.

The association between birth-related leave policies and fertility have been studied from several perspectives; but the number of studies that look at this relationship is rather limited. Nonetheless, women eligible for maternity or parental leave are more likely to have a child compare to their non-eligible counterparts (Zabel 2009; Lappegård 2010; Cannonier 2014). However, the findings are rather inconclusive in other aspects of birth-related leaves, and tend to vary across countries. While the association between duration of parental leave and second birth appears to be negative (Lalive & Zweimüller 2009; Duvander et al. 2010), in Sweden the same relationship has a concave character, suggesting that both short and long leave decreases the propensity to second birth (Duvander & Andersson 2006; Duvander et al.

2010). When looking at financial compensation, in the Canadian context, an increase in generosity of parental leave benefits was found to be positively associated with birth incidences. In contrast, studies that look at cross-country comparisons found no evidence of an association between leave duration and the generosity of associated benefits measured as a contextual variable and fertility behaviour (Baizán et al. 2013; Luci-Greulich & Thévenon 2013; Harknett et al. 2014).

The inconsistencies in these findings can be explained in several ways. One explanation is that there are a limited number of studies examining the effect of individual aspects of the birth-related leaves on fertility behaviour. Research that includes only a limited number of countries with a specific welfare state type make it difficult to draw any generalisation about the association between the birth-related leave policies and fertility behaviour. Another problem is created by the inconsistencies in the policy measures across the studies that use either individual-level or macro-level indicators. The macro-level indicators of birth-related leave policies are often based on legislative rules. However, these studies tend to overlook the fact that legislative rules are often based on conditions that determine who is going to be entitled to policy support and how extensive this support is going to be. As such, the rules may create a very different experience for people from different socioeconomic backgrounds living in the same country. Such measures therefore represent an ideal case rather than reflecting the reality. Similarly, the micro-level indicators of birth-related leave policy are almost solely based on the actual use of the policy and therefore do not allow us to study the policy effect on the transition to first birth, which plays an important role for the timing and occurrence of subsequent births (Schmidt et al. 2012). This is because couples will make the decision to have a child before they actually use the policy, and so by looking at policy usage, we risk focusing on those couples who had good policy coverage and therefore chose to have a child. Therefore, an approach to policy measurement that allows consideration of the variation in the legislative rules, while at the same time remaining applicable to childless

couples, would be beneficial to further our knowledge about the relationship between these two phenomena. This would allow us to observe the association of policy with their transition to parenthood. But because policy support may appear rather distant from the actual fertility decision-making process and behaviour, another important question is whether we can possibly draw any causal link between them. The remainder of the section will look at this issue.

The most reliable studies that can provide some insight into the causal relationship between policy and fertility behaviour are likely to be those that use an experimental or quasi-experimental research design (Gangl 2010; Lechner 2011). These methods have been used primarily in research on countries in which a policy reform has been introduced. The core of such an examination is to compare the outcomes of a treatment group, i.e. women who were subjected to the new policy measure, with a control group, i.e. women who were entitled to the support under the old policy legislation. Looking at the research, there is indeed some evidence which suggests that policies, and particularly birth-related leave policies, can influence fertility behaviour (Hoem 1993; Šťastná & Sobotka 2009; Rovny 2011; Billingsley & Ferrarini 2014).

One recent policy change that has gained considerable attention is the reform of the German parental leave scheme that was adopted on the 1st January 2007. The impact of the reform has been studied on various aspects of people's lives (Bergemann & Riphahn 2011; Kluve & Tamm 2012; Geyer et al. 2014; Maeder 2014; Schmitz & Kluve 2014; Bergemann & Riphahn 2015) including fertility behaviour (Tamm 2013; Neugart & Ohlsson 2013; Cygan-Rehm 2013). The 2007 reform was significant because it shifted the core of the parental leave support in Germany. The reform abandoned the financial support that was based on means-tested flat-rate benefits available to all parents regardless of their economic statuses. Instead, they adopted new principles built around earnings-related financial benefits,

dependent on employment status, while also introducing both minimum and maximum thresholds on benefits (Spiess & Wrohlich 2008; Fagnani 2012).

The reform was announced at the end of 2006 and gained a lot of attention from the media. As a consequence, it was hypothesised that it would influence the number of births around the New Year and would trigger different outcomes among employed and economically inactive or unemployed women (Neugart & Ohlsson 2013). Neugart and Ohlsson (2013) followed the births within one week before and after the policy implementation and compared their findings to births in the same time frame during the previous 2 years. They found a significant increase in the number of births in the period from 1st January compared to past years. They were also able to identify that mainly employed women – those that benefit the most from the reform - drove the increase. Using the difference-in-difference method, Tamm (2013) found that the number of births in the last weeks of the year 2006 considerably decreased in contrast to preceding years, and also considerably increased in the first weeks of January 2007. According to his findings the effect was particularly strong for employed women whose birth outcomes were considerably higher than in previous years. Cygan-Rehm (2013) also used the opportunity to conduct a natural experiment but focused her interest on the timing of the second births. By comparing women who had their first child shortly before and after the reform, she found that women who had their first child after the reform tend to postpone the birth of their next child. This shift was primarily caused by the postponement among women in the lowest income category – those that were negatively influenced by the policy reform.

Similar studies have been conducted also in other parts of the world. For instance, Lalive and Zweimüller (2009) observed the effect of Austrian parental leave reform on the timing of second birth. The reform changed the duration of parental leave in Austria from one to two years and also extended the period following birth during which the parental leave entitlements are subjected to automatic renewal for a subsequent child. In other words,

parents are not required to return to employment in order to become eligible for parental leave for a subsequent child, but instead may stay on the leave if the following birth occurs within a particular time period. The original frame for the automatic renewal of parental leave was 15.5 months, and was extended by the reform to 21.5 months. The researchers compared two groups of women - those that had their first child shortly before the introduction of the reform (1st July 1990) and those that had their first child shortly after the reform was implemented. Their findings also show that women who became mothers shortly after the reform were significantly more likely to have their second child within a 36 month period compared to women who became mothers before the reform. In other words, the reform shifted the second births closer to the first birth. A different study examined another Austrian reform – the abolition of the baby bonus. The authors were particularly interested in the impact of the announcement of the changes, which took place about 10 months before the reform took effect (Brunner & Kuhn 2014). They argue that this time period enabled prospective parents to adjust their fertility plans, and according to their findings many did. As with the previous studies, they compared the number of births from the month before abolition of the baby bonus to the births from the same month in preceding years and found about an 8% increase in the number of births compared to previous years.

Another study that used the difference-in-difference approach estimated the effect of the introduction of the Paid Family Leave in California that came into effect on 1st July 2004. Its results showed that Californian women attempted to time their births so that they could benefit from this new policy (Lichtman-Sadot 2014). A positive effect of increased generosity in the parental leave program on fertility was also found in Quebec (Ang 2014). These studies show that women and/or couples are aware of the advantages and disadvantages associated with various policy measures. They also indicate that potential parents are ready to act upon policy changes in order to reach the best possible outcome for themselves. Although not everyone succeeds in their attempts (Neugart & Ohlsson 2013),

many do. These findings provide convincing evidence that individuals are making their fertility decisions within a certain policy context and that they take this context into account. Moreover, the evidence from Germany suggests that particular policy constellations may affect individuals differently depending on their positions in the labour market. This may in turn influence the aggregated fertility outcomes, depending on the statistical representation of the group with the biggest gains from the policy support in the total population. Therefore, policy changes similar to those introduced in Germany can potentially increase or even decrease fertility rates, according to the proportion of employed women of reproductive age.

2.3   Consequences of birth for personal and professional life

Until now, this chapter has looked at factors that were found to be associated with fertility behaviour in Europe but the consequences of having a child has been overlooked. However, because people are not islands but are part of a wide social structure interwoven with intergenerational relationships, we can be quite confident that childless women and couples have some idea about what changes a child will bring to their personal and professional lives (Shreffler & Johnson 2012; Kravdal 2014). It is therefore likely that the idea people have about parenthood, or their acquired knowledge about the consequences of having a child, play a role in the decision-making process of becoming a parent (Tanturri & Mencarini 2008; Settle & Brumley 2014). It therefore seems appropriate to look at the literature that is examining the consequences of birth on people's lives and particularly their socio-economic circumstances to draw conclusions about the factors that may influence fertility behaviour.

Although the birth of a child is associated with an increase in overall happiness (Kohler et al. 2005; Baranowska & Matysiak 2011) it also considerably changes the dynamics in the division of paid and unpaid work within couples and affects women's long term labour market and career prospects. In the majority of cases, women shorten their time devoted

to paid, labour market work in order to increase their time spent on childcare and housework (Stier et al. 2001; Misra et al. 2007; Sirovátka & Bartáková 2008). In contrast, the birth of a child influences men's participation in paid and unpaid work only marginally (Dribe & Stanfors 2009; Craig & Mullan 2010; Frenette 2010). Despite this, the situation seems to be changing slowly as numerous studies identified a considerable within-country variation in fathers' involvement in childcare activities (Evertsson 2014; Sullivan et al. 2014; Pollmann-Schult 2015).

The time for which mothers interrupt their economic activity varies across countries. Research suggests that the duration for which mothers interrupt their labour market activity is largely determined by the character of birth-related leaves and availability of formal childcare facilities (Andrén 2003; Joseph et al. 2013; Ziefle & Gangl 2014; Bągard 2014). However, the effect of the individual aspects of the birth-related leave on maternal employment is not straightforward. For instance, the leave duration appears to be most decisive in terms of influencing the mother's return to employment. This is because women who are entitled to some form of birth-related leave tend to use their full rights and return to work only when their entitlements expire (Ondrich et al. 1996; Ondrich et al. 2003; Hanratty & Trzcinski 2008; Pronzato 2009; Ziefle & Gangl 2014; Bągard 2014). Therefore, the longer the paid leave, the longer the interruption from work. Nonetheless, the use of the full right to a birth-related leave is often conditioned on the amount of associated payments. For instance, research indicates that women who are entitled to low financial compensation for their time spent on a birth-related leave are likely to return earlier (Baxter 2008; Whitehouse et al. 2008), compared to women entitled to more generous financial compensation (Pylkkänen & Smith 2003). Similarly, incentives for shorter leave take up were found to be associated with earlier return to employment (Ziefle & Gangl 2014). The negative effect of leave duration on women's rate of return to employment can be further enhanced by less strict eligibility conditions for birth-related leave for a subsequent child, as is the case, for

instance, in Austria (Šťastná & Sobotka 2009). This is likely to be the case also for countries where the entitlements to financial compensation for the time spent on childcare is not linked to the economic status or employment history.

Another factor that may influence the rate of return to employment is the participation of fathers in childcare. The extent of their involvement in childcare would, however, require considerable adjustments to their working hours or work schedules in order to allow women to resume their labour market activity. Such adjustment would therefore call for legislation that enables fathers to take a birth-related leave to at least the same extent as their partner. Although fathers still do not have access to paternity leave in all EU Member States, parental leave is in principle available to both parents. However, not all fathers use this right. In fact, each country provides various incentives (or disincentives) that help parents to decide who is going to be the main recipient of the policy support and hence the main career in the early weeks, months or even years following the birth. Evidence shows that being entitled to a birth-related leave does not necessarily motivate fathers to make use of their entitlements, and that other aspects of birth-related leave, such as the extent of financial compensation or whether the entitlement is based on individual or family rights, are more likely to determine fathers' use of leave (Han & Waldfogel 2003; Almqvist 2008; Kluve & Tamm 2012).

The main motivating factors for fathers to use their birth-related leave entitlements were as found to be as follows: birth-related leave policies based on individual non-transferable rights reserved to fathers, prolongation of existing leave under the condition that this extra time will be used by the father, and higher financial compensation for non-transferable father's leave (O'Brien 2009; Haataja 2009; McKay & Doucet 2010; Duvander & Johansson 2012; Patnaik 2016). For example, in 1993 Norway introduced 4 weeks of parental leave dedicated solely to fathers. The duration of the leave was added to the existing parental leave. The new measure considerably increased fathers' use of parental leave from approximately 4% annually before 1993, to 70% in 1995 (Kotsadam & Finseraas 2011).

Germany, on the other hand, has offered an additional 2 months of leave to those families where fathers take some parental leave since 2007 (Schober 2014b). This reform increased the leave take-up among German fathers from 3.3% in 2006 to 29.3% in 2012 (Blum & Erler 2014).

Empirical research also reveals that fathers who participate on birth-related leave are more engaged in the childcare activities even after the leave expires (Hook 2006; Tanaka & Waldfogel 2007; Romero-Balsas 2015). However, it is not clear whether continued higher participation in childcare may be due to a selection effect or whether it is indeed due to the policy change. The studies are also rather inconclusive in identifying whether fathers take birth-related leave at the same time as the mother or whether parents do so consecutively. For instance, in Iceland, where fathers are entitled to 3 months of leave, fathers tend to combine these two alternatives by taking some of their leave entitlements together with the mother immediately after the birth of their child, and the rest later on as the main caretaker (Arnalds et al. 2013). The concurrency in parents' leave take-up can have important implications for mothers' abilities to return to the labour market. If a father uses his right to birth-related leave at the same time as the mother, immediately after birth, she might not be provided with the time that she can then invest in paid work later on.

Apart from the greater involvement of fathers in childcare, parents may outsource their childcare responsibilities. This way, the child's negative impact on women's labour market activity can be minimized. It is often hypothesised that formal childcare facilities and services have a positive effect on female employment, but the findings about their actual effect are unclear. Although in some countries, public childcare is associated with lower labour market exits amongst mothers (Haan & Wrohlich 2011; Herrarte et al. 2012; Pacelli et al. 2013), in other countries their effect on female employment is rather limited (Viitanen 2005; Lundin et al. 2008; Havnes & Mogstad 2011). However, there might be several explanations for such ambivalent findings. Selection effects could be one explanation. It is

possible that prospective parents are making deliberate choices in terms of their place of living and opt for locations that provide sufficient public childcare services. Another explanation could be that parents living in areas with low public childcare coverage use an informal form of childcare, such as one provided by a family member or a private child-minder. But because the childcare indicators used in the aforementioned research do not capture such forms of childcare, the outcomes may create the impression that the availability of public childcare facilities does not have any effect on maternal employment. Finally, another explanation is that the price of formal childcare services that discourage families from using them.

2.4   Conclusion

Gender roles play an important role both in the formation of couples' fertility intentions and their abilities to fulfil these intentions. Women's economic status and their overall position on the labour market dominate the fertility literature; mother's housework workload and gender attitudes also have a prominent position in contemporary fertility research. A large share of the findings shows that the traditional division of labour between men and women has an adverse effect on fertility behaviour. However, the effect seems to vary across parity, women's educational attainment, and across countries. There is a strong view that the cross-country variation in the effect of women's employment on fertility is moderated by welfare state support. Nonetheless, research measuring the hypothesised effect of specific policies on fertility is still scarce. The majority of such research is conducted as a case study or as a comparison between a very limited number of countries. Moreover, in the vast majority of cases, the studies cover only Western European countries and omit the CEE countries that have very specific welfare states. This means that our understanding of the role of policies in the relationship is incomprehensive and could be potentially misleading.

The limited focus on the effect of policies on fertility behaviour is likely caused by a lack of suitable data that would be able to produce accurate indicators of institutional support. The analytical approaches that are able to capture the potential causal association between policies and fertility are limited only to those cases where a policy change took place. Other studies use macro-level indicators of policies, which often are crude measures, such as the proportion of children of a certain age enrolled in formal childcare facilities, or a considerable simplification of complex policy designs (such as birth-related leave policies). However, these are merely contextual variables that overlook the fact that not all women are entitled to the particular policy and that not all women would be entitled to the same support. Micro-level studies that are capable of capturing these complexities are limited by the data available to indicate whether the particular survey participant was entitled to welfare state support. But the main limitation of these studies is in its inability to estimate the policy effect on transition to parenthood, and isolate the effect of individual aspects of the given policy measure. These are considerable limitations of contemporary fertility research, which this thesis addresses.

3 THEORETICAL PERSPECTIVES AND CONCEPTUALIZATION OF ANALYTICAL FRAMEWORK

3.1 Gender, policy and fertility – theoretical perspectives

Increasing empirical evidence about the positive association between equal gender roles in paid employment, housework, and fertility has raised interest in the theoretical explanation of this relationship. One of the most pronounced theoretical perspectives is the *gender equity theory* proposed by a demographer Peter McDonald (2000a; 2000b). The theory explains cross-country variation in fertility rates. McDonald argues that the very low fertility outcomes (i.e., around 1.3 child per woman) are a product of a mismatch in the ability of social institutions to keep up with women's new roles - one of the main driving factors in fertility decline. According to this theory, women in developed countries have already attained sufficient educational achievements to be able to compete with men on the labour market. But the ability of women to retain their labour market position even after they become mothers is crucial for understanding the cross-country fertility variation. The role of social institutions is argued to be pivotal in this process. Policies which were designed to prioritize maternal care (although sometimes implicitly) for small children are hypothesised to be responsible for lowest fertility rates. On the other hand, the fertility levels that are close to population replacement rate are believed to be a product of a context in which social institutions allow women to pursue their career aspirations even after they become mothers. Gender equity theory has been criticised for conceptual ambiguity and lack of testable hypotheses (Cooke 2008; Brinton & Oh 2015). To make the original argument clearer, McDonald provided an explication on the process of fertility decline and recuperation. He highlights the understanding of the notion of gender equity: he sees it as perceived fairness of the existing gender order in societies. He maintains that

for the fertility to decline, an increasing share of women must perceive the gender system as unfair. According to the argument, the perception of unfairness first appears among highly educated women, who face the highest opportunity costs in becoming mothers, and continuously spreads throughout the population.

An alternative yet complementary theoretical explanation was conceptualised by Gøsta Esping-Andersen in his *multiple equilibria hypothesis* (Esping-Andersen 2009). In contrast to the rather static gender equity theory, the multiple equilibria hypothesis adopts a dynamic approach that aims to explain the process of fertility decline in developed countries and its recent increase, to nearly population replacement rate. This theory views contemporary family outcomes, characterised by unstable relationships and low fertility rates, as only temporary. They are results of a transitional process from one normative regime to another – from a traditional society where the male-breadwinner and female homemaker represent the standard family form, to a gender egalitarian society dominated by dual-earner and dual-carer couples, a society where family responsibilities are not determined by gender. In the transitional phase, "unstable equilibrium can be thought of as a situation in which people are torn between rival normative guidelines" (Esping-Andersen & Billari 2015, p.13). The state of unstable equilibrium combines people who hold traditional values but also those who aim to live by gender egalitarian standards, in the context of a society that does not provide clear support for either of the lifestyles. The new equilibrium is expected to emerge when a substantial proportion of people adopt the gender egalitarian norms and normative guidelines on a societal level becomes clear.

Unlike gender equity theory, the multiple equilibria hypothesis explains the diffusion of the gender egalitarian norms throughout the society. It maintains that highly educated women are the trendsetters that brought about the revolution in women's roles, and now pioneer gender equality at home. However, according to the theory, the spread of the new norms among highly educated women is likely not going to be sufficient for the new

equilibrium to emerge. Similarly, the increase in women's marketable skills alone cannot bring forth the gender egalitarian equilibrium. Instead, the higher qualification and labour market activity introduces a double burden of paid work and family responsibilities into women's lives. The theory argues that the new normative order can emerge only when women across the social strata are freed of the double burden, and couples adopt a gender egalitarian division of labour. Social institutions, particularly policies and the labour market, play a crucial role in this process. The policy that allows women to continue in their career progress after having a child is expected to speed up the diffusion process considerably. Without the policy and labour market support, the gender egalitarian equilibrium is hypothesised to emerge much later because the change will be driven primarily by the higher social strata and will require penetration to the lower classes. This is argued to be particularly difficult in stratified societies, i.e. societies with clear boundaries between social classes or people of different race (Esping-Andersen & Billari 2015). The influence of the highly educated women on the change is therefore likely to be small. On the other hand, the reconciliation policies that facilitate maternal employment are hypothesised to act as a catalyst to a new stable equilibrium.

In other words, it is likely that the gender equitable behaviour will be adopted mainly by those who can afford it: women who have access to childcare facilities, flexible employment and leave from work to provide childcare, while still having a job to return to. These are commonly women with higher socioeconomic status who have financial resources to purchase childcare services, and bargaining power to negotiate support from their employers. However, some countries provide their residents with social rights that ensure them access to such services and working conditions. The journey to a gender egalitarian equilibrium is then hypothesised to be longer in those societies where the gender egalitarian norms are held primarily by highly educated and financially secure women, but where this life-style is unreachable to women from lower socioeconomic

background. On the other hand, the diffusion of the new norms is likely to be considerably faster in those societies where policies make the new life-style accessible to larger number of women regardless of their socioeconomic status. The policies that are likely to facilitate the process are, amongst others, birth-related leave policies. They ensure mothers with time off from work to care for very young children and at the same time protect them against dismissal. Similarly, the birth-related leave policies also enable fathers to take time off from work and provide childcare. The participation of fathers on the birth-related leave facilitate more gender egalitarian division of childcare but also allows mothers to resume their employment and career following birth. The birth-related leaves also interact with the labour market policies. They can, for example, enable caring mothers to opt for flexible employment (i.e., shorten their working hours, work from home, opt for flexible hours, etc.) whilst still compensating them for foregone earnings. Another such policy, or rather social service, are formal childcare facilities.

These theories, therefore, hypothesise that countries where policies facilitating maternal employment were introduced will have higher fertility rates, when compared to countries where the family and labour market policies either explicitly or implicitly support traditional family and the gendered division of labour. However, the authors of these theories do not take into account that the welfare support may in fact be stratified and therefore unable of acting as a catalyst for the societal change they anticipate. Esping-Andersen has made similar point in his ground-breaking work in the field of welfare state research when he claimed that "(t)he welfare state is not just a mechanism that intervenes in, and possibly corrects, the structure of inequality; it is, in its own right, a system of stratification" (Esping-Andersen 1990b, p.23). Thus, the argument about the stratification of welfare support is nothing new in the social policy field. Nonetheless, in fertility research, the within-country variation in policy entitlements and their stratification has been rarely acknowledged. Incorporating the knowledge and analytical approach of the

welfare state and social policy research could therefore bring a considerable insight into the understanding of the association between the policy support and fertility behaviour.

The argument about the social stratification of the policy support can be illustrated on several reconciliation policies. For example, childcare services may offer enough places to satisfy the demand. Nonetheless, the availability of places in childcare facilities does not necessarily correspond with accessibility. Unless the childcare fees are reduced according to maternal or parental income, such services may not be attainable for low-income families. The policy stratification is even more evident in birth-related leave policies that are based on a complex set of rules that determine who is entitled to draw support from this policy scheme and how extensive this support going to be. It means that depending on the policy design, some people may not be entitled to a birth-related leave at all and among those eligible, not everyone receives the same financial support, both in absolute and relative terms. Considerable policy stratification is likely to be present in countries where birth-related leave is available only to working women. In contrast, stratification is likely to be smaller in countries that have not built the eligibility conditions around the economic status of future parents. Nonetheless, even among the eligible women, stratification may be present if policy designs have incorporated minimum and maximum thresholds for the benefit payment or provide financial support on a flat-rate basis.

In the context of stratified policy support, the diffusion of the gender egalitarian norms and increase in fertility outcomes may remain considerably slower. Nonetheless, both gender equity theory and the multiple equilibria hypothesis provide explanations that operate solely on a societal level, despite the fact that their arguments that are built around processes that are experienced by and navigated by individuals. However, to verify the theoretical proposition, it makes more sense to first examine it from the perspective of the individual people, especially women. To do so, we first need to know whether and how the

policy entitlements are distributed within societies. The first research questions therefore are:

Does the birth-related leave support vary within societies?

How is the birth-related leave support distributed across women with different educational attainment living in the same country?

Chapter 5 will look more closely at the various designs of the birth-related leave policies across European countries. However, a basic distinction between the policy designs can be made between the entitlements that are based on the economic status of the potential recipient and those that provide at least some support from the birth-related leave schemes to all women who become mothers. In other words, the distinction can be made between universalistic and non-universalistic birth-related leave designs. Since women with lower educational attainment are more prone to unemployment and unstable employment, we can draw the following hypothesis:

> **H1**: Women with lower educational attainment living in a country where the entitlements are built around economic status and employment history are less likely to be entitled to a birth-related leave than women with lower educational attainment living in a country with universal entitlements.

The duration of maternity or parental leave is not commonly associated with economic status or employment history. However, the total leave for each woman (i.e., maternity and parental leave) is likely to vary due to the link between maternity leave entitlements and economic status of the potential recipient. In other words, the within-country differences are likely to cluster in three groups: women who are not entitled to any form of birth-related leave (i.e., their leave duration is zero), women who are not entitled to maternity leave but are eligible for parental leave, and those who are entitled to both maternity and

parental leave. Further, within-country variation is possible due to other reasons such as single motherhood. However, the within-country variation in birth-related leave duration is likely to be very small. Therefore:

> **H2**: The within-country variation in birth-related leave duration is very small in all European countries.

> **H3**: The difference in the birth-related leave duration across women with different educational attainment is very small in all European countries.

In contrast, the within-country variation in the relative financial compensation for the time spent on a birth-related leave is likely to be considerably higher. This is likely to be true especially in those countries where the financial benefits are provided on a flat-rate basis or where the proportional system on earnings incorporates thresholds on minimum and/or maximum benefit payment. We can therefore hypothesise that:

> **H4**: Among women who *are eligible for* a birth-related leave living in a country with *flat-rate* birth-related leave benefits, women with lower educational attainment are entitled to higher financial compensation than women with higher educational attainment.

> **H5**: Among women who *are eligible for* a birth-related leave, living in countries with *proportional benefits with* set minimum and maximum benefit payments, women with lower educational attainment are entitled to higher financial compensation than women with higher educational attainment.

> **H6**: Among women who *are eligible for* a birth-related leave living in a country with a *proportional system without* minimum and maximum benefit payments, women with lower education attainment are entitled to lower compensation compared to women with higher educational attainment.

The answer to the first research question can provide an insight into the stratification of the birth-related leave entitlements and consequently into the policy's potential to function as a catalyst of normative and behavioural change. The theoretical explanation, however, suggests that the policy measures that promote the traditional division of labour will be negatively associated with birth. The second research question can be therefore formulated as follows:

Are birth-related leave policies that promote a traditional division of labour associated with lower propensity to birth?

The following section will apply the theoretical perspectives of the gender equity theory and the multiple equilibria hypothesis to a micro-level analytical framework, which considers the stratification of the policy support in comparative settings.

3.2   Applying macro-level theory to micro-level processes

Gender equity theory and the multiple equilibria hypothesis claim that in countries where the equal division of labour between sexes is supported, the fertility rates are higher compared to countries where the societal norms are still protective of traditional division of labour. This is particularly due to the shift in societal norms, from the traditional division of paid and unpaid work, towards a more equal division of labour and dual-earner and dual-caregiver family model. The low fertility problem is primarily created by the ambiguous requirements that are applied to women. On one hand, women have access to education and have reached qualifications that in most European countries exceed those of men, and have gained a prominent position on the labour market. On the other hand, social institutions in many European countries still expect that women will forego their careers for the sake of their small children, and at least temporarily return to their homes.

However, such an assumption is not only threatening to women's careers and economic position, but directly influences the economic situation of the whole family.

The impact of a very young child on the family is two-fold. In the hypothetical situation of no welfare state support, the obvious and immediate one is the loss of one parent's income. The less obvious impact is the long-term impact on family income caused by a woman's career progress that is put on hold when taking care of small children. Although the position of fathers is not taken into account in the theoretical perspectives, their role is also largely determined by the social institutions. In countries where birth-related leave policies either explicitly (e.g., policy is addressed solely to mothers) or implicitly (e.g., low financial compensation) favour maternal care over paternal or shared care, fathers are forced into breadwinner roles, which may not necessarily be their preferred roles. In contrast, shared parental childcare could mitigate the negative effect of maternal care on women's career progress, and on the long-term financial situation of the family, because it would allow mothers to maintain contact with their employment. An individual and non-transferable right to birth-related leave for fathers is therefore another aspect of the policy support that promotes a gender egalitarian division of labour between partners. Nonetheless, because this issue is not addressed by existing theoretical approaches, the position of men and their entitlements to a birth-related leave will be omitted from this thesis for the sake of the argument's clarity. The emphasis will be placed solely on the situation of women.

Although the theoretical approaches operate solely with the gender equity and gender egalitarian norms, when applied on an individual-level, these notions and arguments are very close to the opportunity cost hypothesis (Klein & Eckhard 2007). The proximity can be demonstrated on simplified examples of policy support. For instance, long birth-related leave is both 'genderising' because it reinforces a traditional division of labour between men and women, and also represents a high opportunity cost to women because it hinders

their career progress and deprives them of their earnings. Another example is subsidised childcare, which enables mothers to resume their employment and as such, is an example of 'de-genderising' policy support. At the same time, childcare service also lowers the opportunity cost for mothers. Since the opportunity cost hypothesis is often used in the fertility research and is well understood, the individual-level processes will be explained using both of the concepts. Although the theories do not discard the division of labour between partners at home, their main interest is placed on the equal division of paid work. For this reason, the division of labour between partners at home will not be the focus of this thesis.

The Figure 3.1 represents a typified life-course perspective on the relationship between the division of paid work between partners, policy support, and fertility for women who cohabit with their male partners and are of childbearing age. It starts with completing education and the transition to the labour market. The transition to the labour market is followed by a transition to first birth. Building on the theoretical explanation, the transition to first birth in any given year is moderated by the design of the birth-related leave policies. The effect is partially driven by the socio-economic situation of a woman prior to the first birth (full line) but is also influenced by the change in her socioeconomic situation following the birth (dashed lines). However, birth-related leave designs are comprised of rules that determine who is entitled to draw support from this welfare scheme, how long a leave they are entitled to, how extensive financial compensation they can expect, and also whether they can combine the leave with paid employment while still being entitled to financial compensation from the scheme.

Figure 3.1 Women's life-course perspective on the interaction between birth-related leave, employment and fertility
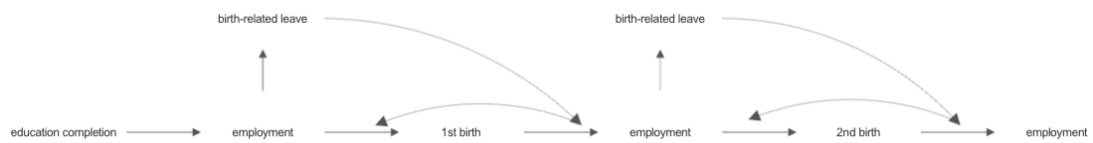
The eligibility conditions which determine who is entitled to the support from the birth-related leave scheme also help to shape women's socioeconomic situation following birth. Those women who do not fulfil the requirements are not entitled to protection of the job position, or the employment if they decide to take care of their child at home and to financial support from the scheme. In consequence, their socio-economic situation is likely to worsen. We can therefore hypothesise that:

> **H7**: Women who are not eligible for a birth-related leave have lower propensity to give birth, compared to women who are eligible for a birth-related leave.

The duration of a birth-related leave varies across European countries, ranging from several months (e.g. the Netherlands) to several years (e.g. the Czech Republic, Hungary, Slovakia). However, long leave reinforces the traditional gender division of labour between partners. Moreover, it deprives the family of labour income from one member in the short-run and foregoes any income rise for the time spent in employment, or from promotion that could have taken place during that time period. We can therefore hypothesise that:

> **H8**: Women who are entitled to long leave have a lower propensity to give birth compared to women who are entitled to short leave.

The hypothesised effect of the financial compensation for the time spent on childcare is slightly different, because by itself it does not have any clear implication for gender division of labour between partners following birth. Its effect becomes apparent only in combination with the leave duration. This argument can be better explained through the opportunity cost hypothesis. The financial compensation associated with birth-related leave is mitigating the negative effect of childcare on family income following birth. The higher the compensation, the smaller impact the childcare has on the short-term family income. We could therefore argue that high financial compensation is associated with higher propensity to birth. However, the gender equity theory and the multiple equilibria hypothesis highlighted the ability of women to resume employment following birth. It is therefore important to hypothesise the effect of the financial compensation in combination with leave duration. For instance, when the generous financial compensation is combined with long birth-related leave, the effect of such leave design can be in fact 'genderising'. This is because the generous financial compensation motivates women to use the leave and stay on the leave for a longer period of time (Erosa et al. 2010; Kluve & Tamm 2012; Brugiavini et al. 2013). According to the theoretical explanations, we would expect such a combination of financial benefits and leave duration to have a negative effect on the transition to birth. Although the 'genderising' effect is less apparent in the combination of low financial compensation and leave of any duration, we could expect a negative effect due to the high opportunity cost this combination represents. In contrast, the generous financial compensation in combination with short leave will have a positive effect on the transition to birth because it limits both the short-term and long-term consequences of the maternal childcare. The hypothesis is formulated as follows:

H9: Women entitled to high financial compensation and long leave have lower propensity to give birth, when compared to women entitled to short leave with generous financial compensation.

H10: Women entitled to low financial compensation and short leave have lower propensity to give birth compare to women entitled to short leave with generous financial compensation.

H11: Women entitled to low financial compensation and long leave have lower propensity to give birth compare to women entitled to short leave with generous financial compensation.

The financial compensation for the time spent on child care can be analysed either through the absolute value of the benefits a woman would receive or through their relative value that compares the absolute benefits with the labour income before birth. The theoretical arguments suggest that it is the individual's change in their income following birth that plays a role in the decision whether to have a child or not. In this context, the absolute benefits would not be able to fully capture and examine the effect of this change. For that reason, the relative benefits will be used instead.

The flexibility in leave use is more straightforward – the higher the flexibility, the less 'genderising' the effect of birth-related leave is expected to have. This is because it allows mothers to combine their paid work with childcare responsibilities while still being compensated for the time spent on childcare. The flexibility in leave use represents an opportunity for women to use their birth-related leave entitlements in a particular way, which would allow them to combine work and childcare responsibilities. The flexibility can take several forms. One of them is a choice between two or three different leave durations from which the mothers can choose (e.g. in Austria or the Czech Republic). This is a measure that does not provide much flexibility to mothers especially when compared with other measures such as use of the leave on a part-time basis. This option is available for instance in Belgium and allows mothers to resume their employment on a part-time basis and combine it with part-time home-based childcare (for more detail see Chapter 5,

section 5.2.2.4). However, leave flexibility is a voluntary measure and in vast majority of European countries, is not associated with any specific conditions a woman needs to fulfil in order to use this benefits. Consequently, the hypothesis cannot be formulated on an individual level. We can therefore hypothesise that:

H12: Women living in a country with high flexibility in leave use have higher propensity to give birth, compared to women living in a country with low flexibility in leave use.

3.3 Analytical framework

The chapter so far has introduced theoretical perspectives to the relationship between gender equality, welfare support, and fertility. It has pointed out that birth-related leave policy, which is in the central focus of this thesis, is not uniform welfare support that applies to all new parents. Instead, birth-related leave policies are likely to provide very different support for women depending on their socio-economic status. It has also argued that the within-country variation in the policy support has very different fertility implications for the involved women, and as such may influence macro-level fertility outcomes. To test the effect of the individual birth-related leave characteristics on fertility, I will focus only on the transition to first and second birth. I am focusing on two births primarily because the two-child family is the most commonly preferred family size in virtually all European countries. Yet, as shown in Chapter 2, not all women were able to reach this family size by the end of their reproductive period. The transition to first birth is crucial primarily due to the timing of the first birth, which impacts the timing of the second and higher order births, and thus influences the ability of parents to reach the two child 'norm.' Looking at the transition to second birth may shed more light on the determinants and obstacles that help to shape the likelihood of couples having their second child.

The research questions and the hypotheses outlined in the previous section set a considerable analytical challenge. The first challenge lies in the requirement to observe the cross-country variation in fertility outcomes on an individual level. This requires survey data that would cover a large number of European countries in order to provide satisfactory answers. The second challenge represents the interest in the factors that influence the occurrence of births. But to answer these questions, it is necessary not to observe the situation of women around the time of birth, but instead the socioeconomic situation of the couple around the time of conception. It means that survey data needs to have longitudinal character. The only data that would fulfil these requirements is the European Union Statistics on Income and Living Conditions (EU-SILC) that has both a cross-sectional and panel design and provides data for all EU Member States, Norway, and Iceland. However, the research questions and hypotheses have posed another major challenge – the measurement of the birth-related leave entitlements on an individual level. To test the hypotheses and provide an answer to the research questions requires the use of personalised birth-related leave entitlements for each woman in the sample of cohabiting women of reproductive age living in Europe. To assess how big a challenge this represents, and to search for a solution to this problem, the following sub-section reviews the way that contemporary research measures policy effects.

3.3.1   How do we understand and measure policies?

Macro-level policy indicators

One of the common approaches to measuring policies surprisingly does not include any concrete policy measure in the analytical process. Instead in this *contextual approach,* authors tend to explain the cross-country variation in their findings through policy or welfare state characteristics of the countries they study (Ekert-Jaffé et al. 2002; Rønsen & Skrede 2008; Mills et al. 2008; Hummelsheim & Hirschle 2010; Klüsener et al. 2013; Lutz et al.

2013; Kreyenfeld & Andersson 2014). This way of measuring policy impact is probably the crudest amongst the policy indicators discussed here, as it does not provide any substantial empirical evidence about the policy effect on fertility behaviour. The findings regarding the policy associations are therefore largely speculative because it is not possible to identify whether the cross-country difference can be indeed attributed to the welfare support characteristics or whether it is an outcome of other processes such as cultural differences.

Other authors perceive the importance of interactions between several policies that create a specific 'climate' in which individuals make their decisions. They combine the policies of interest in a *regime approach* to investigate the policy effect on a particular outcome (Fent et al. 2013; Billingsley & Ferrarini 2014). Such an approach to policy measurement is more advanced than the contextual approach because it attempts to empirically measure the policy differences. However, although the policy clustering provides a valuable insight into the countries' welfare context, it gives little information about the effect of individual policies. It is therefore unclear whether some particular policy may be more effective than another or whether the outcomes are indeed a result of the interaction between the individual policies. Moreover, the regime approach clusters policies, as well as entire countries that share similar policy characteristics. This considerably narrows the variation between individual countries and the possibility to satisfactorily explain variation in fertility behaviour and the role of policy in such outcomes.

An approach that is considerably more specific regarding the policy effects is a *quasi-experimental approach* that uses a combination of a time threshold and a split sample to establish the effect of policy reforms on fertility or employment outcomes (Lalive & Zweimüller 2009; Drago et al. 2010; Brewer et al. 2010; Tamm 2013; Neugart & Ohlsson 2013; Kalíšková 2014). The policy effect is measured as a time variable that indicates the moment when a particular policy reform was activated. The researcher then compares the outcomes for two groups – a control group that consists of individuals who were not exposed

to the new policy, and an experimental group that was subjected to the new policy measure. Any substantial difference between the outcomes of these two groups is then assigned to the policy reform effect. Arguably, this method is more sophisticated compared to the contextual approach. It is considered to be one of few methods that can establish a causal relationship (Lechner 2011). However, the policy effect is reduced to a single time variable. Any information about the influence of a particular policy characteristic is highly dependent on the extent of the reform in question. Moreover, it is applicable only in those countries that introduced some changes in their legislation and therefore limits its application in comparative research.

A social expenditure approach uses information about the total annual amount of social expenditures on a particular policy (Kalwij 2010; Fehr & Ujhelyiova 2012; Luci-Greulich & Thévenon 2013). Opting for this indicator is primarily based on an assumption that the higher the expenditures, the better is the policy in place. But previous research demonstrated that such an assumption does not have to be correct (Kangas 1991). The expenditure aspect of a policy is largely one-dimensional and does not carry a clear message about the character of the particular policy. For instance, in a comparative study, Luci-Greulich and Thévenon (2013) use an indicator of countries' annual social spending on birth grants, maternity, paternity and parental leave benefits expressed as a percentage of GDP per capita. Because this measure is necessarily influenced by the level of fertility in a given year and country, the high values on this indicator does not necessarily have to demonstrate a generous policy measure, merely a high number births which, problematically, is the dependent variable of interest. The measure is also complicated from a theoretical point of view because it absorbs such leave characteristics like duration of benefit payment. In general, the longer the paid leave, the larger the population that receives this benefit; a larger recipient population also increases social expenditures. However, in such cases, the large expenditures will not

indicate the ability of this policy to decrease the direct costs of children, but instead will reflect the higher opportunity cost of childbearing.

Probably the most detailed approach to policy measures on a macro-level is a *policy decomposition approach*. This approach focuses on particular policy characteristics that are then included in the analytical model. With respect to birth-related leave policies, the common approach is to distinguish between leave duration and the amount of financial compensation. Some studies observed their individual effects (Gauthier & Hatzius 1997; Rønsen & Sundström 2002; Castles 2003), while others created a common measure that is designed to indicate the relationship between these two leave aspects (Rovny 2011; Luci-Greulich & Thévenon 2013; Thévenon & Solaz 2013; Harknett et al. 2014). Separating the two indicators allows researchers to follow the individual effects of leave duration and benefits to compare their significance for fertility behaviour. Nonetheless, the indicators do not take all important aspects of the policy into account. For instance, as pointed out by Gauthier and Hatzius (1997), some countries determine leave benefits as a proportion of average earnings (replacement rate), while other countries provide flat-rate benefits. To create a comparative measure, authors recalculate the flat-rate benefits in relation to average female earnings, usually in the manufacturing sector. The replacement rate determined by legislation also tends to be an inaccurate measure as it is often accompanied with benefit ceilings and floors that are not taken into consideration.

Despite the limitations in the macro-level indicators that capture the leave duration and financial compensation individually, the indicators that combine these two measures into one lose the explanatory value the single indicator approach possesses. For instance, Harknett, Billari and Medalia (2014) use a so-called full-time equivalent of leave duration. It is a measure commonly used in a comparative policy research, which indicates how long a particular leave would be if it were compensated on 100% of earnings. Although the full-time equivalent is expressed in a number of weeks, it in fact measures solely the generosity

of the leave benefits. Therefore, despite including the leave duration in the actual calculation of this measure, the true value of the leave duration disappears from the analysis. An alternative to this indicator is the use of leave duration that is paid (Luci-Greulich & Thévenon 2013; Thévenon & Solaz 2013). However, this approach is based on an assumption that only paid leave matters and ignores the potential effect of the total leave duration.

Finally, similar approach to the policy decomposition approach is a *policy index approach*. This method ascribes values to an individual policies or their characteristics depending on how they relate to a specific issue such as gender equality or reconciliation of work and family life (Gornick & Meyers 2003; Ray et al. 2010). These values are then combined into an index where each individual score determines the position of the individual countries with respect to the particular policy. A common approach is to analyse and combine several policy measures (Bettio & Plantenga 2004; Matysiak & Weziak-Bialowolska 2016) or provide an in-depth macro-level analysis of one specific policy (Smith & Williams 2007; De Henau, Meulders & Sile O'Dorchai 2008a; De Henau, Meulders & Síle O'Dorchai 2008; De Henau, Meulders & Sile O'Dorchai 2008b; Ray et al. 2010). Although this approach allows detailed analysis of one measure, it does not take into account the within-country variation in policy entitlements, and also how large a proportion of women would be entitled to the particular policy support.

Micro-level policy indicators

The use of micro-level policy indicators in existing research is still rather scarce. It means that the approaches of this type of policy indicators are also limited. The *'policy use' approach* is probably the most common in existing research. This approach uses information from individual-level data sources about the use of birth-related leave or childcare facilities amongst parents (Vikat 2004; Lappegård 2010; Duvander et al. 2010; Thomese & Liefbroer

2013). Due to the high demands on the quality of the data, the majority of such studies concern Nordic countries where register data are more commonly used in research than in other European countries. Compared to the macro-level policy indicators, this approach targets only those individuals who can be affected by the leave policy. Nonetheless, apart from the high requirements on the data this approach has another limitation – it can be applied only at those individuals who already have at least one child. Consequently, it is subjected to a selection effect because it does not provide any information on whether or how the policy in place influences the transition to parenthood. The selection effect can have considerable implications for demographic research since the timing of first births is reflected as an important determinant of overall fertility outcomes (Sobotka 2004a; Billari 2008).

To deal with the selection effect problem or the lack of appropriate data, some researchers started to use an *eligibility approach* (Rønsen & Sundström 2002; Zabel 2009; Parr & Guest 2011; Cannonier 2014). This approach combines the legislative information about eligibility conditions for birth-related leave with the information about the socioeconomic situation of individuals in a survey. The aim is to distinguish those individuals who were subjected to the leave policy before they gave birth from those who were not, and identify potential policy effects on first birth occurrence. Unfortunately, the authors have so far focused almost solely on the eligibility criteria for a scheme as such and omitted the information about the leave duration and the extent of financial compensation that might vary across eligible women within the same country.

This section reviewed the main approaches to measuring the effect of birth-related leaves on fertility behaviour and female employment. It has identified several weaknesses in these policy measures that may create an inaccurate picture about their effect. In general, the macro-level indicators have considerable limitations – they do not take into account the cross-country variation in eligibility conditions to the leave schemes. Instead, they either

implicitly assume that all women are entitled to the support from birth-related leaves or that all women are entitled to the same support. The great variation in eligibility conditions for the entire scheme or different financial support is largely ignored and barely acknowledged, which corresponds with the theoretical perspectives discussed at the beginning of this chapter. Moreover, the financial support associated with the birth-related leaves does not affect everyone in the same way as it has been discussed earlier. However, to the best of the author's knowledge, this fact was not taken into account in any of the existing measures.

The main weakness of most of the micro-level approaches to the birth-related leave measures is the presence of a selection effect. The eligibility approach appears to be the most comprehensive way of measuring policy that takes the selection effect into account. This thesis proposes adjustments to this approach, which would also incorporate other aspects of the birth-related leave designs and not just the eligibility for the scheme as such. To do so, such a measure will not only identify those women who would be entitled to the birth-related leave policies, but also to how long a leave each woman would be entitled to and the amount of their financial allowance. This will be possible through the combination of legislative information on birth-related leaves in each European country, with the extensive individual-level survey data provided by European Union Statistics on Income and Living Conditions (EU-SILC). This chapter has therefore identified a limitation in existing theories of fertility, which conceptualise policy at the country level and do not take into consideration the within-country variation and possible stratification of policy support. The chapter has extended the theories of these aspects and provided hypotheses for how policy variation may affect fertility behaviour, and identified ways in which this conceptualisation can be empirically examined. The following chapter provides detailed information about construction of an individual-level policy indicator.

4 DATA AND METHODOLOGY

Chapter 3 discussed existing approaches to the measurement of family policies in general and birth-related leaves in particular. It also proposed an alternative way for measuring birth-related leave policies that would combine the comprehensive nature of individual-level survey data with the complexities of birth-related leave policy designs. As opposed to the majority of comparative studies in policy research, which reflect policy on the macro-level, this thesis points to within-country variation in policy designs. It argues that it is not possible to fully comprehend institutional effects on fertility outcomes unless we take into consideration population composition, and distinguish which socioeconomic groups of women are subjected to policy support and how extensive this support is. The method of policy measurement adopted in this thesis combines detailed information on women provided by the EU-SILC individual level data and legislative information on birth-related leave policies that was collected from several sources. It is a form of data enrichment that allows us to measure the interaction between policies and women's circumstances. A similar approach has been adopted in several previous studies (Laroque & Salanié 2008; Boll et al. 2013) but to the best of the author's knowledge it has never been conducted using so many policy characteristics in such a number of countries. This chapter presents this alternative measure in more detail and introduces the data that were used to create this alternative way of measuring policy. Beyond that, this chapter will discuss the analytical approach that will be adopted in this thesis to empirically test the defined hypotheses and provide an answer to the research questions. It will also discuss the sample population selected for the analyses and various technical aspects of the analytical sections, such as the process of identification of births in the survey data.

4.1   Enriching data: measuring policy on the individual level

Welfare state policies are undoubtedly macro-level phenomena. However, as shown by Chapters 2 and 3, they directly interact with women's life circumstances and can even alter these circumstances to a great extent. The extent to which a birth-related leave policy may influence women's living conditions, and consequently their behaviours, is largely determined by their initial socioeconomic situation and by the policy design itself. For example, parental leave, which in some countries is available only to working women, may lead to postponement in family formation among women who are unemployed due to the unfavourable economic situation they might face with a child. On the other hand, parental leave policies that provide financial compensation to all women regardless of their economic status may actually motivate unemployed women to start their family earlier because their economic situation will not worsen in the short-term and might even improve. It would therefore be beneficial to understand the different influences statutory policy designs may have on a woman's socioeconomic circumstances and their behaviour.

Our current knowledge of the interaction between policies and women's circumstances is based mainly on the benefit recipients' data. However, this approach focuses on women that were already subjected to a particular event that is a precondition for policy support, such as unemployment, poverty, or parenthood; it is therefore influenced by a selection effect. In contrast, the measurement method proposed in this thesis takes into account the whole population, and assesses the distribution of the policy entitlements in society. This method is used in this thesis to create indicators that can demonstrate how people's circumstances would change if they were subjected to a particular event, in this case a birth. This is done by using the legislative rules of the 27 European countries and detailed information from survey data to identify individual women who would be eligible for a birth-related leave, were they to have a child in a given year. Moreover, the method also calculates how long a leave each

woman would be entitled to given her socioeconomic circumstances, and the amount of financial support they would receive.

To do so, I use information about eligibility conditions and legislative rules defined by individual countries that participate in the survey. The most crucial information that is necessary to estimate who would be entitled to a birth-related leave, and how much extended support they would be eligible for, are (1) economic status; (2) the duration of employment; and (3) labour market income. The process of enriching the individual-level data and the variables used in the construction of the main indicators is discussed further at the end of this section.

The source of the individual-level information is the European Union Statistics on Income and Living Conditions (EU-SILC), described in the following sub-section. To identify which women would be entitled to support from birth-related leave policies, several sources that provide comprehensive legislative information on birth-related leaves in Europe were combined. The main sources of the policy information were Annual Reports produced by the International Network on Leave Policies & Research (LP&R), from years 2005 to 2009, and the Mutual Information System on Social Protection (MISSOC) from years 2004 to 2009. To verify and clarify some policy conditions, I also used information from the Multilinks Database on Intergenerational Policy Indicators, the European Platform for Investing in Children (EPIC), as well as some governmental websites and documents (for the Czech Republic, Slovakia, Iceland and Bulgaria). The outcomes of this data enriching process will be discussed in detail in Chapter 5. The following sub-sections will describe these data sources.

4.1.1   *European Union Statistics on Income and Living Conditions (EU-SILC)*

The EU-SILC is a comprehensive dataset of 32 European Countries comprised of the EU-28, Norway, Iceland, Turkey and Switzerland. It collects information on income, poverty, social

exclusion, housing, economic activity, education, and health. It is organised and administered by Eurostat and the data are collected annually by National Statistical Institutes of each participating country. It does not operate as an independent survey, but provides individual countries with requirements of specific questions that need to be submitted to Eurostat. The majority of the countries incorporated these questions into their household surveys. The only exceptions are Finland, the Netherlands, Norway, Slovenia, and Sweden, which use register data to collect some of the necessary information. To collect the information that is not part of the register data, these countries select an individual from a randomly selected household to fill in the missing requirements (Iacovou et al. 2012, p.3).

The survey was first implemented in 2003. But at that time it contained data from only 7 countries: Belgium, Denmark, Ireland, Greece, Luxembourg, Austria, and Norway. The remaining countries became part of the survey over time (for information on other countries see Appendix 1). This thesis works with countries that were part of the survey between the years 2003 and 2009. The micro-level EU-SILC data have two main components – cross-sectional and longitudinal. The cross-sectional, micro-level data are comprised of larger sample sizes than the longitudinal micro-level data. The longitudinal data also collects information that covers only a part of the full questionnaire, but instead provides comprehensive information about the time components in economic activity of the recipients. The principal analyses in this thesis were conducted using the longitudinal component of the EU-SILC data. There are several reasons why the longitudinal component was selected for the analyses in this thesis over the cross-sectional component. The most important reason is the formulation of the dependent variable that was not without problems (see section 4.2.2). Another reason is that some countries introduced eligibility conditions for some of their birth-related leave, and these conditions require a certain amount of time spent in employment (see section 4.1.6). The last reason is the possibility of controlling for unobserved heterogeneity, which would not be possible with cross-sectional data. Because

the longitudinal component was used in the vast majority of the analyses conducted in this thesis, I will refer primarily to this part of the survey.

The first longitudinal data were released in 2005. Each new wave is released two years after the initial data collection. It means that currently, the most recent data available are from year 2013[2]. The longitudinal component was designed as a four-year rotational panel. This means that individuals may remain in the sample for no more than four waves. However, the sample is not entirely renewed after four waves. Instead, the renewal process is done continuously over time. In each new wave, one-fourth of the total sample is excluded and replaced by the same number of new individuals. Consequently, there is always a certain proportion of individuals who are in the survey for less than four years. This is not the case for all of the participating countries. For instance, Luxembourg opted out from the rotational design, France stretched its rotation to nine years, and Norway to eight years (Iacovou et al. 2012).

The questionnaire is built to combine two time components within one wave. It contains questions that relate to the circumstances around the time of the interview, but also incorporated questions that refer to the calendar year preceding the year of the interview[3]. This means that if a woman is interviewed in March 2010, the data not only contains information relating to the woman's situation around March 2010, but also information about the whole of the year 2009. Effectively, the survey provides one more year of information that can be used as an additional year of observations for longitudinal data analysis. The time corresponding with the calendar year preceding the year of the interview is distinguished by the EU-SILC questionnaire as the *income reference period,* and it is going to be referred to in this way in this thesis. In contrast, the period referring to the time

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[2] In this thesis I use only data that were available at the time when the original empirical analysis was conducted (see Appendix 2)

[3] Ireland is an exception in this strategy. Instead, they used the period of 12 months that directly precede the interview.

around the interview is simply called the *current reference period*. The indicators collected from the income reference period are primarily associated with economic status recorded on a monthly basis, individual and family income, and receipt of financial support from the welfare state. This data is also the primary source of information that was used to identify whether each woman in the selected sample would be entitled to the birth-related leave and to estimate the amount of support they would receive.

The data structure that combines information from the current period with the information about the previous year is particularly valuable in fertility research. This is because we are predominantly interested in the period around conception rather than the period around the actual birth. With ordinary panel data, estimating the impact of factors measured at the time of conception is only possible with at least two waves. However, in the EU-SILC database, just one year is sufficient to gain substantial information about the situation around the time of potential conception. This "additional wave" partially overcomes the problem with its four-year rotational design by providing an additional time point. The EU-SILC data was used in this thesis as a basis for estimation of policy entitlements for each woman of childbearing age. The indicators of the personalised birth-related leave entitlements were constructed according to legislative rules valid in each country that was included in this study. These indicators are the source of information for analyses of the association between birth-related leave policies and fertility behaviour in Europe. The information about the legislative rules associated with the birth-related leave policies was collected from several data sources which are described in the following sub-sections.

4.1.2   *The International Network on Leave Policies & Research (LP&R)*

The LP&R was founded in 2004 as a network of researchers and experts with an interest in leave policy legislation and practice across the world (www.leavenetwork.org). Currently it comprises of members from 35 countries primarily from Europe but with representatives

also from Australia, Canada, United States, Brazil, Israel, New Zealand, South Africa, and Japan. Each year, its members produce a review of leave policies in their countries, which today represent the most comprehensive and extensive source of data on leave policy characteristics in comparative settings. The information is then published in their Annual Reviews, which became the primary source of information for leave policy modelling in this thesis.

The Annual Reviews have been published since 2003, and the latest edition covers the year 2014. The section of the Annual Reviews on individual country notes was the main source of data for this thesis. Each country note contains basic information about the country and four main sections on leave legislation, changes in leave policies, take-up of leave and research on leave and other employment-related policies. The main source of information was drawn from the first two sections. The leave legislation sections are further divided into maternity, paternity and parental leave, together with childcare leave/career breaks, and other employment-related measures. The individual sections on maternity, paternity, and parental leave are divided into sub-sections that describe the length of leave, payment and funding, flexibility in use, regional variation, eligibility and variation in leave due to child or family circumstances. Such extensive information allowed a comprehensive picture about the legislative rules to be created for birth-related leave policies in individual countries. However, the data provided in the country notes are produced by country experts rather than governmental representatives, as it is the case of the Mutual Information System on Social Protection (MISSOC; see section 4.1.3), and do not follow a strict template format. For this reason it was necessary to verify or clarify some of the information against other legislative sources. For this purpose, I primarily used the MISSOC database and in some cases also the Multilinks Database and information provided by EPIC.

4.1.3   The Mutual Information System on Social Protection (MISSOC)

MISSOC is a platform for the exchange of information about social protection systems in Europe (European Commission 2016). It was established in 1990 under an institution known now as the European Commission. It covers 28 EU Member States together with Norway, Iceland, Liechtenstein, and Switzerland. The platform provides detailed biannual information on social security systems since 2004[4]. The information is provided by representatives of the ministries or responsible institutions from the individual countries participating in the project. Its comparative database contains general information on the financing of the social protection in each country and legislative information about the coverage of particular social situations and areas. They organise the data into a comparative database with the following categories – health care, sickness, maternity and paternity leave, invalidity, old age, survivors, accidents at work and occupational diseases, family benefits, unemployment, guaranteed minimum resources and long-term care. The national correspondents – representatives of the official governmental institutions responsible for social protection - provide the information for each individual country.

Two sections of the comparative database were crucial for this thesis – the maternity/paternity section, and family benefits section. Regarding the maternity and paternity benefits, I focused primarily on the cash benefits and in the family benefits section on child-raising allowances, that captures the financial benefits for parental leave. The data provide extensive information on eligibility conditions for the birth-related leave schemes as well as comparable values of the financial compensations. However, it comprises of several weaknesses that did not allow MISSOC to be the sole source of the legislative information. The most pressing problem is its conception of parental leave. Since MISSOC focuses primarily on the financial benefits, it does not provide information about unpaid parental

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[4] To be more precise the information was provided annually for years 2004 and 2005, since 2006 the MISSOC produces updated information every January and July.

leaves. It is therefore impossible to determine whether individual countries provide parental leave unless they are accompanied by financial benefits. Similarly, in countries where part of the parental leave is paid and part is unpaid, MISSOC provides information only on the paid part. For this reason, this database was used as a main source of data only for those countries that were not part of the LP&R project and to extract the information for financial benefits in case the two sources provide different information. The Appendix 3 indicates the main source of the legislative data for each country and year that was used in the construction of the birth-related leave eligibility and the entitlements.

4.1.4   The Multilinks Database on Intergenerational Policy Indicators

The Multilinks Database (Multilinks 2011) focuses on public policies that influence within-family intergenerational responsibilities. It covers 30 European countries and provides data for the years 2004 and 2009. The indicators are organised into four main groups – responsibility to care for children, financial support for children, responsibility to care for older people, and financial support for older people. The only relevant group of indicators for this thesis is part of the responsibility to care for children, particularly the indicators on maternity and parental leave. Although it provides information on eligibility criteria for the birth-related leaves, the data are not accurate due to a particular perception of parental leave policies. For instance, it was mentioned in Chapter 1 (section 1.2) that some countries separate leave from work from the financial benefits dedicated to parents who stay at home to care for their child. In such cases, the financial compensation is often available to unemployed or economically inactive parents as well. However, this aspect of the birth-related leave policies is not taken into account in the Multilinks Database. Another limitation is the use of only two time points and a lack of information on policy changes within this time frame. For these reasons, the Multilinks Database was used only to verify or check the information provided by MISSOC for those countries that are not covered by the Annual Reviews by LP&R.

4.1.5   The European Platform for Investing in Children (EPIC)

EPIC is a platform that provides information about policies that have capacities to tackle child poverty and social exclusion, including birth-related leaves (European Union 2015). The information is organised in the form of country profiles for each Member State. The downside of this source of data on birth-related leave legislation is in the updated form of the information that refers only to a current period. Therefore, it is not very valuable for the purpose of this thesis. Nonetheless, EPIC was used as a source of information in those rare cases where the existing data were not covered by any of the Annual Reviews by LP&R or if the information was unclear.

4.1.6   The process of enriching the individual-level data

It has been shown that the EU-SILC data contain a comprehensive set of socioeconomic indicators that covers two time periods – (1) the time of the survey (*current period*) and (2) the year prior to when the survey was conducted (*income reference period*). Since the thesis is predominantly focused on fertility behaviour across European countries, the inclusion of the policy information was intended to match this purpose. Assessing the association between policy support and fertility behaviour requires adopting a specific approach. This is because of the nine-month period between the conception and the actual birth, which constitutes the base for most birth-related leave entitlements[5]. However, the socioeconomic situation of the women and their policy entitlements constructed at the time of birth are unlikely to influence the likelihood that the birth will take place, because the decision about having a child has already taken place nine months earlier. Therefore, to provide a clearer picture we should be interested in the situation of the women around the time they conceived.

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[5] Maternity leave is the only exception in some European countries where pregnant women are obliged to use their entitlements already before the birth.

To take these specificities of fertility research into account, the process of enriching the individual-level EU-SILC data made use primarily of those variables that were collected for the income reference period. The sources of legislative data introduced in the previous sub-sections were divided into two main categories – maternity and parental leave, based on the definition of these policies presented in Section 1.2. In countries that do not differentiate between maternity and parental leave, the distinction was made based on the distribution of rights to leave between mother and the family (e.g. in Iceland). Based on this distinction, I have created three main variables for each of the birth-related leave types – eligibility, duration of leave, and benefits. Altogether, the data enriching process created six basic variables[6].

It is possible to freely combine these variables between each other, or in combination with other variables in the EU-SILC dataset such as labour earnings. For instance, it is not necessary to use the strict separation of the different types of birth-related leaves. Instead, the individual entitlements can be combined to get an idea of what the overall total entitlements for women are by combining the maternity leave with parental leave indicators. The benefits for individual types of birth-related leaves can also be combined with women's labour incomes to create personalised replacement rates. When aggregated, these values can serve as a complimentary indicator of birth-related leave generosity (Bartova & Emery 2014) to existing indicators of parental leave replacement rates calculated by OECD (OECD Family Database, OECD 2015a) or Social Policy Indicators (Stockholm University 2015).

The crucial factors that were used to identify the women who would be entitled to a birth-related leave policy support are economic status and the duration of employment. They were both collected from the data referring to the income reference period. The variables 'Main activity on January – December' (*pl210a-l*) were used to construct a variable of the main

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[6] Specifically these variables are eligibility for maternity leave, eligibility for parental leave, duration of maternity leave, duration of parental leave, benefits for maternity leave, benefits for parental leave.

economic status during the income reference period. They correspond with each month of the income reference period and until 2009, contained nine categories[7]. The individual values on the twelve variables of the monthly economic status were combined and the most common value was used as the indicator of the main economic status during the income reference period. For instance, if a woman was employed for 10 months in that year and unemployed for two months, their main economic activity in the income reference period was coded as being employed. In cases where a woman experienced several economic statuses over the course of the income reference period, the most frequent one was used as an indicator of the main economic activity in that year. In rare cases where a woman experienced two economic statuses that each lasted exactly six months, the one that corresponded with employment or self-employment was used as the determinant of the main economic status. Similarly, in such cases employment was given preference over self-employment. The consecutiveness of the economic activity (e.g. whether the woman was unemployed at the beginning of the year or the end of the year) was not taken into account.

The indicator of duration of employment, which is required in some European countries as an eligibility condition for a birth-related leave, was calculated from the same set of variables (*pl210a-l*). However, for this particular indicator I have also used the previous years during which the woman participated in the survey if they were available. Depending on the legislative rules the duration of employment was calculated as a sum of months during which a woman was employed and/or self-employed. Some countries require the duration of employment to be consecutive but this was not taken into account. Also in some countries the legislative rules require the employment duration to be under the same employer. Unfortunately, EU-SILC does not collect such information and therefore this condition could not be taken into account.

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[7] Those categories are employee (full-time), employee (part-time), self-employed (full-time), self-employed (part-time), unemployed, retired, student, other inactive, and compulsory military service (European Commission 2009).

Apart from the economic activity and its duration, there are other conditions that some countries require from their citizens to fulfil before they can draw from the birth-related leave support. Also, other indicators were necessary to assign the value of leave duration and financial benefit to each woman in the survey. The additional indicators that were used in the data enrichment process were the type of contract (*pl140*), marital status (calculated as a combination of *pb190* 'Martial status' and *pb200* 'Consensual Union'[8]), age (based on *rb080* 'Year of birth'), number of children (calculated based on the number of children living in the same household who identified the woman as mother), number of years spent in paid work (*pl210* 'Number of years spent in paid work'), labour income (*py010g* 'Employee cash or near cash income' and *py050g* 'Cash benefits and losses from self-employment'), unemployment benefits (*py090g* 'Unemployment benefits'), education-related allowances (*py140g* 'Education-related allowances'), and region within a country (*db040* 'Region').

Some countries provide different support to women depending on whether they are working in the private or public sector (e.g. Greece, Denmark). Unfortunately, EU-SILC does not collect information about whether a respondent is employed in the private or public sector. The difference in the conditions could not therefore be incorporated in the data enrichment process. For the purpose of the thesis, all women who live in such countries were assumed to be working in the private sector. The data does not provide any information about collective agreements, therefore the birth-related leave policy indicators created through the process refer only to statutory entitlements. This represents a certain limitation, as the values are likely to be inaccurate for those women who live in a country where the conditions for a birth-related leave can be negotiated. This limitation needs to be taken into account when

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[8] The variable PB190 'Marital status' has 5 categories – never married, married, separated, widowed, divorced. These categories do not indicate whether the individual lives in cohabiting union. For this reason I used the variable PB200 'Consensual union' to identify whether an individual is cohabiting (categories yes, on a legal basis; yes, without legal basis; no). I created a new variable of marital status from combination of these two variables with categories single, cohabiting, and married.

assessing the birth-related leave policies in any analysis that might be conducted with this data.

Another limitation can stem from the amount or character of missing values on some of the crucial variables such as labour income or employment history. Since income variables are vital statistics for the purpose of EU-SILC (Laan 2007) any missing values are dealt with before release of the data through imputation techniques (European Commission 2009). Unfortunately, this is not the case of indicators for gross labour income. In the whole sample of women between the age of 20 and 40 is 50,875 missing values on gross labour income and information is provided only for net labour income. The missing values are affecting Greece (2003-2006), Spain (2004-2005), France (2004-2005), Italy (2004-2006), Latvia (2005-2006) and Portugal (2004-2006). All these countries were exempted from obligation to provide the gross labour incomes until 2007 (European Parliament and Council of the European Union 2006). For these countries and years the net labour income was used instead in order to prevent loss of observations. This represents certain limitation for the analysis and should be bare in mind when evaluating the research outcomes. The specific number of missing data associated with income variables will be reported and discussed with relation to specific samples in chapters 7 and 8. For the purpose of the analysis and to ensure better comparability the labour income variables were adjusted for Purchasing Power Parity using factors produced by Alexander Mack and Barbara Lange (2015) designed specifically for the analytical purposes using EU-SILC data.

4.2   Analysing the data – methodological and analytical approach

This section will discuss the methodological and analytical aspects of Chapters 5 to 8. Chapter 5 uses the individual level data and assesses how the individual birth-related leave schemes interact with women's socioeconomic characteristics. It aims to uncover the hypothesised within-country variation in policy support and puts it in a comparative setting.

The sample that was used to provide the answer is drawn from the sample of women between the ages of 20 and 40. The age category of 20-40 was selected based on the biological ability of women to procreate. The extreme values when the fertility rates are very low (i.e. 15-19 and 40-45) were excluded from this age category. Chapter 6 then uses the same data as Chapter 5, but puts the information into a genderered perspective. It will examine the combination of the leave entitlements in cross-country comparison according to the 'genderizing' concept introduced by Steven Saxonberg (2013).

Chapter 7 and 8 both follow the association between birth-related leaves and the transition to birth – first and second births, respectively. The transition to first and second births was divided into two chapters because these transitions are associated with very distinct processes. For instance, research suggests that the 'value' of the first and the second child for parents can differ. While the first child represents a couple's transition into a new status of parenthood (Langdridge et al. 2000), the second child may represent a fulfilment of parents' preferences for family size or their intentions to have a sibling for the older child. More importantly, the effect of the birth-related leave policies is also hypothesised to differ across birth parity. This is especially true when using the birth-related leave indicators that show a hypothetical value of the welfare state support. Using this indicator assumes that women have perfect information about the support they will be entitled to and make their fertility decisions in accordance with this knowledge. However, in real life it is likely that the information is not perfect among childless women. On the other hand, this is less likely to be true amongst mothers of one child who have already had a direct experience with the policy support they obtain when having a child. The section will first look at the samples selected for the analysis, then it will discuss the construction of the dependent variables and finally will introduce the statistical method that will be used to analyse the data.

4.2.1 Country sample

Although the EU-SILC survey contained 29 countries during the time period used in this thesis, it was necessary to exclude two countries from the analyses. One of the countries was Germany because it provided only two waves of the longitudinal data. Another country was Portugal. The data preparation process revealed a considerable problem. There are several inconsistencies in the data such as change in the year of birth or sex over time for women with the same identification number (ID). It therefore appears that Portugal is reusing old ID numbers for new participants in the survey. For this reason, I excluded Portugal from the analyses.

4.2.2 Identification of births – constructing the dependent variable

Chapters 7 and 8 assess the effect of birth-related leave policies on the transition to birth. However, there is no ready-to-use variable in the EU-SILC dataset that would indicate whether a woman (or man) had a child in a given year. Instead it is necessary to link all the family members together in order to identify a birth. The structure of the EU-SILC data does not correspond with a typical household dataset (e.g. does not include a household grid). Instead it contains so-called link variables that identify relationships between each individual in the survey through their identification numbers (ID variables). In this way, it is possible to link individuals who share one household together. Each individual in the surveyed household was assigned with an ID number including newborns and children under 16 who were not part of the questionnaire. The survey therefore contains at least basic demographic information about all individuals in the surveyed households, such as quarter and year of birth, their relationship to the other individuals in the household and how they became part of the household (e.g. by birth, marriage, etc.). Because the survey does not contain information about the number of biological children, or when they were born, the only way to identify a birth in the survey is via these demographic variables.

To find out whether a woman experienced a birth during the survey it is necessary to use a link variable that contains the identification number for mother of a child in the survey (*rb030*). After joining the children's data with their mothers, I used their information on year of birth to find births that happened during the time the mother participated in the survey. However, the number of births is fully dependent on parents providing the information about the birth at the time of interview and therefore the correct identification of a birth is dependent on the time of year the survey was conducted. The time of year when the interview was conducted can therefore represent a major problem for specifying the dependent variable because the actual number of births in a given country and year can be misinterpreted. For example, if an interview was conducted at the beginning of a calendar year with a woman who is five months pregnant the birth in that particular year will not be recognised. Therefore, this method of identifying births could be effective only if the interviews were conducted at the end of the calendar year.

Unfortunately, the majority of the participating countries conducted their interviews in the first half of a calendar year (based on variable *hb050* - month of household interview recorded in year quarters, for more information see Appendix 2). This means that a considerable number of births may be unrecorded. This incorrect classification of women who experienced birth in the later part of the year can lead to a bias in estimates in the final analytical models. To at least partially solve this problem, I made use of the longitudinal nature of the survey and applied information from the following wave. This is possible for those women who participated in the survey for at least two consecutive waves. In the following year of the survey, mothers would already record those births that took place after their interview for the previous wave. However, the information about a birth remained censored for those women who did not participate in the survey the following year. Consequently, the model estimates in Chapters 7 and 8 are still subjected to a bias due to the

birth misspecification, but it is believed that this bias occurs at random and does not introduce systematic mistakes.

4.2.3   Analytical Methods

The main aim of this thesis is to assess whether and how birth-related leave policies influence fertility. The focus is on birth-related leave policies in 27 European countries. There re several reasons to use a comparative study, rather than a single country. First of all, the thesis is focused on the role of the birth-related leave policies in fertility behaviour, which cannot be sufficiently established with limited variation in the birth-related leave characteristics. Using a single country or even a small number of selected countries could produce biased estimates unless there is a specific natural experiment. A single country study would not be able to distinguish the effect of leave duration on fertility behaviour in those countries where parents do not have a choice, or even where they have a completely free choice over the leave duration. In the former case, there is no variation by default, in the latter it would not be possible to assign a single value to the survey participant, which would lead to the same outcome of no variation. The situation is similar for the flexibility aspect of the birth-related leave. The only characteristics that would be possible to observe are the eligibility for a leave scheme and the amount of financial compensation for the time spent on leave.

The choice of all European countries was motivated by another potential problem that would arise from a comparative study of a limited number of countries. Such an approach would introduce more variation in the policy characteristics. On the other hand, a smaller number of countries would limit the scope of analytical methods that could be used. The common approach to such research is to use country fixed effects, where the country variables are introduced in an analytical model as dummy variables (Boll et al. 2013; Gauthier et al. 2016). Alternatively, an identical model is run separately for each country. The former

approach is associated with the potential for large standard errors due to the existence of a pooled, clustered sample that combines the information from all the countries in the study. The problem of large standard errors arises from its inability to correctly evaluate the estimates as statistically significant. At the same time, the presence of country dummies in the analytical model is not sufficient to account for this problem. The latter approach is considerably limiting because it does not allow for direct comparison of the policy estimates across individual models (e.g. Mood 2010). It means that it would not be possible to draw any conclusion from the estimated outcomes about the policy effects. Moreover, this approach would have to deal with the previously discussed problem of a single country study. The use of the 27 countries was limited by the capacity of the existing survey data and also motivated by a more appropriate analytical method, a multilevel analysis that allows for the study of the policy variation while taking into account the 'origin' of the data in the pooled sample.

Another reason for a comparative study is its contribution to our understanding of the potential role of institutional effects on differences in fertility outcomes across countries. This is a very timely issue, which unfortunately has not yet been sufficiently empirically tested. Although this thesis is not examining the question of whether birth-related leave policies affect the cross-country differences in fertility behaviour, the analytical methods applied here can feed into the formulation of new hypotheses and lead to a new, more comprehensive research agenda. The alternative approach to the analysis of policy effects has been discussed at the beginning of this chapter. Now it will turn to the analytical approach that was used in the statistical models to assess the effect of birth-related leave policies on first and second births. This statistical model is going to be used in both Chapters 7 and 8 with minor adjustments based on the specific situation of childless couples and parents.

The response variable in both chapters is the likelihood of birth occurrence. It is based on a dichotomous variable that indicates whether a birth occurred in a given year (coded as 1 for birth and 0 for no birth). The common analytical approach in fertility research is event history analysis that estimates the time until an event occurs while taking into account an individual-level change over time (Trussell et al. 1992; Philipov & Kohler 2001; Jokela 2010). However, due to the four-year rotational panel design of the EU-SILC, it is not possible to adopt this approach. Nonetheless, the explanatory factor of the individual-level change over time is still an important indicator in fertility research. This is another reason why a multilevel approach is the appropriate one for the purpose of this thesis. It nests individual observations within larger units. In this particular case, it allows us to nest observations across time within each woman participating in the survey. These women are then nested within each European country, and create a 3-level analytical model. The first level includes independent variables that change over time. Virtually all individual-level variables included in the analytical models are time-variant. The second level then captures the differences between women and finally the third level indicates the difference across countries. It enables each independent variable to be assigned to its correct level and considerably lowers the risk of committing an ecological fallacy. The statistical model can then predict how much of the variance in the response variable can be explained through the individual-level time-varying covariates, differences between women and eventually, how much is due to differences between countries.

Multilevel models have become very popular in recent years for their relative accuracy in estimating the effects of aggregated outcomes (e.g. K. Hank & Kreyenfeld 2003; Sjöberg 2004; Hook 2010; Kalmijn 2013; Klesment et al. 2014). However, their use in cross-national comparative research is still scarce due to additional problems that arise from the available data and consequently low sample sizes at the country level. The sample size on the highest level is crucial for the multilevel models to provide accurate estimates. It also considerably

limits the ability of the country-level predictors to explain the variation in the response variable. The common approach in the policy and fertility research that uses multilevel methods is to introduce policy indicators on the country-level. However, the sample size dictates the number of country-level indicators that can be used on the highest level to produce a meaningful outcome. In the case of this study, the recommended number of country-level variables is two (i.e. one variable per ten cases) (Rabe-Hesketh & Skrondal 2008). Nonetheless, there is another problem with including the policy indicators on the macro-level, which has been already discussed in Section 3.3.1, that such an approach ignores the within-country variation in policy support. Both these problems are dealt with by introducing the policy effects on the individual-level through the combination of the survey data with the eligibility conditions for birth-related leave. It also means that the analytical model presented in Chapters 7 and 8 provides an average estimate for the effect of individual birth-related leave aspects on fertility behaviour in the whole of Europe with correction for cross-country differences.

I. Appendix

Appendix 1 Distribution of interviews in longitudinal EU-SILC by country and year.

Country	2003	2004	2005	2006	2007	2008	2009

Source: Longitudinal EU-SILC 2004-2009.

Appendix 2 The proportion of interviews conducted by country and quarter of year.

	Year Quarter			
Country	January - March	April - June	July - September	October - December
AT	6%	57%	31%	6%
BE	6%	45%	15%	34%
BG	0%	78%	22%	0%
CY	11%	78%	11%	0%
CZ	55%	45%	0%	0%
DK	33%	63%	4%	0%
EE	26%	66%	8%	0%
ES	15%	84%	0%	0%
FI	81%	18%	0%	1%
FR	0%	100%	0%	0%
GR	0%	100%	0%	0%
HU	30%	70%	0%	0%
IE	26%	26%	26%	23%
IS	85%	15%	0%	0%
IT	1%	9%	4%	86%
LT	2%	74%	24%	0%
LU	47%	43%	9%	2%
LV	4%	64%	30%	3%
MT	0%	24%	55%	21%
NL	0%	21%	75%	3%
NO	68%	31%	1%	0%
PL	0%	100%	0%	0%
RO	0%	76%	24%	0%
SE	2%	7%	21%	70%
SI	80%	20%	0%	0%
SK	0%	100%	0%	0%
UK	20%	27%	28%	25%
Total	21%	54%	10%	15%

Source: Longitudinal EU-SILC 2004-2009.

Appendix 3 The primary source of legislative data by country and year.

Country	2003	2004	2005	2006	2007	2008	2009
AT		MISSOC	LP&R	MISSOC	LP&R	LP&R	LP&R
BE		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
BG				MISSOC	MISSOC	MISSOC	MISSOC
CY			MISSOC	MISSOC	MISSOC	MISSOC	MISSOC
CZ			MISSOC	LP&R	LP&R	LP&R	LP&R
DK	MISSOC	MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
EE		MISSOC	MISSOC	LP&R	LP&R	LP&R	LP&R
FI		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
FR		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
GR		MISSOC	MISSOC	LP&R	LP&R	LP&R	LP&R
HU			LP&R	LP&R	LP&R	LP&R	LP&R
IS		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
IE		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
IT		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
LV			MISSOC	MISSOC	MISSOC	MISSOC	MISSOC
LT			MISSOC	MISSOC	MISSOC	MISSOC	MISSOC
LU	MISSOC	MISSOC	MISSOC	MISSOC	MISSOC	MISSOC	MISSOC
MT				MISSOC	MISSOC	MISSOC	MISSOC
NL			LP&R	LP&R	LP&R	LP&R	LP&R
NO	MISSOC	MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
PL				MISSOC	LP&R	LP&R	LP&R
RO					MISSOC	MISSOC	MISSOC
SK			MISSOC	MISSOC	MISSOC	MISSOC	MISSOC
SI			MISSOC	LP&R	LP&R	LP&R	LP&R
ES		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
SE		MISSOC	LP&R	LP&R	LP&R	LP&R	LP&R
UK			LP&R	LP&R	LP&R	LP&R	LP&R

Note: The filled spaces correspond with the years the country was participating in EU-SILC. MISSOC was used as a primary source of data for countries and years for which LP&R did not provide information. The year 2003 was covered by MISSOC data from 2004.

5 WITHIN-COUNTRY VARIATION IN BIRTH-RELATED LEAVE POLICY: A CROSS-COUNTRY COMPARISON

5.1 Introduction

The multiple equilibria hypothesis introduced in Chapter 3 holds that the low fertility outcomes in Europe are a temporary phenomenon that are a result of a transition in societal norms. The process moves from the traditional family form where women were predominantly responsible for housework, and men for breadwinning, to a modern concept of family where the division of labour is not determined by gender. The theory anticipates that fertility rates will increase when egalitarian gender norms become prevalent in societies. It also claims that the process of diffusion of the new norms within society will be faster in countries where the gender egalitarian behaviour is supported by labour market and social policies. Nevertheless, the theoretical chapter also raised a concern that the authors of the theory do not acknowledge that the policy support may be stratified and therefore its potential to facilitate the process may be limited. In other words, if women with lower educational attainment do not have an access to policy support that promotes gender egalitarian norms, the policy itself may have limited power to facilitate the diffusion of the gender egalitarian norms as argued by the multiple equilibria hypothesis. To the author's best knowledge, the potential stratification of the welfare state support has not been empirically tested yet, particularly not in a comparative setting. Thus, this chapter aims to address this gap in welfare state research and examines whether birth-related leave entitlements and support vary across individual women, depending on their educational attainment. However, it is important to note that the within-country variation in birth-related leave entitlements do not provide much information about the 'genderising' aspects of the policy support. It tests within-country variation in entitlements, which may hinder the

diffusion of the gender egalitarian norms in those countries that support . Whether the birth-related leave policies promote gender egalitarian norms or hinder them will be the subject of analysis in the following chapter, and will be assessed in the light of the findings presented in this chapter.

The within-country variation and stratification of policy support will be examined by educational groups because in this context educational attainment is used mainly as a proxy for information about the general socioeconomic status of the women. Women with lower educational attainment tend to have less stable positions on the labour market and lower earnings, compared to women with high educational attainment. Arguably, the women with lower educational attainment have limited resources to pursue gender egalitarian behaviour if this is not supported by the state. The situation is likely to be similar for women who have not received a university education and who are also more likely to experience unstable working conditions. Therefore, in line with the arguments of the multiple equilibria hypothesis, it is expected that the access to support that promotes the gender egalitarian norms will facilitate a more balanced division of labour between partners and the ability of the partners to reach their desired family size. However, this is unlikely to be the case if the birth-related leave support is stratified and not available to everyone.

The first part of the analysis conducted in this chapter asks whether the birth-related leave support varies across women within societies (RQ1). To answer this question, I will pool the individual entitlements to maternity and parental leave that were assigned to each woman in the EU-SILC survey (for more detail see Chapter 4) and focus on their individual aspects – eligibility, duration, and financial compensation. The strategy to merge the maternity and parental leave entitlements to one birth-related leave entitlement is motivated mainly by the cross-country differences between the maternity and parental leave entitlements. For instance, while maternity leave is commonly provided only to mothers who were employed or self-employed at the time of birth, the parental leave in some countries is provided to all

new mothers from birth regardless of their economic status. Separating maternity and parental leave entitlements in the analysis could therefore provide unclear results with respect to the overall support for individual women with different educational attainment. For instance, if there is low employment among women with low educational attainment, the proportion of women within this educational category that are eligible for maternity leave would most likely be small. However, in some countries, women with insecure positions on the labour market, or economically inactive women are entitled to financial support from the parental leave schemes. This means that although they would not be eligible for maternity leave, their eligibility to financial support from the parental leave scheme could make their entitlements comparable to the women who are entitled to maternity leave. This is taken into account when pooling the entitlements to maternity and parental leave, but would be ignored if the maternity and parental leave were analysed separately. Moreover, this thesis puts women's perspective into the centre of the analysis; it is therefore an appropriate strategy to pool the two schemes and analyse them together.

The second part of the analysis will assess how the birth-related leave support is distributed across women with different educational attainments that live in the same country (RQ2) and how this distribution varies across countries and policy designs. The sample was drawn from women between the ages of 20 and 40. But before the chapter turns to analysis, it will first look at the differences in the maternity and parental leave designs across countries to better understand the variation in the birth-related leave entitlements.

5.2   Cross-country differences in the birth-related leave designs

This section focuses on each of the birth-related leave policies (maternity and parental leave) and their policy designs that build a base for the within-country variation in policy support. It is important to bear in mind that the description of the policy design only refers to years in which the countries participated in the EU-SILC survey (see Appendix 1). It therefore does

not include information about any possible changes in the policy designs that took place after 2009.

5.2.1 Maternity leave

Maternity leave is an individual and non-transferable entitlement aimed primarily at economically active women before and/or immediately after birth. All European countries in this study have adopted maternity leave policy, but their characteristics vary considerably across countries. This section will discuss the cross-country differences in eligibility conditions, leave duration, and financial compensation.

5.2.1.1 Eligibility conditions

Eligibility criteria for maternity leave schemes in Europe have several dimensions. First of all, we can talk about eligibility for the scheme as such, but the conditions can be further specified for leave duration and financial compensation. The eligibility criteria for the leave scheme are determined either by economic status, contribution to the social insurance scheme, or by residency. Further conditions can be imposed on the time spent in paid employment, duration of contribution to the social insurance scheme, or the time spent in a country as a resident. In cases in which a woman was not economically active but is still entitled to financial support from the scheme, she was identified in the data enriching process as being eligible for maternity leave (e.g. Luxembourg[9]). The contribution to a social security scheme is by far the most common eligibility condition for maternity leave. It can be found in 21 of the 27 countries included in the study. In the remaining countries, the entitlements are based either on economic status (the UK, Denmark and the Netherlands), or

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[9] Luxembourg provides two types of benefits – maternity benefit and maternity allowance. Maternity benefit is available to employed and self-employed mothers and is conditioned on six months of contribution into the social security system. Maternity allowance is available to all other mothers. This means that all new mothers in Luxembourg are eligible for a financial support in form of maternity leave.

residency (Finland, Iceland and Malta). Table 5.1 presents an overview of the eligibility conditions for maternity leave.

Table 5.1 Eligibility conditions for maternity leave in Europe

Eligibility criteria	Countries
Social insurance	AT, BE, BG, CY, CZ, EE, ES, FR, GR, HU, IE, IT, LT, LU, LV, NO, PL, RO, SE, SI, SK
Economic activity	UK, DK, NL
Residency	FI, IS, MT

Source: LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

5.2.1.2 Maternity Leave Duration

In most of the European countries, the duration of maternity leave does not differ across eligible mothers. The only variation in maternity leave duration is due to granted longer leave dedicated to mothers with multiple births or health problems. Such conditions are not taken into account here. However, in some countries the maternity leave duration is longer for single mothers and this variation in the leave duration was taken into account, in case a woman in the survey did not cohabit with a male partner. In 2009, such a policy was in place in Slovakia only, where single mothers were entitled to 37 weeks of maternity leave. A similar exception was revoked in the Czech Republic in 2007 when entitlements for single mothers were standardised with other mothers and the original entitlement was shortened from 37 to 28 weeks. Other countries provide different lengths of maternity leave depending on the number of children the women have. This condition was also taken into account by using information on household composition. In France, mothers of three or more children are entitled to 26 weeks of maternity leave, in contrast to 16 weeks for mothers of one or two

children. This differentiation was also in effect in Poland until 2009 when the maternity leave duration was unified. Between the years 2004 and 2006, the maternity leave duration for Polish mothers of at least two children was 18 weeks. This was increased to 20 weeks in 2007 and remained the standard maternity leave duration for all eligible mothers.

Over the course of the survey, several other countries introduced changes in the duration of their maternity leave. In addition to the case of Poland, Bulgaria increased the maternity leave from 45 to 59 weeks in 2009. Cyprus increased the maternity leave length from 16 to 18 weeks in 2007 and Malta from 13 to 14 weeks in 2009. Ireland introduced such changes three times during the period in which the EU-SILC survey was conducted there. Between 2004 and 2005, maternity leave was 26 weeks long; in 2006, this was increased to 34, and in 2008, to 42 weeks. In 2007, Spain introduced a leave option for employed mothers that originally did not fulfil the eligibility conditions, due to a short employment history. The change granted them with 6 weeks of maternity leave following birth. In Sweden, there is no specific maternity leave, but instead an individual right for leave dedicated solely to mothers that was 86 weeks, between 2005 and 2008. Mothers could have used this time as they pleased, but since 2009, they are obliged to take 2 weeks of leave before and 2 weeks of leave after birth.

Table 5.2 Design of the maternity leave financial compensation

Type of financial compensation	Countries
Flat-rate benefits	MT
Flat-rate & proportional benefits	LU, BE, AT, DK (+ max. threshold), IS (min. & max. threhsold), NO (+ max. threshold), ES (+ max. threshold), UK
Proportional compensation (without thresholds)	BG, CY, EE, HU, IT, LV, LT, PL, RO, SE (<2007)
with maximum payment	GR, CZ, SK, SE (>2007), NL
with minimum and maximum payment	FI, FR, IE, SI

Source: LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

5.2.1.3   Financial Compensation

Maternity leave benefits are designed to compensate women for maternity leave for lost income due to birth, after-birth recovery, and childcare. In Europe there are two main forms of financial compensations. Mothers can be compensated on a proportion of their labour income, or on a flat-rate basis. Some countries that provide financial compensation as a replacement rate introduced a benefit threshold. Such 'ceilings' on the compensation in fact mark a flat-rate benefit for those people whose earnings overstep this threshold. On the other hand, some countries also set a minimum for financial compensation and therefore provided some women with maternity leave benefits that exceed their earnings. Similar outcomes can be found in countries that provide universal coverage for maternity leave.

Table 5.2 summarises the form of financial compensation in the 27 European countries. It shows that only Malta provides flat-rate maternity benefits. Other countries, such as Iceland, Luxembourg, Austria, Belgium, Denmark, Norway and Spain, combine flat-rate and proportional maternity leave benefits. A considerable number of countries provide proportional benefits without any threshold, which suggests that the within country variation in the maternity leave benefits would be limited. Finland, France, Ireland and Slovenia also provide benefits as a proportion of previous earnings but determine minimum and maximum thresholds. This suggests that some women will be entitled to financial compensation that exceeds their pre-birth earnings and on the other hand, some women will be entitled to a smaller share of their pre-birth earnings compared to other eligible women. The remaining countries decided to introduce only the maximum threshold on the benefits, which decreases the compensation for the women in the top end of the earning scale.

5.2.2   Parental leave

For the purpose of this thesis, parental leave has been characterised as a break from economic activity or inactivity aimed at mothers (and fathers) following either childbirth, or maternity leave (see Section 1.2). The economic inactivity in the definition marks the countries' special recognition of the time spent on childcare, which is perceived as an activity that should be financially appreciated regardless of women's economic status prior to childbirth. Parental leave is currently available in all European countries included in this study. The section looks at the requirements a mother must fulfil in order to become entitled to support from the scheme, and then on the entitlements to parental leave duration and associated financial compensation.

5.2.2.1   Eligibility for parental leave

In the majority of European countries, the parental leave is an individual right of each parent. But in some countries the individual right to leave is paired with a family right to financial compensation. For instance, in the Czech Republic the right to parental leave is granted to all working mothers and fathers until the child reaches the age of 3. However, the parents are entitled to only one flat-rate benefit. Such a policy design often leads to a practice where only one parent, commonly the mother, uses their right to parental leave. In the Czech Republic, the uptake of parental leave benefits by fathers in 2010 was only about 1.5% (Kocourkova 2013). For the purpose of this thesis, women were coded as being eligible for parental leave if they have fulfilled the eligibility conditions for the leave, or when they were entitled for the associated financial benefits in case they were not economically active. In other words, economically inactive or unemployed women who, for obvious reasons, would not be entitled to leave from work, but who *would* be entitled to financial compensation for childcare from the parental leave scheme, are identified as entitled to parental leave.

Table 5.3 Eligibility conditions for parental leave

Type of entitlement	Countries
Universalistic	SE, FI, IS, DK, CZ, SK, HU, AT, LV, EE, LU
Economic status	UK, IE, FR, BE, NL, ES, IT, GR, MT, CY, PL, RO, BG, LT, SI, NO

Source: LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

The eligibility conditions vary considerably across European countries. It is possible to identify a geographic and welfare state divide between universal parental leave designs and the designs that are based on the economic activity and employment history of the mothers (see Table 5.3). The universal birth-related leave support is typical for social democratic welfare states as classified by Gøsta Esping-Andersen (1990b): Sweden, Finland, Iceland and to a certain extent also Denmark. The universal parental leave design can be found also in Central European countries such as Austria, the Czech Republic, Slovakia and Hungary, and in two of the Baltic countries – Latvia and Estonia. Luxembourg represents an outlier its geographical context. It provides universal support to its citizens and as such, pairs better with Germany (before it introduced parental leave reform in 2007), than to its other neighbours. The non-universal parental leave support is typical for liberal (the UK, Ireland) and corporatist welfare states of continental (France, Belgium, the Netherlands) and Southern Europe (Spain, Italy, Greece, Malta, Cyprus). However, some countries of the former Eastern Block have adopted parental leave designs that are available only to working women – Poland, Romania, Bulgaria, Lithuania and Slovenia. Norway is the only representative of the Nordic countries that provide the parental leave based on the economic activity of the parents.

5.2.2.2 Parental Leave Duration

It is possible to classify the right to parental leave into three main categories. The first one is an individual non-transferable right where each parent has a right to take some time off work to take care of their child. It is based on a principle of 'use it or lose it' where the other parent cannot claim the time of leave available to the other parent. Another option is an individual transferable right, where each parent is guaranteed some time off work. However, one parent can use their right and transfer either the whole time or its part to the other parent. The last form of right to parental leave is a family right, which provides a family with set financial compensation and gives parents freedom to share parental leave as they please. With respect to the 'genderising' aspects of a birth-related leave, the family right to leave is probably the one that helps retain the traditional gender division of labour the most. The choice to share parental leave, and the extent of financial compensation, tends to discourage fathers from taking parental leave (Kaufman et al. 2010; Duvander & Johansson 2012; Escot et al. 2013). Consequently, mothers commonly take the whole or a considerably larger share of parental leave compared to their male partners. For this reason, the length of parental leave that was not specified for each parent was assigned to the eligible woman. For instance, parental leave in the Czech Republic provides one financial benefit per family despite the individual right to parental leave, as described in the previous section. Because the law does not specify the duration of parental leave for fathers, the whole duration of parental leave was assigned to women.

As was the case with maternity leave, the duration of parental leave does not vary much within individual countries. However, there are some exceptions. For instance, self-employed parents in Italy are entitled to 3 months of parental leave while employed parents are entitled to 6 months. In contrast, single mothers who are eligible for parental leave are entitled to 10 months. Single mothers are eligible to longer parental leave in Norway and Sweden as well. This is because single mothers are entitled to use the share of parental leave

that is normally dedicated to fathers. Single mothers in Norway and Sweden can therefore draw 68 weeks of leave, as compared to 60 weeks available to mothers who share a household with their male partner or the father of their child. Similarly, eligible single mothers in Greece are entitled to six months of parental leave, compared to about 3.5 months for women cohabiting with their partners. The duration of parental leave may also vary due to socioeconomic differences between women. In the Czech Republic, mothers may decide between three options of leave duration – two, three and four years long. However, in 2009 women who were not entitled to maternity leave and did not have high enough earnings could not opt for the shortest leave. Consequently, only about 17% of all eligible women in 2008 would be able to choose the two-year long leave[10]. A rather unique system can be found in the Netherlands where eligible parents are entitled to 26 times their average weekly working hours. This means that the parental leave is also very flexible – parents may draw the leave as they please in a matter of working hours rather than days or weeks. The Dutch leave design therefore generates large variation in the leave duration amongst eligible parents.

Table 5.4 Design of the parental leave financial compensation

Type of financial compensation	Countries
No compensation	CY, GR, IE, MT, UK
Flat-rate & proportional benefits	FI, HU, IS, LU, EE, SE
Flat-rate benefits	AT, BE, BG, CZ, FR, PL, SK, ES, RO, NL
Proportional compensation	IT, LT
with maximum payment	DK, NO, SI
with minimum and maximum payment	RO (2009)

Source: LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

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[10] It was possible for fathers with higher earnings to apply for the two-year long parental leave and then transfer the whole leave to mother. However, this option was not taken into account in this thesis.

5.2.2.3 Financial compensation

In contrast to maternity leave, not all countries provide financial compensation to parents who take parental leave. Over the period covered by this study, this was the case in Cyprus, Greece, Ireland, Malta and the UK (see Table 5.4). In Spain the financial compensation for time spent on parental leave is largely in the hands of individual regions. Nonetheless, the majority of the Spanish regions do not provide any payments for entitled parents. In regions that decided to financially assist parents on parental leave, the compensation is paid on a flat-rate basis. This is also the most common form of compensation among other European countries. Among the countries in this study, eleven provide this type of financial compensation (Austria, Belgium, Bulgaria, Czech Republic, France, Luxembourg, Poland, Slovakia, some regions of Spain, Romania until 2009, and since 2009, the Netherlands as a tax deduction). Another six countries implemented a proportional compensation system with or without minimum and maximum thresholds on benefit payments. There is no limitation on the extent of parental leave benefits in Italy and Lithuania. Maximum benefits were marked in Denmark, Norway, and Slovenia. Since 2009, Romania provides a proportional compensation system with a threshold on minimum and maximum level of benefits. The remaining countries combine the proportional and flat-rate compensation systems usually depending on the economic activity of the recipient (Finland, Hungary, Iceland, Luxembourg, Estonia, and Sweden).

5.2.2.4 Flexibility in Parental Leave

Parental leave is a rather specific leave scheme because in contrast to maternity and paternity leave, it provides parents with some freedom in the way they may allocate the time they are entitled to. For the purpose of this project, flexibility in the use of parental leave is understood as an opportunity for parents of small children to combine work and leave without loss of financial compensation. There are several ways in which countries ensure

flexibility in leave use. One of the measures is a *"speed"* choice. Some countries introduced two to three options in their leave duration between which parents may decide. It is an option used in countries with very long leaves for when the child is up to three years of age (Austria, Germany, and the Czech Republic). It is also an option that provides the least flexibility, because the shortest leave lasts one year. Another flexibility option enables parents to take their leave in blocks. Effectively, this means that parents may combine employment with leave. This measure is considerably better compared to the "speed" choice because it significantly shortens the time spent away from employment. But it still offers less flexibility than the last, *part-time option*. Countries that offer parents a choice to take leave part-time provide the most flexible form of leave because they enable parents to keep contact with their employment on a weekly basis. Moreover, the part-time option is often associated with leave prolongation in countries with relatively short leave duration (e.g. Belgium, the Netherlands). Apart from this classification, there are variations in the flexibility of leave use that will be discussed further below. Nonetheless, it demonstrates that long leave does not necessarily have to be detrimental to women's employment once it is combined with high flexibility in leave use.

In all of the European countries, except for the Czech Republic, the flexibility choice is exlcusively in the hands of the parents. Therefore, it is not possible to assign an individual value to each participant in the survey and the flexibility in leave use must be measured on a country-level. The presence of the flexibility option of the birth-related leave in this Chapter is therefore justified by an attempt to provide a complete overview of the policy aspects and will not be part of the analysis in the second part of this chapter. Some countries combine several flexibility options. To capture the variation and provide a macro-level indicator, I have created a simple index, which demonstrates the difference in flexibility options across countries. The index values range from 1 to 10 with 1 marking the smallest level of flexibility and 10 the highest. Out of the three flexibility options, part-time leave offers the

Figure 5.1 Flexibility in parental leave use, 2008.
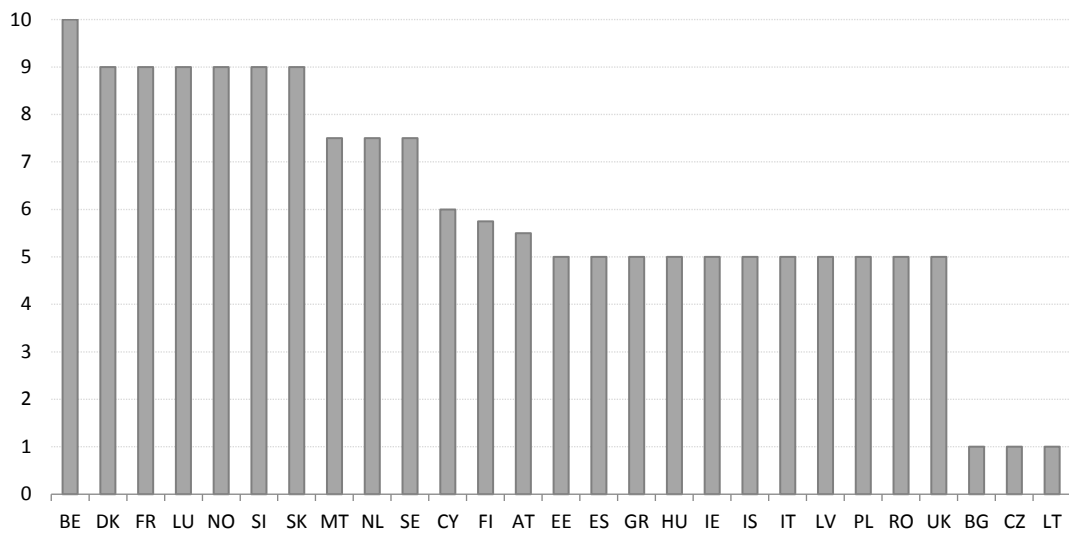
Source: MISSOC, Annual Re views by LP&R, Multilinks Database, EPIC.

most flexibility and is located on the top of the flexibility scale. In contrast, the "speed" choice offers the least flexibility and was therefore assigned to score 1. Leave that can be taken in blocks is someway in between these two measures and therefore has a score of 5.

As was already mentioned, each country has some variant of these three options and some countries combine several measures together. To capture the differences, several basic rules were specified. The scoring starts from the best flexibility option available in each country. If the measure is further specified, one point is either added or deduced depending on how it diverts from the original value in terms of flexibility. For instance, Belgium offers part-time parental leave which can be taken either as a half-time, as 1/4 of leave or as 1/8 of leave. It also represents the most flexible option. On the other hand, Norway also provides a part-time option. However, it does not specify further options to the same extent as Belgium. To differentiate between these flexibility options, one point was deducted for Norway. In cases where a country provides several flexibility options, the score is calculated as a total of the

smaller score and half of the difference between the two scores. For instance, Sweden enables parents to take leave on a part-time basis, but it also allows them to take the leave in blocks. Since it combines flexibilities with score 5 and 10, the difference between the two scores is 5, and to balance the two scores out, the final flexibility score for Sweden is 7.5.

Figure 5.1 displays countries according to their flexibility score. It shows that Belgium provides the most flexibility in its use, closely followed by Norway, Denmark, France, Luxembourg, Slovakia and Slovenia. The lowest score can be found in Bulgaria where mothers can work part-time but are not allowed to place their children in a public childcare facility or care for another adult person. Austria scores 2, despite having the "speed" choice as the only flexibility choice. However, in contrast to the Czech Republic, Austria does not link this choice with the socioeconomic circumstances of parents. For simplicity, it is possible to distinguish between countries with low, moderate, and high flexibility. Countries with low flexibility are Austria, Bulgaria, Czech Republic, and Germany. Moderate flexibility can be found in Cyprus, Estonia, Spain, Finland, Greece, Hungary, Ireland, Iceland, Italy, Poland, Romania and the UK. In contrast, Belgium, Denmark, France, Luxembourg, Malta, the Netherlands, Norway, Sweden, Slovenia and Slovakia provide high flexibility for their parents on leave.

5.3   Within-country variation in birth-related leave support

This section will examine whether and how birth-related leave is stratified within and across European countries. To do so, maternity and parental leave entitlements are pooled together into personalised birth-related leave entitlements. This approach was chosen over the separate differentiation between maternity and parental leave because this thesis is primarily focused on the extent of support from women's perspectives, rather than the individual designs of the maternity and parental leave policies. The section will first look at the proportion of women of childbearing age who would be entitled to a birth-related leave

scheme were they to have a child in a given year. It will then look at the within-country variation in the duration of the leave and in financial compensation for the time the mothers spend on leave. The thesis works solely with the longitudinal EU-SILC data. However, it is not desirable for the analysis in this chapter to use the longitudinal data, because the participants tend to have more than one observation. This would lead to a comparison between observations rather than between individual women. For this reason, the analysis will be conducted using the data from year 2008 that contains information from all the participating countries and has the largest number of observations (n= 67,880).

Figure 5.2Proportion of women (20-40) who would be eligible for a birth-related leave were they give birth in 2008.
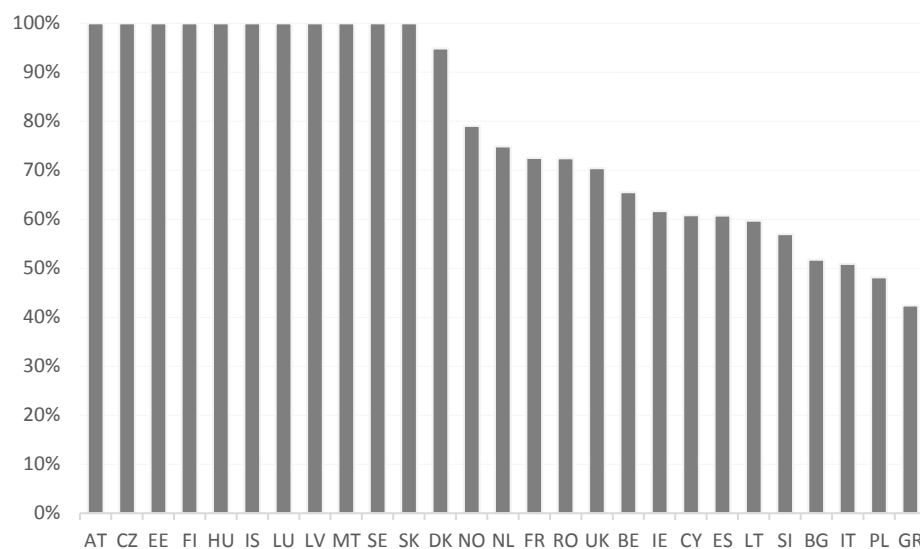
Source: Longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

5.3.1 Stratification of the eligibility for a birth-related leave scheme

The universal designs of some of the birth-related leave policies makes it clear that all women in the sample who live in these countries will be entitled for some support from the birth-related leave scheme. Nonetheless, this does not necessarily mean that all the eligible women will be entitled to the same amount of support - this issue will be analysed and discussed in the following subsections. In contrast, countries that base their eligibility conditions to maternity and parental leave on economic activity of the mothers will cover only a certain proportion of their female population. Figure 5.2 plots the overall proportion of women who would be entitled to support from a birth-related leave scheme, if they were to have children in a given year. Denmark was included in the first part of the chapter among countries that provide universal support to their citizens. It was also mentioned that this is true only to an extent. Despite this birth-related leave would cover 95% of women of reproductive age, were they all to give birth in 2008. In Norway, where the birth-related leave entitlements are dependent on economic activity of the mothers, provides one of the highest coverage out of all countries with similar eligibility conditions. In contrast, Greece would provide support to only 41% of the female population if they gave birth. These findings show that if we measure the association between the birth-related leave and fertility behaviour as macro-level indicators, we would infer a policy effect for a considerable share of the population that would not be affected by the particular design of the policy. In this respect the personalised values of the birth-related leave entitlements appear to be much more accurate indicators of the policy support.

It is important to remember that this thesis is covering only statutory entitlements and does not take into consideration any adjustments to the maternity and parental leave from employers or those that were granted as a result of collective agreements. The estimates of the proportion of the women eligible for maternity and parental leave and their real entitlements could be therefore different to the one presented in this thesis. However, it is

difficult to estimate how big a change in the estimate we could expect if the occupational benefits would be taken into account. For instance, National Health Service (NHS) in the UK provide their own Occupational Maternity Pay which is more generous than the Statutory Maternity Pay. It provides full pay for first 8 weeks of maternity leave followed by 18 weeks of half pay benefit. The remaining 26 weeks are unpaid. Above that, for eligible mothers they provide a combination of the Statutory Maternity Pay with the Occupational Maternity Pay to ensure a better deal. This is more generous than Statutory Maternity Pay that covers 90% of previous earnings with no ceiling for 6 weeks followed by the maximum payment of € 123 per week for the remaining leave (information from 2009). In this particular case, the omission of the NHS occupational benefits could influence the overall estimates of total leave coverage as the NHS currently employs around 1.2 million people in the UK as of 2015.

A study conducted in 2007 with women in the UK who were employed 12 months before birth (La Valle et al. 2008) found that 88% of these mothers received some form of maternity pay. Out of this 88%, 41% of mothers received the combination of Occupational Maternity Pay and Statutory Maternity Pay. According to the study, these mothers were most commonly employed by large private companies or in a public sector, were employed full-time and had higher earnings. Since the information is based on a recipients' data, it is not possible to directly transfer the proportion of Occupational Maternity Pay recipients on the sample of women selected for this thesis. This is because it covers the situation before the birth occurs, whilst the aforementioned study works with women who already selected themselves for motherhood. The only clue based on which it would be possible to estimate the potential extent of a bias in the maternity leave entitlements is the higher likelihood of occupational maternity pay amongst women working in public sector and large private companies. However, EU-SILC does not provide information on whether the respondents are employed in the public or private sector, or how big is the company they are working in.

It is, therefore, impossible to estimate the exact number or proportion of women who would be entitled to more generous benefits that the Statutory Maternity Pay. Nonetheless, we can say that at least 36%[11] of our sample of eligible women in the UK would likely be entitled to more generous benefits than estimated. These figures indicate that non-statutory leave benefits are significant and likely amplify stratification in leave benefits. Whilst this thesis focuses on statutory leave, future research would be greatly added by more comprehensive and accurate indicators of non-statutory entitlements associated with individuals' employment.

One solution for this issue would be to introduce a question within the survey that would differentiate whether the respondent is working in public or private sector. However, that would only help to estimate the proportion of people that may be entitled to support that differs from the statutory entitlements. In such cases, the statutory entitlements serve as a minimum that each employer has to fulfil. It is then up to the employer whether they will introduce additional support or will provide support on the level of the statutory requirements. Another solution would be a survey that interviews both the employees and their employers on social support and its use. However, to my knowledge currently there is no such survey available. Such a survey could provide comprehensive information about the occupational social support and would also allow us to estimate the policy entitlements of each individual and also their actual utilisation of the support, which would help to clarify whether the employees prefer the statutory entitlements or are using their occupational advantages.

Another alternative would be to use the advancements in data availability and turn to administrative data that allow linking of various sources of administrative, register and

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[11] The total sample of the study by La Valle, Clery and Huerta (2008) is 2,000. The 36% was calculated using the information on the proportion of eligible mothers and mothers who received a combination of the Occupational Maternity Pay and Statutory Maternity Pay presented in the study.

survey data. Some countries, such as Sweden, the UK or the Netherlands, provide access to their administrative data and allow combination of their various data which is commonly performed by the institution rather than by a researcher. It would be possible to randomly select a sample of companies and employers in one country, collect their collective agreements and build an algorithm similar to the one presented in this thesis. Such data could be then linked with the administrative, register and potentially also survey data which would allow combining these occupational entitlements with the statutory entitlements and estimate more accurately the distribution of the social support for new parents and uncover social differences that remain hindered when using only statutory entitlements. However, it would be impossible to conduct such research in a comparative setting. It would be therefore limited only on one country and would not provide any information about the cross-country variation in the policy entitlements and what is more on the variation in the fertility outcomes across countries.

The policy designs also determine the degree of stratification in the birth-related leave entitlements. In hypothesis H1, I argued that women with lower educational attainment living in a country where the entitlements are built around economic status and employment history are less likely to be entitled to a birth-related leave than women with lower educational attainment living in a country with universal entitlements. By default, universal birth-related leave designs do not stratify access to the scheme as such. Therefore, in a cross-country comparison, the women with lower educational attainment have better access to a birth-related leave scheme in countries with universal eligibility conditions, compared to countries where the eligibility conditions are based on economic status. In addition to that, Figure 5.3 shows the degree of stratification in the access to birth-related leave support in countries that do not provide universal entitlements. In all of these countries, women with high educational attainment have the smallest proportion of women who would not be eligible to draw support from the birth-related leave scheme. In contrast, women with

low educational attainment in most of the countries have the largest share of women who would not be entitled to this support. The biggest difference in the birth-related leave coverage across educational categories is in Bulgaria and Poland. However, in Slovenia, Romania, Cyprus, and Spain, the proportion of eligible women is very similar among low and middle educated women. The smallest differences across educational categories can be found in Norway. The results therefore point to the limited power of the policy to facilitate the diffusion of gender egalitarian norms, as hypothesised by the multiple equilibria hypothesis, in countries which base their eligibility conditions on the economic activity of their prospective mothers. However, the eligibility to a birth-related leave does not suffice to fully comprehend the ability of the policy to facilitate the diffusion of new norms. The entitlements also need to be analysed from a gender perspective to identify which policies carry 'gendersing' characteristics and which support gender egalitarian norms. This will be discussed further in Chapter 6.

Figure 5.3 Proportion of women (ages 20-40) who would be eligible to a birth-related leave were they give birth in 2008, by education category.
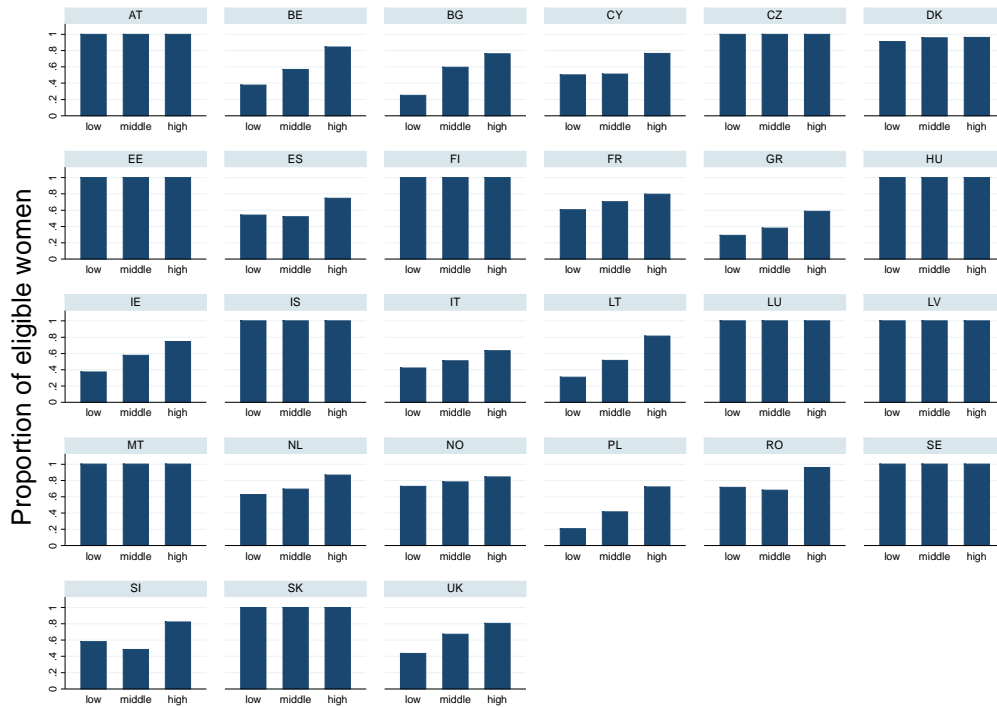
Source: Longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Note: Educational categories were created based on ISCED scale. The low-education category includes women who were never educated, with pre-primary, primary and lower secondary education; the middle-education category includes upper secondary, post-secondary non-tertiary education; and the high-education category includes university education.

5.3.2   Stratification of leave duration

In hypothesis H2, I argue that within-country variation in birth-related leave duration is very small in all European countries, and hypothesis H3 claims that the difference in the birth-related leave duration across women with different educational attainment is very small in all European countries. This is because leave duration is primarily determined by factors other than a woman's socioeconomic situation (e.g. multiple births, health reasons,

etc.), which are associated with the educational differences. The Figure 5.4 supports this argument. It plots within-country variation in birth-related leave duration among all women in their reproductive age (20-40 years) in 2008. However, the variation in the leave duration is caused mainly by the proportion of women that would be eligible for a birth-related leave. If the eligibility conditions are taken into account, it is clear that with the exception of the Czech Republic, the birth-related leave duration does not vary across educational categories (Figure 5.5). The variation in the birth-related leave duration in the Czech Republic is caused by the specific eligibility conditions that were in place at that time. The parents could have opted for two-, three-, or four-year long parental leaves. However, the two-year long leave was available only to mothers who were entitled to maternity leave, and whose labour income reached a certain threshold. In effect, only a small number of women could have opted for this option.

Figure 5.4 Distribution of birth-related leave duration in weeks for all women (ages 20-40) in 2008.
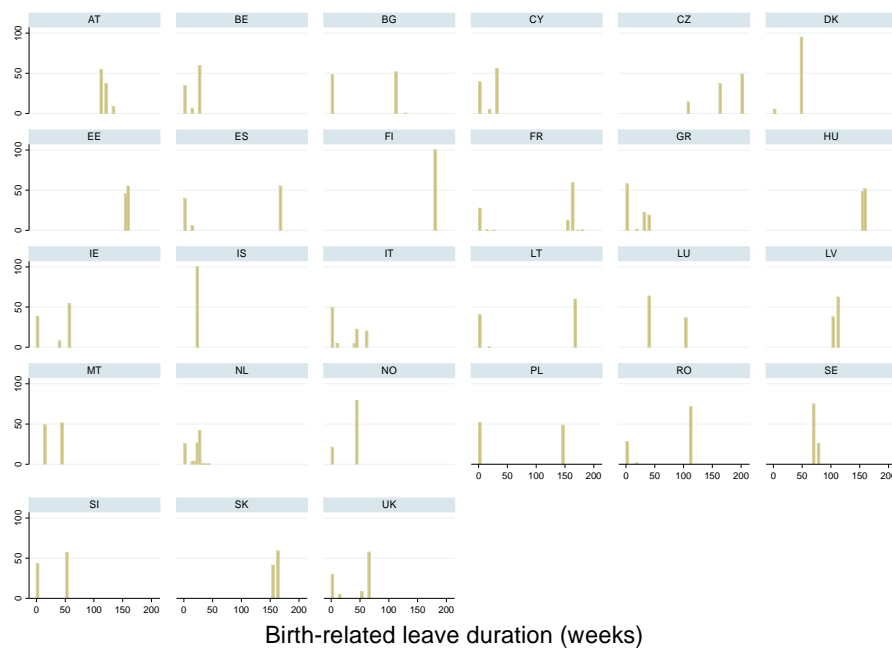
Birth-related leave duration (weeks)

Source: longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Figure 5.5 The average birth-related leave duration for women (20-40) who would be eligible for a birth-related leave were they give birth in 2008, by education category.

Source: longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Note: Educational categories were created based on ISCED scale. The low-education category includes women who were never educated, with pre-primary, primary and lower secondary education; the middle-education category includes upper secondary, post-secondary non-tertiary education; and the high-education category includes university education.

5.3.3   *Stratification of financial compensation*

The within-country variation in financial compensation for the time spent on birth-related leave is largely determined by the design of birth-related leave benefits. Only the proportional system without any limitations on the amount of benefits will not produce any within-country variation in the compensation rate. This is because each eligible woman will receive a compensation rate that corresponds with the replacement rate determined by the

law. In proportional systems, the within-country variation will appear only if they have adopted a minimum and maximum threshold on the benefit payment. The within-country variation will then increase with the strictness or generosity of these limitations. However, the largest within-country variation can be expected in countries that provide flat-rate benefits, because the comparison of the benefit to the pre-birth earnings will create unique values of the compensation rate. It is also possible that in some countries the compensation rate will exceed the size of earnings. This is the case of the compensation systems that provide coverage to the whole population through flat-rate benefits, or countries that set minimum payments on the benefits. This section analyses the degree of within- country variation in financial compensation for the time spent on leave. Moreover, pooling maternity and parental leave benefits, and the creation of birth-related leave compensation rate has introduced additional within-country variation. This variation is a result of differences in the entitlements between women who would be eligible for both maternity and parental leave and women who would be eligible only for parental leave.

The within-country variation in leave benefits across educational categories can be demonstrated using either relative or absolute measures of leave benefits. Both of the measures have their strengths and weaknesses and each of them is likely to yield different outcomes in terms of the stratification of leave compensation. The relative measure of leave benefit is a product of comparison between the absolute benefits with labour income prior to childbirth. It provides an indicator of a percentage change between the leave benefits and earnings. Countries with proportional benefits system with no minimum or maximum threshold on benefit payment will, therefore, reveal no differences in leave benefits across women with different educational attainment. In contrast, the largest differences will likely be found in countries with flat-rate benefit system. The absolute benefit measures indicate the absolute value of the benefit payment each woman would receive following childbirth. Consequently, no difference in benefit payment across women with different educational

attainment would be found in countries with flat-rate benefits. In contrast, the biggest differences could be expected amongst women who live in countries with proportional benefit payment because identical replacement rates will produce large differences in absolute values of benefit depending on the women's earnings. Amongst countries with the proportional benefit payment, the difference between women with different educational attainment will be the lowest in countries with high minimum and low maximum thresholds. The differences will be the largest amongst countries without any minimum or maximum thresholds.

Both the absolute and the relative measure of leave benefit are capable of revealing the stratification in the leave support but neither of them can reliably identify countries that provide equal support to eligible women. Instead, each of the measures is suited to slightly different purposes. The relative measure of leave benefits serves as a good indicator of income change that occurs as a result of childbirth. It can, therefore, reveal the financial impact of a child on each individual woman. Using the relative measure of leave benefit as an aggregated indicator will, therefore, show whether women with different educational attainment will be affected equally or differently by childbirth. However, the application of the relative measure of leave benefits on a population of women with extremely low earnings, or women without any earnings, is rather difficult. Such comparison returns either zero outcomes or extremely high compensation rates amongst women with very low earnings who live in countries with flat-rate benefit system that are also tailored to women with no labour income.

Another problem associated with the relative benefit measures is their detachment from the absolute level of earnings. In proportional benefit systems, women with low earnings can be placed on the same compensation level with women who have high earnings yet the difference in the absolute benefits between those two women can be considerable. Absolute benefits deal with this problem and indicate the amount of money a woman would receive

following childbirth. However, in proportional benefit systems, the within-country variation in leave benefits would follow the earnings distribution characteristic for each country. This would not be the case in the countries with flat-rate benefit system. Using the absolute benefits would, therefore, reflect the inequality in income distribution in some countries but not in others.

When assessing the differences in financial support between women with different educational attainment, we can look at the issue from two perspectives. First, we can consider the individual perspective and examine how each individual woman is affected by having a child. In this case, we would be interested in how her earnings change upon childbirth and compare this information with other women with a different background. Adopting the second view, we would consider more detached perspective from the situation of each individual woman. By using the absolute benefits, we would shift the focus from the personal experience of the women toward a comparison of financial support across women with a different background. This thesis argues that it is the change in personal circumstances that facilitates couples' decision to have a child. In this thesis, it is, therefore, more appropriate to demonstrate the within-country variation in financial support of mothers using relative measures of leave benefits. In future research, a similar approach but using absolute benefits would be a very fruitful avenue of research. It would facilitate an examination of the interplay between income distributions and policy support. However, the aim of this thesis is understanding individuals' personal experiences and micro level dynamics rather than the study of the interaction between the distribution of policy and income.

Although the relative measures of leave benefit were selected for the analysis, it has been mentioned earlier that they are difficult to apply when there is no labour income or when women have very low income. Nonetheless, it does not seem reasonable to delete such observations from the selected sample because even those women are considering having a

child. In order to be able to show an improvement in the financial situation of the women following childbirth, the compensation rate of all women who would be entitled to the financial benefit and had no or very low income was recoded to a symbolic 110%.

Figure 5.6 shows the within-country variation in birth-related leave compensation rate among women of reproductive age (20-40 years), regardless of whether they would be eligible for a birth-related leave scheme or not. The figure shows that with the exception of Italy, Lithuania, Poland, and Slovenia, there is considerable within-country variation in European countries. Such outcomes support the argument that not all women living in the same country are entitled to the same support (see Chapter 2 and 3). Moreover, it also shows that a non-negligible proportion of women would be entitled to financial compensation which would not cover even half of their pre-birth labour incomes (e.g. Finland, UK, France, and Austria). However, the results do not reveal how the financial compensation is distributed across women with different educational attainment.

Figure 5.6 Distribution of the compensation rate among all women (ages 20-40) in 2008.
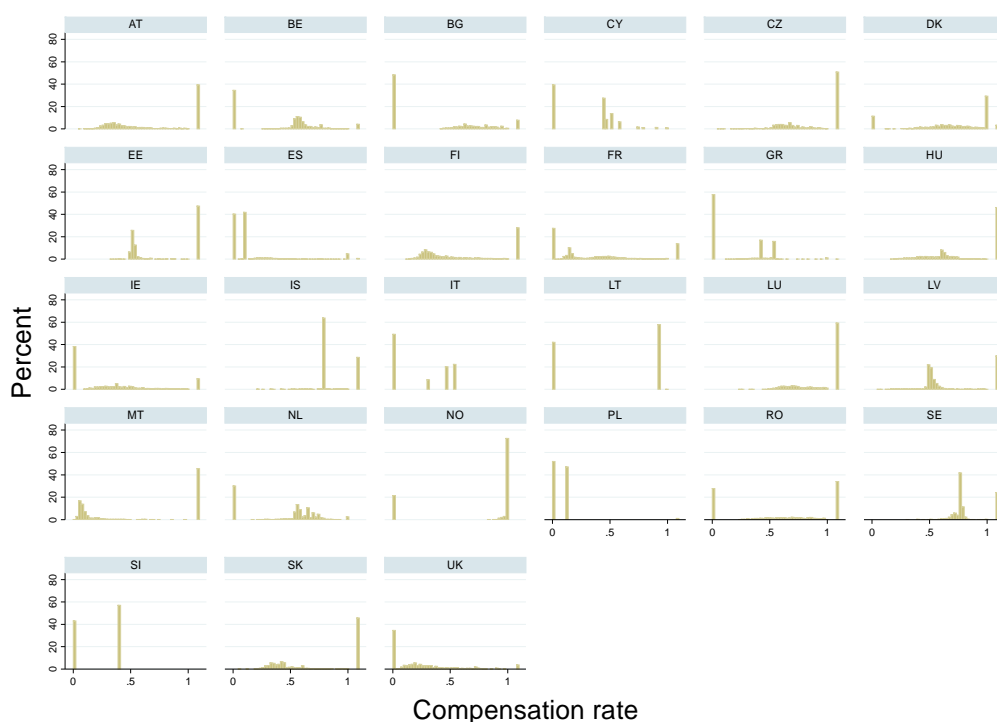
Source: Longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Table 5.5 Comparison of the maternity and parental leave benefit payments

Parental leave	Maternity leave					
	No compensation	Flat-rate & proportional benefits	Flat-rate benefits	Proportional compensation (without thresholds)	with maximum payment	with minimum and maximum payment
No compensation		UK	MT	CY	GR	IE
Flat-rate & proportional benefits		IS, LU		HU, EE, SE (<2007)	SE (>2007)	FI
Flat-rate benefits		AT, BE, ES		BG, PL, RO	CZ, SK, NL	FR
Proportional compensation (without thresholds)				IT, LT		
with maximum payment				DK, NO		SI
with minimum and maximum payment				RO		

Source: LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Hypotheses H4-H6 introduced several arguments about the expected variation in financial support by education:

> **H4**: Among women who *are eligible for* a birth-related leave living in a country with *flat-rate* birth-related leave benefits, women with lower educational attainment are entitled to higher financial compensation than women with higher educational attainment.

> **H5**: Among women who *are eligible for* a birth-related leave, living in countries with *proportional benefits with* set minimum and maximum benefit payments, women with lower educational attainment are entitled to higher financial compensation than women with higher educational attainment.

> **H6**: Among women who *are eligible for* a birth-related leave living in a country with a *proportional system without* minimum and maximum benefit payments, women with lower education attainment are entitled to lower compensation compared to women with higher educational attainment.

However, it is important to remind that despite the fact that the hypotheses refer to the birth-related leave, not many countries have identical forms of benefit payment for maternity and parental leave, which is shown in Table 5.5. On the other hand, the table also shows that, with the exception of Malta, all European countries included in this study provide proportional financial compensation for the time spent on maternity leave (or at least for part of the duration of maternity leave). The variation in the form of benefit payments is greater than in parental leave schemes. Since in the majority of the countries, parental leave is longer and plays a more important role in women's abilities to resume employment following birth, the analysis will be conducted using the birth-related leave compensation rates and the reference for the type of financial compensation will be the parental leave scheme in each country. In countries where the parental leave is unpaid, the

design of the maternity leave financial compensation will be used instead (i.e., in Malta, Cyprus, Greece, Ireland, and the UK). However, there are also several countries that do not clearly fit to one of the category of financial compensation that were outlined in hypotheses H4-H6. These countries provide financial compensation for parental leave (or maternity leave, in cases where parental leave is unpaid) as a combination of proportional and flat-rate benefits (Iceland, Luxembourg, Hungary, Estonia, Sweden, Finland, and the UK). This group of countries will be assessed separately. Therefore, the countries that provide financial compensation for parental leave (or maternity leave in cases where parental leave is unpaid) on a flat-rate basis (H4) are Austria, Belgium, Spain, Bulgaria, Poland, Romania, the Czech Republic, Slovakia, the Netherlands, France, and Malta. The countries that provide parental (or maternity) leave benefits as a proportion of previous earnings with set threshold on minimum and/or maximum benefit payment are Denmark, Norway, Slovenia, Romania, Greece, and Ireland. Finally, the countries that provide parental (or maternity) leave benefits as a proportion of previous earnings without a set threshold on the benefit payment are Italy, Lithuania, and Cyprus.

Figure 5.7 plots the average compensation rate by educational categories for women of childbearing age (20-40 years) who would be eligible for a birth-related leave. It shows that in the majority of the European countries, low educated women are entitled to higher relative financial compensation for the time spent on a birth-related leave compared to their counterparts with higher educational attainment. The outcomes provide some evidence in favour of hypothesis H4. This shows that in the vast majority of the countries that provide flat-rate benefits, women with low educational attainment would be entitled to higher financial compensation compared to women with high educational attainment. Nonetheless, the educational differences are less obvious in Belgium, Spain, Poland, and in the Netherlands, the highly educated women would be entitled to somewhat higher financial compensation that their counterparts with low educational attainment.

The same relationship was expected in countries with proportional financial compensation that set minimum and/or maximum thresholds on benefit payments. The data has confirmed hypothesis H5 in only Denmark, Romania, Greece and Ireland, although the educational differences are considerably weaker in Greece. The educational differences in financial compensation in Norway and Slovenia are non-existent, as the data reveals that all women who would be eligible for birth-related leave would be entitled to the same financial compensation regardless of their educational attainment. The data also did not provide sufficient support for hypothesis H6, which predicted that highly educated women to be entitled to higher financial compensation than women with low educational attainment in countries that provide financial compensation without the threshold on benefit payments. There is a weak positive relationship between educational attainment and the financial compensation in Lithuania and Cyprus, but the differences are minimal. In contrast, educational differences in Italy are virtually non-existent and the data suggests that women who would be eligible for birth-related leaves would all be entitled to the same financial support.

However, there do not appear to be differences in the stratification of financial compensation between countries that provide flat-rate benefits and those that provide a proportional compensation system. The only difference is between countries that provide higher financial compensation to women with low educational attainment, and countries that distribute the compensation equally among women of different education levels. Nonetheless, there is not a pattern between these countries, depending on the design of the financial compensation. Moreover, these results also revealed that flat-rate benefits are not necessarily less generous than proportional financial compensation when taking into consideration the minimum and maximum thresholds, and when considering the maternity and parental leave as a complementary form of support for new mothers.

Although Figure 5.7 does not support the hypothesised relationship between financial compensation for the time spent on leave and educational attainment, Figure 5.8 indicates that differences are present. But instead, the cross-country differences in the stratification of the financial compensation are driven primarily by the conditions of eligibility to the scheme, and differences between eligible and non-eligible women. While educational differences in the compensation rates did not change in the countries that provide a birth-related leave support to all mothers, the original negative relationship between the education and compensation rate turned positive in countries where the birth-related leave support is available only to working women.

Figure 5.7 The average compensation rate for women (20-40 years) who would be eligible for a birth-related leave were they give birth in 2008, by education category.

Source: LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Note: Educational categories were created based on ISCED scale. The low-education category includes women who were never educated, with pre-primary, primary and lower secondary education; the middle-education category includes upper secondary, post-secondary non-tertiary education; and the high-education category includes university education.

Figure 5.8 Average compensation rate for all women (20-40 ages) in 2008, by education category.
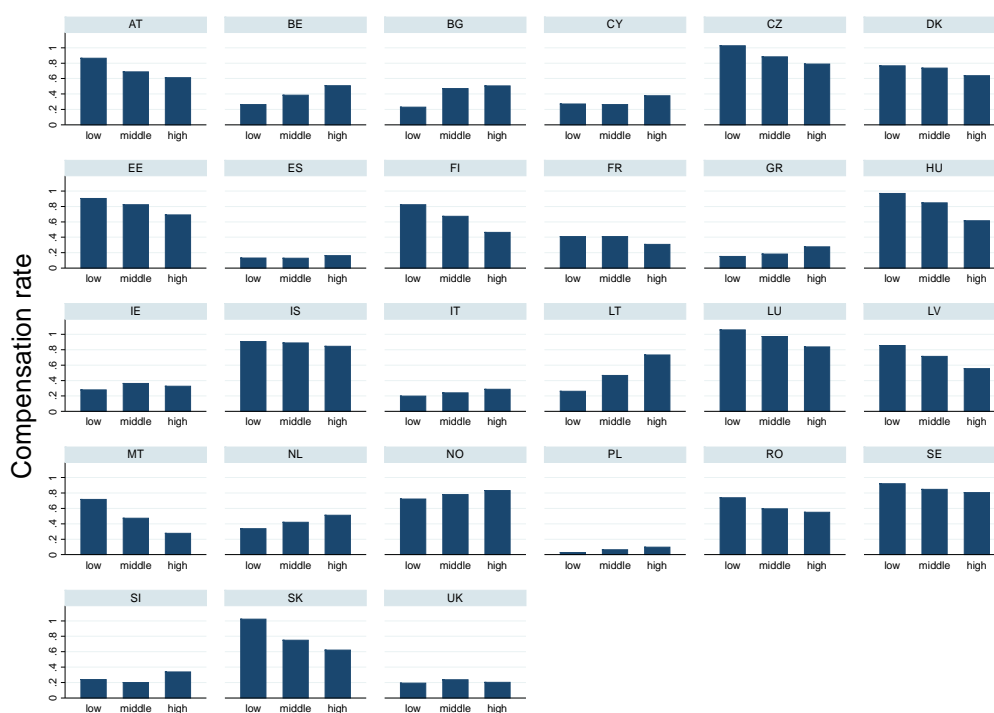
Source: longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Note: Educational categories were created based on ISCED scale. The low-education category includes women who were never educated, with pre-primary, primary and lower secondary education; the middle-education category includes upper secondary, post-secondary non-tertiary education; and the high-education category includes university education.

5.4   Conclusion

The aim of this chapter was to establish whether and how the entitlements to individual birth-related leaves vary within and across European countries. The question is motivated by the arguments of the multiple equilibria hypothesis. This hypothesis predicts that policies that promote gender egalitarian division of labour facilitate the transition in societal norms from the traditional division of labour between men and women to division of labour that is not determined by gender. The critical assessment of this theoretical concept argues that such

a process is possible only if all women are entitled to the policy support, and if all women are entitled to the same support. However, the criticism put forward in this thesis suggests such a situation is unlikely. Because a consideration of within-country variation in the entitlements to a policy support has not been empirically tested (to the author's knowledge), this chapter is the first attempt to address this issue. This chapter first introduced the individual aspects of the maternity and parental leave separately in order to clarify the selection of the research hypotheses introduced in Chapter 3 (H1-H6). The hypotheses were then empirically tested using the personalised values of birth-related leave entitlements (see Chapter 4). The entitlements for the maternity and parental leave policies were pooled to create an indicator of birth-related leave support. This step was considered necessary to create a policy measure that would be comparable across countries. The base for this comparability is the perspective of women – prospective mothers. This is particularly relevant in a comparative study that compares countries with very distinct maternity and parental leave policies (e.g. strictly speaking Iceland and Sweden do not have maternity leave policies, while the UK provides the majority of the support through the maternity leave policy, which is one of the longest in Europe).

Empirical results demonstrated that birth-related leave indeed varies considerably not only across Europe but also within each country. The chapter also showed that the eligibility conditions to the birth-related leave as such are the main source of within-country variation across European countries. In countries where leave is available only to working women, the prospective mothers with low educational attainment have the smallest chance of being entitled to draw support from the scheme compared to their counterparts with higher educational attainment. With respect to the duration of the birth-related leave, with the exception of the Czech Republic, there is no difference in leave duration across women with different educational achievements. This is because variation in the entitlements to leave duration are not driven by economic factors, but instead by health and social conditions of

the new mothers (e.g. birth order, marital status, multiple births, health complications). Considerable within-country variation was found in the financial compensation for the time spent on leave. This finding supports my hypothesis that not all women living in the same country are entitled to the same support. Considerable differences were found across educational categories as well. However, in the majority of the European countries, women with low educational attainment that have access to the birth-related leave would be entitled to the most generous financial compensation. Few exceptions are represented by countries where the financial compensation is more or less equally distributed across women with different educational attainment but contrary to the expectations, eligible women with low educational attainment do not have lower financial compensation.

The multiple equilibria hypothesis argues that the diffusion of the gender egalitarian norms throughout a society is faster in countries that introduced policy supporting these values. It also argues that the transformation starts with highly educated women, and is subsequently adopted by women with lower educational attainment. However, results revealed that in a considerable number of countries, the access to the birth-related leave support is stratified. Many women with lower educational attainment would not have an access to a birth-related leave were they to decide to have a child in any given year. This stratification in policy entitlements therefore suggests that the rate of diffusion of gender egalitarian norms may be slower than anticipated by the theoretical arguments.

The cross-country differences in access to the birth-related leave and the extent of the support suggests that were the countries to support the gender egalitarian division of labour, the diffusion of the new norms would have the highest chance there. In contrast, the spread of gender egalitarian norms among women with lower educational attainment through policy support would be more complicated in countries where employment is the main condition for women to become eligible for support. This chapter did not assess whether policies with universal or selective eligibility conditions are supportive of gender egalitarian

norms; this issue will be examined in the following chapter, as it is not yet possible to draw any conclusions about within-country variation for the 'genderising' characteristics of the birth-related leave policies.

6 'GENDERISING' CHARACTERISTICS OF BIRTH-RELATED LEAVE POLICIES

6.1 Introduction

The previous chapter showed within-country variation in the birth-related leave entitlements across 27 European countries. It also revealed that in a considerable number of countries, the policy entitlements are stratified. Findings in the last chapter demonstrated that a non-negligible proportion of women with low educational attainment have limited access to birth-related leave support. The chapter concluded that this stratification in policy entitlements may point to a limitation to the multiple equilibria hypothesis. However, the previous chapter did not analyse which policies promote gender egalitarian values, and behaviour, and which either explicitly or implicitly promote a traditional gender division of labour. This is particularly relevant in light of the previous chapter. The multiple equilibria hypothesis predicts that the diffusion of the gender egalitarian norms throughout the social strata can be facilitated by policy support that promotes these values. Nonetheless, the diffusion of the gender egalitarian norms is likely to be limited in countries that have stratified access to the birth-related leave support, even though policy design supports gender egalitarian norms. This chapter therefore aims to address this issue by trying to identify countries with birth-related leave policies that either implicitly or explicitly promote traditional division of paid labour between men and women.

This chapter will first provide a short overview of the gender analysis of welfare state support, which has a long tradition in welfare state research. It will then turn its attention to the identification of those policies whose birth-related leave designs can be characterised as de-genderising (and therefore supporting the gender egalitarian norms) or genderising (i.e.,

promoting traditional division of labour between men and women). To examine whether the individual aspects of the birth-related leave policies can be associated with either genderising or de-genderising behaviour, birth-related leave indicators will be combined with the gender differences in employment rates between men and women.

It will do so by combining individual aggregated values for the individual birth-related leave aspects and examining their association with maternal employment. Although the analysis will use aggregated data, it is important to note that the aim of this chapter is not to create a typology of countries according to their birth-related leave designs. Instead, this chapter examines the argument that the stratification in the access to the birth-related leave support may be an obstacle to the diffusion of the gender egalitarian norms, as predicted by the multiple equilibria hypothesis. The following section will then look at the differences in the employment rates between mothers and fathers who have at least one child younger than three. The purpose of this section is to examine whether the criteria used to identify the genderising and de-genderising birth-related leave designs are supported by the parental employment outcomes.

6.2   Gender perspectives on welfare state support

The analysis of the welfare state and social policy from a gender perspective has a long tradition in welfare state research. The gender aspects of the welfare state support became an integrated part of the field primarily following publication of the *Three Worlds of Welfare Capitalism* by Esping-Andersen (1990b). Esping-Andersen introduced a concept of *commodification* that he sees as a source upon which the modern welfare state evolved (Esping-Andersen 1990a, p.35). He argues that commodification is a process through which individuals became dependent on their labour as a primary source of income and consequently, as a determinant of their well-being. He defined an opposite to the commodification as an intervention from the state that prevents one's well-being from being

fully dependent on one's ability to supply labour at a time when the labour demand is temporarily or permanently suppressed. The scale of *commodification* and *decommodification* is then supposed to identify to what extent a welfare state ensures people's well-being when they are not able to supply their labour to the market. The right to receive support from the welfare state, or the right to be decommodified, is then a social right in the sense of T.H. Marhall's thesis (Marshall 1950).

By concentrating on decommodification, the analysis ignored the fact that some members of society were prevented from using their labour in exchange for income, either because they were prohibited from doing so by law or due to responsibilities in their households. Hence, the dependence of such women was not on the labour market, but on their partners. The inability to offer labour on the market excluded women also from chances to be decommodified, and so to become full members of society (Orloff 1993). This was the central argument of the feminist critique of Esping-Andersen's work in the (decade). Since family and household were mostly women's responsibilities, the majority of women were excluded from Esping-Andersen's typology of welfare regimes.

The theoretical advances about women's acquisition of social rights has moved in two directions. One dominant approach focuses on the masculinisation of the female life-course. In other words, this approach emphasizes women's transition to the labour market, and the consequent gain of social support similar to that received by men. However, not all feminist scholars have shared this idea. According to "difference" or "care" feminists, the transformation of women's life-courses could be avoided if women's care responsibilities were recognised and valued to the same degree as market work (Knijn & Kremer 1997). To incorporate women in the analysis of the welfare state and to better understand the development of the welfare state, the concept of *defamilialisation* soon emerged as a parallel to decommodification. It was shortly introduced in comparative welfare state research and

incorporated into the welfare regime typology (Lister 1995; Esping-Andersen 1999; Bambra 2007).

In his later book, Esping-Andersen integrated the concept of defamilialisation also into his comparative setting. He characterises it as "the degree to which social policy (or perhaps the market) render women autonomous to becoming 'commodified', or to set up independent households, in the first place" (Esping-Andersen 1999, p.51). This is fully in agreement with Orloff's criticism of Esping-Andersen's earlier work (Orloff 1993). Nonetheless, such a definition consists of two very different directions for policy analysis. The concept of defamilialisation, as defined by Esping-Andersen, includes two aspects that supposedly serve the same purpose – one that enables women to 'commodify' their labour and one that enables them to form and maintain their own household. While the first one relates to female participation on the labour market, the second one opens an option for financial remuneration of parental home-care. Consequently, two different policy approaches can be interpreted as defamilialising despite the fact that one promotes gender equality and the other one hinders it. Saxonberg (2013), amongst others, point to this duality that leads to contradictory results in comparative welfare state research.

Therefore, Saxonberg (2013) proposes a concept which better serves the feminist goal and clearly states its meaning. His *degenderisation* embraces the seemingly contradictory aspects of the defamilialisation concept in the sense that it supports both female employment and homecare that is shared by a father. In this sense, his concept is close to Nancy Fraser's call for institutional support that would centralise the female life-course and provide more opportunities for fathers to provide childcare and more opportunities for mothers to be active on the labour market (Fraser 1994). Saxonberg distinguishes genderising policies as those "*that promote different gender roles for men and women*" from de-genderising policies that "*promote the elimination of gender roles*" (Saxonberg 2013, p.33). In other words, while genderising policies support male-providers and female-homemakers and childcare

providers, degenderizing policies encourage men and women to both provide security and financial stability for their family and also provide care to their children.

Applying these definitions to birth-related leave policies, we can say that genderising leave policies do not provide an individual right to leave for fathers, and are long and inflexible with regard to the mothers' leave. The lack of an individual right to leave for fathers limits the chances of fathers to fully participate in childcare. The longer the women stay on leave, the more negative an effect this career interruption will have on their future career and labour market prospects (Morgan & Zippel 2003; Evertsson & Duvander 2010; Thévenon & Solaz 2013) which disadvantages them on the labour market against men. Finally, a lack of flexibility in the birth-related leave design, which would allow combining part-time use of leave and part-time employment, creates a further negative impact on women's future position on the labour market. On the other hand, de-genderising birth-related leave policies are those that provide individuals with non-transferable rights to leave for mothers and fathers, are short in duration, and are flexible. This is because such leave both enables fathers to fully participate in childcare when the child is very small, and help to mitigate the negative effect of a child on women's labour market prospects. Determining how long a short leave is and what constitutes as a long leave is not an easy task (Dearing 2014). This thesis therefore follows the common practice and recognises leave that lasts less than one year as short leave and leave longer than one year as a long leave, with an additional distinction of very long leaves that last two or more years (Ray et al. 2010; Pronzato 2009).

The role of financial benefits in the distinction between genderising and de-genderising birth-related leave design is not as straightforward as the role of the leave duration or flexibility. The theoretical chapter (Chapter 3) argues that the genderising or de-genderising characteristic of the financial compensation can be visible only when combined with other birth-related leave characteristics, namely with leave duration. Literature concerning the relationship between birth-related leave characteristics and the leave take-up can provide

some answer as to how to treat the financial compensation with respect to gender. The research suggests that when birth-related leave benefits are generous, mothers tend to use all of their birth-related leave entitlements (Pronzato 2009; Lalive et al. 2014; Karimi et al. 2012). Such findings indicate that the generosity of the benefits have genderising attributes when combined with long birth-related leave because it will motivate mothers to fully use their entitlements. In contrast, generous birth-related leave benefits will have de-genderising attributes when combined with short birth-related leave, because although they motivate mothers to use their full entitlements, mothers will return to their employment earlier. Thus, the impact on mothers' career progress is likely not going to be as extensive as for mothers who are entitled to generous benefits over a long period of time.

The multiple equilibria hypothesis and gender equity theory work primarily with arguments that are centred around women and their position on the labour market before and after birth. Although men are likely to play a role in the ability of women to resume their ties with the labour market following birth, neither of the theoretical perspectives discussed in chapter 3 explicitly incorporates men in their explanations. This led to a decision to omit men's positions and entitlements to birth-related leave policies from the analysis (see section 3.2). Therefore, this chapter will analyse birth-related leave policies only from the perspective of women. Despite this, the identification of the policy designs as either genderising or de-genderising is still possible. In line with the Saxonberg's argument, the de-genderising birth-related leave policy will have such characteristics that distinctively value women as workers but also see them in the context of their personal responsibilities. The acknowledgement of women's childcare responsibilities is reflected through the right to time off work in the form of the maternity and/or parental leave. On the other hand, the value of women as workers is demonstrated through the duration of leave that does not exceed one year, and through generous financial compensation for the time they spend on childcare.

In contrast, the genderising leave design side-lines women as workers and prioritises their maternal role when the child arrives. This is reflected in long or very long duration of the leave that is generously compensated. This form of the birth-related leave design can also be understood as a replacement of the previous economic activity with a new one – providing childcare for their children, and the benefits can be seen as pay for this new economic activity. This is also apparent from the fact that these designs are often associated with universal access to support that is also available to economically inactive or unemployed women, or women without employment history. However, between these two "extremes," there are also birth-related leave designs that provide either short or long leaves, which are not associated with generous financial benefits. While the generous financial remuneration for the extended time women spend on leave indicates that the state values women's childcare activity, the low financial compensation for similarly long birth-related leave sends a signal that although mothers should be the main caregivers, the state or the employer should not be those who ensure their financial security. Similarly, birth-related leave designs that do not exceed one year indicate that women are primarily seen as workers, but the low financial compensation for the time spent on childcare also suggests that the financial security should be responsibility of the family rather than the state or the employer. Such policy designs can be also seen as familialistic according to the Esping-Andersen's understanding of the concept (Esping-Andersen 1999) because it promotes the home-based childcare but leaves the responsibility for the household on the father or other family members. Flexibility in leave use is also hypothesised to interact with the leave duration and financial compensation. Generally speaking, the more flexibility is available to the mothers, the closer is the design to the de-genderising characteristic.

6.3   Identifying 'genderising' birth-related leave policies

The previous chapter revealed that there are considerable differences in the proportion of women that would be eligible for a birth-related leave were they to give birth in a given year (demonstrated on the year 2008). The differences are primarily between the policy designs that provide universal access to the birth-related leave support and those that condition the access on the economic activity and employment history of the potential recipient. The difference in the eligibility conditions is also largely responsible for the cross-country variation in the extent of support provided to women with similar educational attainment. Nonetheless, the difference was only found in the financial compensation for the time spent on leave and not in the leave duration. This section will apply the genderising concept to the combination of the three birth-related leave characteristics (duration, financial compensation, and flexibility) to identify which countries have leave designs that can be characterised either as genderising or degenderising.

The personalised values of the birth-related leave entitlements will be used to analyse the genderising aspects of the leave designs. Since the aim is to examine the birth-related leave designs regardless of how big a population they cover, the sample will be selected from women of reproductive age (20-40 years) who would be eligible for a birth-related leave. The individual values of the leave entitlements will be aggregated in order to compare the designs in individual countries. Strictly speaking, we are not comparing pure designs of the birth-related leave policies, but instead the design and how it "behaves" in the population to that it serves. This is not seen as a limitation, but instead as an advantage; such an approach allows us to see the policy design in its complexity and its ability to cover the needs of the population which it was designed for. The characteristics that will be used in the analysis are leave durations, compensation rates, and flexibility in leave use. It is important to point out that birth-related leave policies in individual countries cannot be classified into two groups as either clearly genderising or de-genderising. Instead, it is more accurate to position the

individual birth-related leave designs on a scale between genderising and de-genderising boundaries.

Figure 6.1 plots the average values calculated for women in each of the participating countries, who are between the age of 20 and 40 and who would be eligible for a birth-related leave in 2008. The x-axis represents the leave duration in weeks, while the y-axis marks the average compensation rate for the eligible women. The size of the bubbles determines the degree of flexibility in use of birth-related leave (for details see Appendix 4). The figure shows three distinct clusters of countries that group mainly according to their duration. The first group of countries contains leave designs that are between 21 and 71 weeks long. The second group of countries provide leave that is about two years long (precisely 109-117 weeks). The last grouping of countries contains very long birth-related leave designs that last from 146 up to 187 weeks. Although the second cluster of countries provide rather generous financial compensation, the remaining two clusters vary in their amount of financial support. The flexibility in the use of leave tends to be higher amongst leaves of shorter duration and lower among countries that provide a birth-related leave that lasts considerably longer.

The previous section argued that the de-genderising birth-related leave designs are characterised by relatively short leave duration and generous financial compensation. According to Figure 6.1, there are several countries that fit this profile – Iceland, Norway, Denmark, Luxembourg, and Sweden. With an exception of Luxembourg and Sweden, the leave duration does not exceed one year. In the case of Luxembourg, Sweden their leave is still relatively short and does not exceed year and a half. On average, and with the exception of Denmark, they compensate mothers for more than 80% of their pre-birth earnings. This group of countries also concentrates the most flexible birth-related leave designs. The opposite extreme are the countries that provide very long and generous birth-related leave.

Figure 6.1 The birth-related leave designs in individual countries – combination of leave duration, compensation rate and flexibility, 2008.
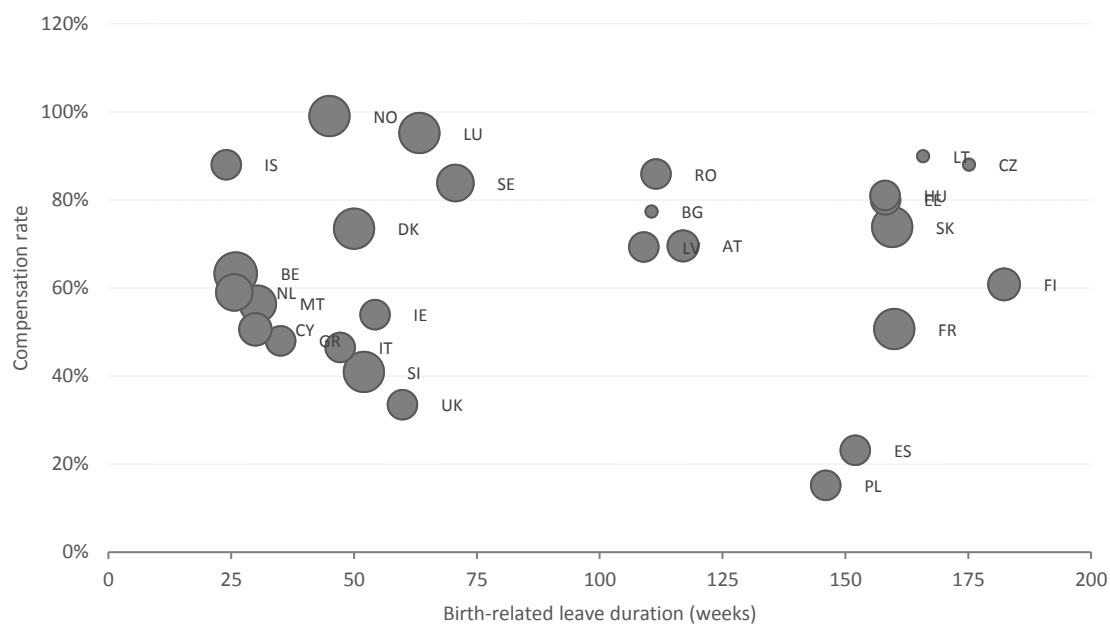
Source: longitudinal EU-SILC, LP&R Annual Reviews, MISSOC, Multilinks Database

Note: The size of the bubbles is determined by the position of each individual country on the parental leave flexibility scale. For reference see Figure 5.1.

Those countries are Austria, Hungary, the Czech Republic, Slovakia, Bulgaria, Romania, Latvia, Lithuania, and Estonia. Six out of the nine countries provide financial compensation for more than 75% of women's pre-birth earnings and their leaves are at least two years long. The group also includes all countries with the most limited flexibility in leave use (Lithuania, the Czech Republic, and Bulgaria). Then there are countries that lie between these two extremes. On one hand, there are countries that provide very long birth-related leave on either moderately low (France, Finland) or very low (Spain, Poland) average compensation rates. On the other hand, there are countries that provide short leave, not exceeding one year (with the exception of the UK), on moderately low average compensation rates. These countries are Belgium, the Netherlands, Ireland, Slovenia,

Greece, Italy, Cyprus and Malta. Although the relatively low financial compensation suggests familialising tendencies of the policies, the difference in the leave duration places the former group of countries closer to the genderising side of the scale, while the latter towards the de-genderising end of the scale.

The previous chapter questioned a proposition put forward by the multiple equilibria hypothesis, namely that the policy supporting gender egalitarian norms and values facilitates the diffusion of gender egalitarian norms from highly educated individuals towards people with lower educational attainment. The critical argument claims that the speed of diffusion will be dependent not only on the design of the policy but also on the degree to which the policy is stratified. If the policy support is stratified, then the diffusion of the new norms will be slower. Although many countries provide birth-related leave policies that are inclined to promote gender egalitarian norms, considerable number of these countries are too often stratified. This in turn may prevent the diffusion of gender egalitarian norms to lower social classes.

However, in combination with the outcomes presented in the figure 6.1, it is possible to see that the majority of the countries that have the most de-genderising birth-related leave policies are also those that provide universal access to the leave scheme. The only exception is Norway, where less than 80% of women with low educational attainment and just over 80% of highly educated women would be eligible for a birth-related leave. These countries are likely to have the fastest diffusion of gender egalitarian norms. In contrast, the universal access to the birth-related leave support is present in the majority of the countries whose leave designs were characterised as genderising (with the exception of Bulgaria and Romania). If we take into consideration that women with low educational attainment in these countries are also entitled to very generous financial compensation (see Figure 5.8) the combination with the long duration and relatively small flexibility suggests that the chances

of these women adopting gender egalitarian behaviour in spite of the leave design are rather slim.

6.4   Birth-related leave and gender differences in couples' economic activity

The previous section combined individual birth-related leave characteristics to examine the leave design from the gender perspective. This section will assess whether the distinction between genderising and de-genderising leave policies has support with regards to differences in gender egalitarian behaviour between countries. To do so, this section will return to individual policy characteristics to examine their association with differences in the economic activity of couples. If the categorisation introduced in the previous section is correct, we should expect larger differences in parental employment rates in countries whose birth-related leave policies were characterised as genderising. At the same time, the countries whose leave policies were identified as de-genderising should have the smallest difference in parental employment rates. Another goal of the analysis is to find out whether some particular aspects of the birth-related leave policies play a more important role in parental employment than others.

The best way to analyse the association between individual birth-related leave characteristics and the difference in parental employment rates would be to use individual-level data. However, to examine the differences properly, it would be necessary to observe the situation of new parents for at least three years following birth. This is to capture the transition to employment among mothers in countries that provide birth-related leave, which lasts several years. Unfortunately, only a fragment of the observations in the EU-SILC longitudinal dataset employed in this thesis would fulfil this requirement. For this reason, the analysis will be conducted using the cross-sectional EU-SILC data. To calculate the aggregated gender difference in the parental economic activity, a sample was selected from cohabiting couples with one or two children, where at least one of the children is younger than three.

The proportion of mothers and fathers who were working (i.e. employed or self-employed) in each country was then used as an indicator of parental employment. The cross-sectional EU-SILC data was selected over existing aggregated data on employment rates provided by Eurostat for one reason. Although Eurostat provides information about parental employment categorised by number of children and their age (e.g. variable *lfst_hheredch*), it also provides specific categories for the age of the child. However, the category for the youngest children covers children from birth to six years old. Nonetheless, using this data for comparing the maternal and parental employment rates can be misleading because, as it was mentioned earlier in the thesis (see Chapter 2), women in some countries use their entitlements to extend parental leaves that last for several years, and return to employment when their entitlements expire. The employment data therefore do not reliably capture the nature of the gender differences in the parental employment when the child is less than three years old.

The gender difference in the parental employment rates below is calculated as a difference in the proportion of employed mothers and fathers. It is important to note that the indicator does not distinguish between part-time and full-time employment. Although the prevalence of part-time employment among mothers has been identified as problematic from the perspective of gender equality (Stier & Lewis-Epstein 2000; Plantenga 2002; Webber & Williams 2008; Yerkes 2009), this thesis is more focused on the mothers' abilities to resume employment following childbirth. For this reason, the analysis does not take the issue of part-time employment into consideration. The analysis will be conducted as a simple bivariate association between the individual birth-related leave characteristics and the difference in employment rates between men and women in the partnership.

Based on the data, the values of the gender differences in employment rate vary from -2% in Lithuania to 83% in the Czech Republic. A null value on the gender difference in parental employment rates indicates gender equality in employment rates between mothers and fathers. A negative value points to a higher employment rate among mothers compared to

fathers. A positive value, on the other hand, signifies gender inequality with an advantage for fathers. In other words, it shows how much higher paternal employment rate is, compared to the maternal employment rate. The higher the value, the greater the gender inequality in the division of paid work, and arguably the stronger the support for a traditional division of labour between partners. The indicators that capture the individual characteristics of birth-related leave were collected from the imputed policy values in the longitudinal EU-SILC data (see Chapter 4). The aggregated variables of leave duration and financial compensation were created based on the individual-level data for cohabiting women between the ages of 20 and 40. The indicator of flexibility in leave use is based on the macro-level values from the flexibility index presented in Section 5.2.2.4.

In the previous section, the leave that lasts longer than one year was considered to be a genderising aspect of the leave design because it interrupts the mothers' contact with employment for an extended amount of time. Such career interruption is likely to be detrimental for future positions in employment, as well as financial and career advances. Therefore, we could expect that the longer the leave is, the larger the gender difference in the couples' employment rates. Figure 6.2 plots the relationship between the average birth-related leave duration based on the imputed values for mothers who would be eligible for leave, and gender differences in the employment rates. It shows a clear positive relationship between these two variables ($r= 0.5033$, $p= 0.0075$). The figure also shows that gender differences in employment rates do not exceed 20% in the majority of the European countries with a birth-related leave that is a year and a half or less. The gender difference is somewhat higher in other countries that were identified as being close to having de-genderising policy characteristics. For instance, in Iceland, where the birth-related leave design was evaluated as de-genderising in the previous section, the gender difference in employment rates was measured as 27%. Other countries, where leave designs were recognised as being close to de-genderising characteristics, have quite high

gender differences in parental employment rates. Most of these countries are from Southern Europe – Italy (38%), Greece (38%), and Malta (51%). On the other hand, the gender difference in the parental employment rates exceeds 50% in the majority of the countries where birth-related leave policy designs were characterised as genderising. The biggest difference is observed in the Czech Republic (83%), Hungary (72%), Slovakia (68%), and Austria (60%). Considerable gender difference was found also in Finland, where mothers with at least one child under the age of three have lower employment rates than fathers. The difference between their employment rates is about 53%.

Figure 6.2 Association between the birth-related leave duration and gender difference in parental employment, 2008.
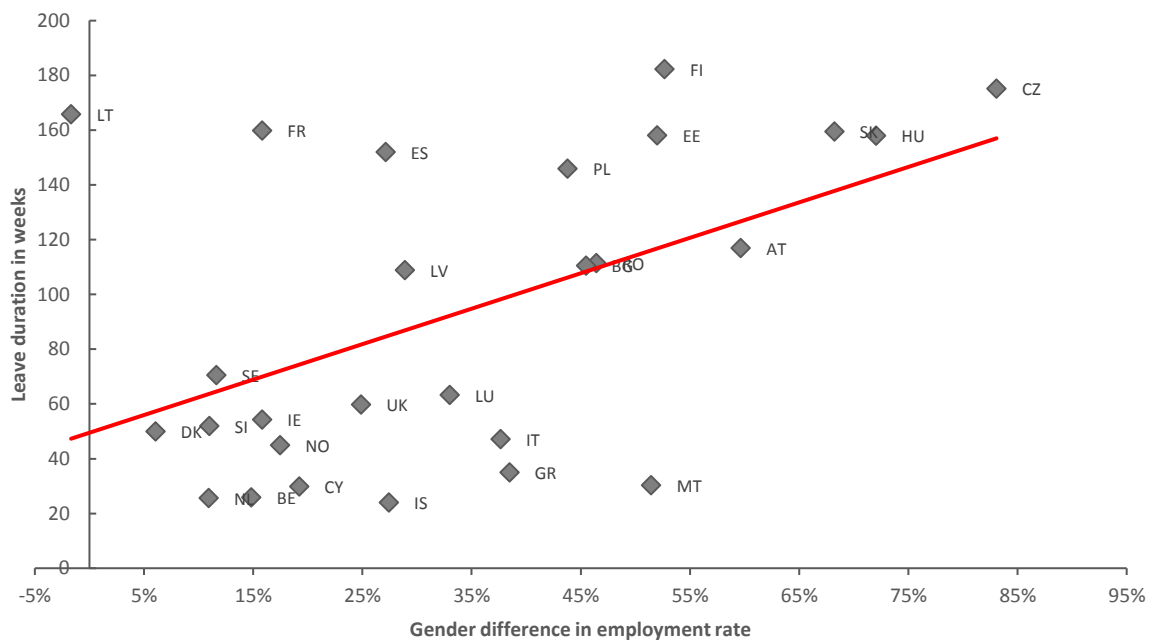

Source: Longitudinal and cross-sectional EU-SILC, LP&R Annual Reviews, MISSOC, Multilinks Database

Note: The cross-sectional EU-SILC data (2008) was used to calculate the gender difference in parental employment.

Although the general trend supports the predicted relationship, the individual values are scattered around the trend line. This outcome may point to the importance of financial compensation for the time spent on leave. For instance, France has a long average leave duration, however, financial compensation is rather limited for mothers of one child. Similarly, even though Spain provides a long birth-related leave, it is mostly unpaid. Would leave duration be the only indicator, we would expect gender differences in parental employment rates to be much higher than figure 6.2 indicates. The interaction argument also holds for the association with compensation rates. In the previous section, I argued that the role of financial support in the determination of whether birth-related leave design is genderising or de-genderising is largely dependent on leave duration. To be more precise, the generous financial compensation for the time spent on leave was associated with genderising characteristics when combined with long birth-related leave. In contrast, generous compensation was associated with de-genderising characteristics when combined with short birth-related leave. If this argument is valid we should not be able to observe any relationship between the compensation rate and the gender difference in the parental employment rates. Figure 6.3 plots the association between these two variables and shows that there is a very weak positive association between the compensation rate and the gender difference in parental employment rates ($r= 0.1312$, $p= 0.5142$). Moreover, the variation of individual values around the trend line is rather prominent, which points to a limited association between these two variables.

Figure 6.3 Association between compensation rates and gender differences in parental employment, 2008.
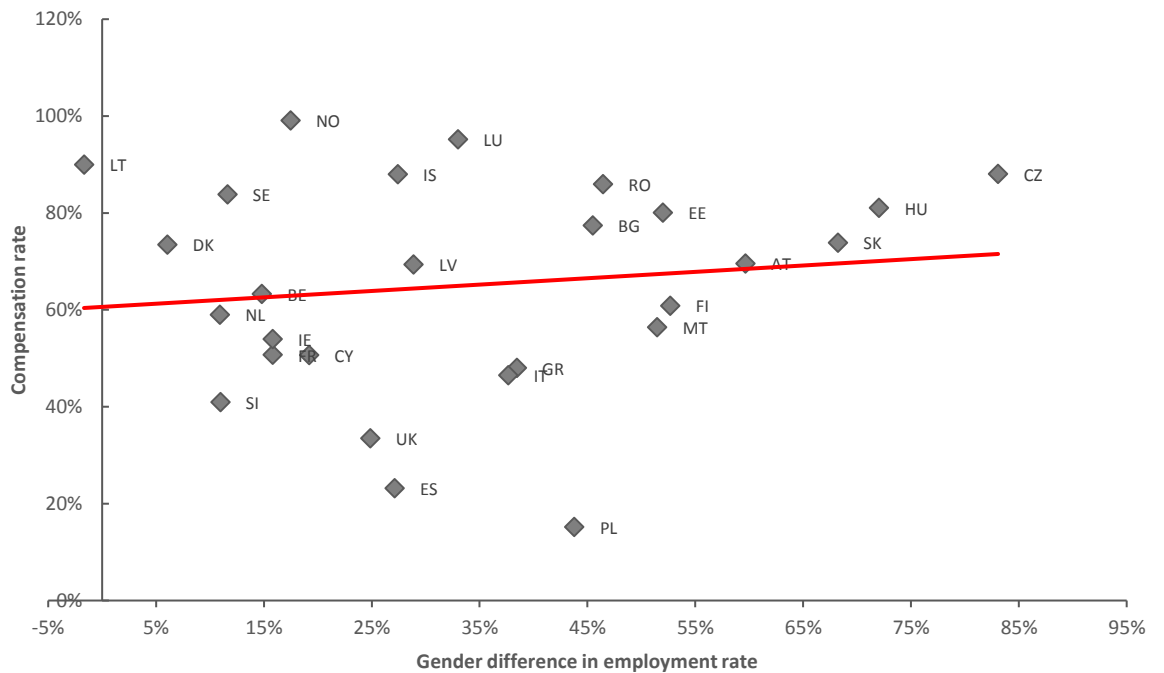
Source: longitudinal and cross-sectional EU-SILC, LP&R Annual Reviews, MISSOC, Multilinks Database

Note: The cross-sectional EU-SILC data (2008) was used to calculate the gender difference in employment.

In order to examine whether the role of the financial compensation is dependent on the leave duration and vice versa, Figure 6.4 introduces an interaction term between the two variables. The combination of leave duration and financial compensation is commonly used in comparative research and is better known as the full-time equivalent (Matysiak & Weziak-Bialowolska 2016) or full-rate equivalent (OECD Family Database 2015a). It predicts how long a leave would be if it would compensate for 100% of the earnings. This measure is therefore expressed in the number of weeks, rather than the proportion of pre-birth earnings. In other words, the full-rate equivalent adjusts leave duration for the degree of the financial compensation. The high values represent birth-related leave policies that are both long and generous. The association is not as straightforward regarding the low

values because it can both stand for leave design that is long and poorly financially compensated, but also for a short leave design with generous financial compensation. It is therefore important to be cautious and be aware of the limitations of such a measure. In this context it is used purely to assess whether the interaction between the leave duration and financial compensation provides a better fit in the association with the gender differences in parental employment rates. For better displays of the outcomes, the values for Lithuania were excluded from the analysis as extreme outliers.

The results in figure 6.4 suggest that differences in employment rates between mothers and fathers are indeed due to the combination of the generosity of birth-related leave policy and the leave duration. However, the association between the two indicators is not statistically significant ($r= 0.4819$, $p= 0.0127$). When financial compensation was taken into account, the previously discussed position of France and Spain decreased considerably, and clustered with countries in the bottom left corner of the figure. Such outcomes indicate that when women are entitled to relatively long leave but are not adequately compensated for the time spent on leave, they tend to return to employment. On the other hand, long and generous financial compensation is associated with considerably higher gender differences in parental employment. This is in line with previous findings (Musumeci & Solera 2013; Rønsen & Kitterød 2014) and to an extent supports the assumptions of the gendersing and de-genderising categories discussed in the previous section. Nonetheless, Italy, Greece, Malta, and Poland are certain outliers. The gender differences in the parental employment rates are high in these countries, despite relatively small full-rate equivalents. Moreover, Italy, Greece, and Malta are countries that were recognised as those with leave policies that are closer to de-genderising policy designs. The results suggest that the mothers in these countries tend to leave the labour market or interrupt their economic activity for an extended amounts of time.

Figure 6.4 Association between the full-rate equivalent and gender difference in parental employment, 2008.
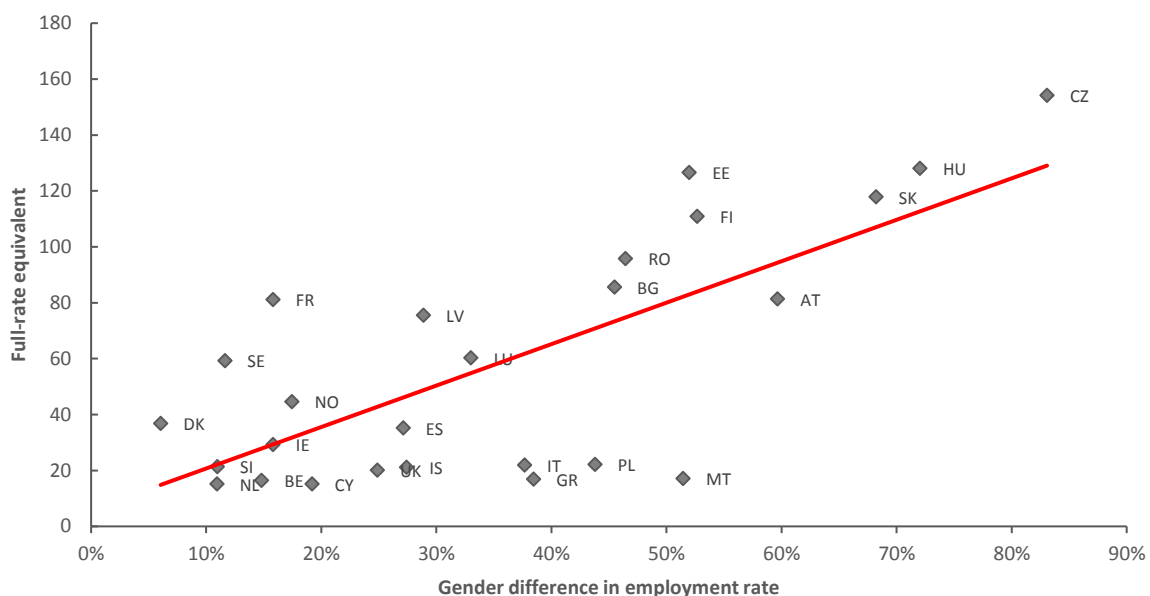
Source: Longitudinal and cross-sectional EU-SILC, LP&R Annual Reviews, MISSOC, Multilinks Database

Note: The cross-sectional EU-SILC data (2008) was used to calculate the gender difference in employment.

The final aspect of the birth-related leave that was discussed in this chapter is the flexibility in leave use. The high flexibility in leave use is characterised as a de-genderising aspect of the birth-related leave design because it allows combining part-time employment with parental childcare. In contrast, limited flexibility in leave use was identified as a genderising measure because it leaves little opportunity for mothers to return to their jobs and while also providing care for their children. Figure 6.5 shows the association between flexibility in leave use and gender differences in parental employment rates. The results seem to suggest that high flexibility is indeed associated with lower differences in parental employment rates. However, there is great variation in the employment outcomes among countries with a block flexibility option (value 5 on the flexibility index, see Section 5.2.2.4). Therefore, the association between flexibility in leave use and the gender differences in the employment rates between parents is not

straightforward. Although the countries with high flexibility tend to have smaller differences in parental employment rates, the association does not stand out and suggests that there is little or no association between these two values (r= -0.32, p= 0.1011).

Figure 6.5 Association between the flexibility in leave use and gender difference in parental employment, 2008.
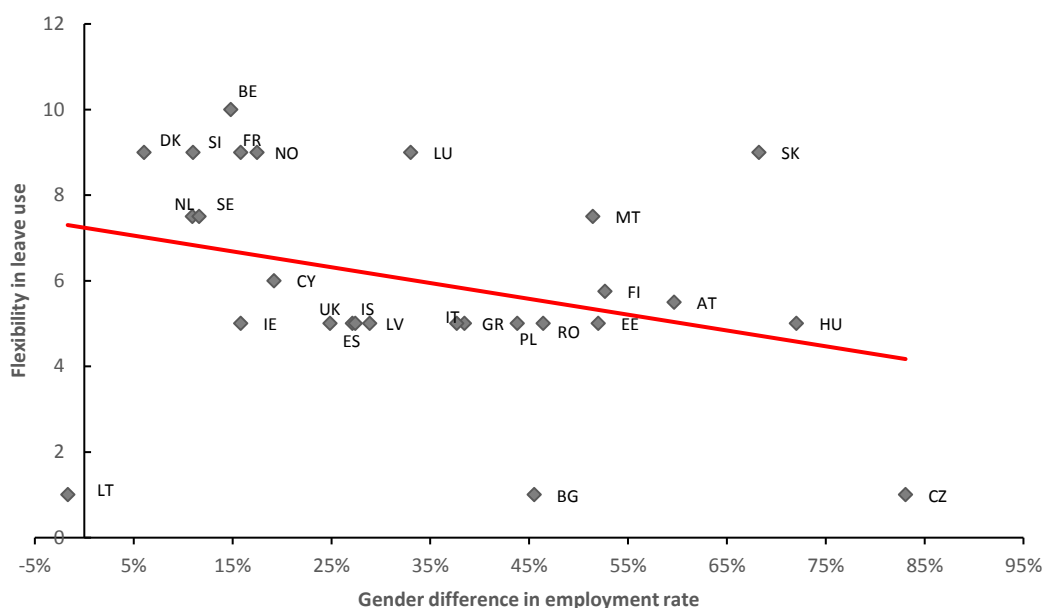
Source: Longitudinal and cross-sectional EU-SILC, LP&R Annual Reviews, MISSOC, Multilinks Database

Note: The cross-sectional EU-SILC data (2008) was used to calculate the gender difference in employment.

6.5   Conclusion

This chapter builds on findings from chapter 5, which showed that a considerable number of countries stratify access to birth-related leave support. The countries that provide support only to those new mothers who were economically active at the time of birth and/or who also have an employment history of certain duration limit the access to the birth-related leave to mothers with lower educational attainment. The chapter raised

questions as to whether the policies that provide stratified access to birth-related leave are also those that promote gender egalitarian behaviour and values. This question is important primarily in the context of the multiple equilibria hypothesis, which maintains that the diffusion of the new gender norms can be facilitated through the policy support, which will introduce gender equality to lower social strata. However, if such policies are unattainable to women with lower educational attainment, the diffusion of gender egalitarian norms is likely to be much slower than anticipated. Consequently, the expected family outcomes for such as an increase in fertility rates will also be slower.

This chapter aimed to address this question and identify those policies that could be characterised as gendersing or de-genderising according to the concept introduced by Steven Saxonberg (Saxonberg 2013). To be able to facilitate the diffusion of gender egalitarian norms, birth-related leave policies were to have a design that does not assume women and men will adopt separate roles after the birth of a child, but also to provide universal coverage. Only a few countries were found to provide universal gender egalitarian policies – Iceland, Luxembourg, Sweden, and to an extent, also Denmark. In the majority of the countries where leave design was identified as close to the de-genderising characteristics, access to support is stratified. This includes Italy, Malta, and Greece and the theory put forward by this thesis would suggest that the stratification of leave policies prevents the adoption of gender egalitarian norms throughout society. Most of the countries that were identified as genderising have a universalistic design. This means that the traditional division of labour between partners is actively promoted throughout society. Consequently, the chances of women from lower socioeconomic backgrounds adopting gender egalitarian norms, despite the traditional policy support, is very low considering their limited financial possibilities.

This chapter also looked at the association between individual birth-related leave aspects and gender differences in parental employment rates in order to verify whether the

assumptions about the diffusion of egalitarian norms hold. The outcomes revealed that countries with de-genderising birth-related leave designs tend to have smaller differences in the maternal and paternal employment rates, compared to countries with genderising birth-related leave designs. The results also pointed out that leave duration is the aspect of the leave policies that is most associated with the gender differences in parental employment, in comparison with financial compensation and flexibility in leave use. However, the outcomes also revealed that the extent to which leave duration is associated with the differences in employment rates is largely dependent on how it pairs with the financial transfers. This confirmed the assumption that generous financial compensation for the time spent on leave has different meanings when linked with long leave versus short leave.

It is important to note that the findings presented in this section must be interpreted with caution. This chapter did not aim to establish a causal relationship between the birth-related leave designs, maternal employment, and fertility behaviour. Instead, the aim was to point to potential aspects of the birth-related leave policies that may interfere with the expectations of multiple equilibria hypothesis. The analysis conducted in this chapter seems to suggest that in countries whose leave policies can be classified as de-genderizing, the facilitation of the diffusion of the gender egalitarian norms would be possible only in Iceland, Sweden, Denmark, and Luxembourg. This is because only these countries fulfil the conditions to provide universal access to the birth-related leave, and also to enable parents to combine employment and career with childcare and family responsibilities.

II. Appendix

Appendix 4 Average birth-related leave duration, compensation rate, and birth-related leave flexibility to support Figure 6.1

Country	Leave duration (weeks)	Compensation rate	Flexibility
FI	182	61%	5.75
CZ	175	88%	1
LT	166	90%	1
FR	160	51%	9
SK	160	74%	9
EE	158	80%	5
HU	158	81%	5
ES	152	23%	5
PL	146	15%	5
AT	117	70%	5.5
RO	111	86%	5
BG	111	77%	1
LV	109	69%	5
SE	71	84%	7.5
LU	63	95%	9
UK	60	33%	5
IE	54	54%	5
SI	52	41%	9
DK	50	73%	9
IT	47	47%	5
NO	45	99%	9
GR	35	48%	5
MT	30	56%	7.5
CY	30	51%	6
BE	26	63%	10
NL	26	59%	7.5
IS	24	88%	5

Source: Longitudinal EU-SILC, LP&R Annual Reviews, MISSOC, Multilinks Database

7 'GENDERISING' ASPECTS OF THE BIRTH-RELATED LEAVE POLICIES AND THE TRANSITION TO PARENTHOOD

This chapter will empirically assess the relationship between birth-related leave policies and the transition to first birth in Europe. Unlike the policy association with the transition to second birth (e.g Lappegård 2010; Cygan-Rehm 2013; Šťastná & Sobotka 2009; Matysiak & Szalma 2014), the relationship between birth-related leave policies and first births has yet to received sufficient attention in the literature. One explanation of the limited interest in the study of policy roles for the transition to parenthood can be the limitation in the policy measurement with relation to first births. The common operationalization of the policy effects is through the policy use, and as such, can be used only for women and couples who are already parents (e.g. Lappegård 2010; Duvander et al. 2010; Vikat 2004; Oláh 2003). Since the childless population has not been directly exposed to the birth-related leave policies, the opportunity to measure the policy effect is limiting. Until recently, the only way to measure the policy association with the transition to first birth has been through macro-level policy indicators. However, this approach is inaccurate, as has been previously pointed out in this thesis. An alternative approach, which tries to measure the policy on an individual-level, has been adopted by some researchers (e.g. Boll et al. 2013; Zabel 2009). Nonetheless, their policy measures only differentiate between women who would be entitled to the scheme as such, and do not take into consideration other aspects of birth-related leave policies, such as duration and financial compensation. This thesis builds on their approach to policy measurement, and introduces personalised entitlement values for birth-related leave eligibility, leave duration, and financial compensation for the time spent on leave (see Chapter 4). So far the thesis has used these indicators to examine within-country variation in

the birth-related leave entitlements. In this chapter, the indicators will be used in an analytical model of first birth incidences. This chapter contributes to the research of fertility behaviour through its methodological novelty and focus on first births.

Due to the absence of an adequate measure, our current knowledge of the role of birth-related leave policy in the transition to first birth is rather limited. Harknett, Billari and Medalia (2014) studied the association between macro-level indicators of parental leave support and first birth intentions in European countries. They combined the duration of parental leave and financial compensation into one measure of the full-time equivalent of parental leave duration. This measure indicates what would the parental leave duration would be if the recipient (i.e. average worker) would be compensated on 100% of their earnings. It is important to note that although the measure is expressed in number of weeks, it is an indicator of parental leave generosity, rather than parental leave duration. This is because the true value of leave duration is distorted by the degree of generosity of the financial compensation. Nonetheless, the authors did not find any association between parental leave generosity and intention to start a family. Billingsley and Ferrarini (2014) also focused on fertility intentions. In their multilevel study of 21 European countries, they opted for a 'regime approach' to examine the policy effects on fertility outcomes. Their policy indicators combine information on birth-related leave policies with other family policy measures, such as child and family benefits, maternity grants, and use of childcare facilities. The macro-level information was combined into two indexes that score individual countries, depending on how supportive they are either of the traditional family model or earner-caregiver family model. The authors found that both indexes have a small positive effect on intention to have a first child, with slightly higher effect in countries that support the traditional family model. In a study of the relationship between parental leave duration and the timing of the transition to first birth in Norway and Finland, Rønsen (2004) found a small positive effect of leave duration on first births in Finland but found no effect in Norway.

Although Rønsen focuses specifically on the duration of paid parental leave, her measure is still a macro-level policy indicator ascribed to different birth cohorts, depending on the year when a change in leave duration was introduced.

In an attempt to measure the effect of a birth-related leave more directly, some authors chose to bring the policy from the contextual indicator to an individual-level measure. Cordula Zabel (2009), for instance, follows the effect of being eligible for maternity leave on the likelihood of becoming a mother in the UK. Her findings indicate that women tend to become mothers after they reach the necessary conditions for becoming eligible to maternity leave, rather than before. A similar study conducted in the United States also showed that women eligible for maternity leave have a higher probability of experiencing their first birth compared to their non-eligible counterparts (Cannonier 2014). As it has been already mentioned, this thesis has managed to isolate the birth-related leave support that goes beyond identifying women who would be entitled to a support from the birth-related leave policy scheme. This approach to policy measurement brings an insight not only into the relationship between the birth-related leave support and first birth incidences, but also helps to clarify the relationship between the individual aspects of the birth-related leave policies with respect to fertility behaviour. Such findings can be particularly valuable for policymakers. The value lies primarily in the isolation of the individual policy aspects, and observation of their mutual interaction, which can provide more informative guidance for potential policy reforms, compared to existing policy indicators such as the policy indexes or policy regimes.

7.1   Methods

This chapter addresses the second research question: *are birth-related leave policies that promote the traditional division of labour associated with lower propensity to birth?* The analysis was separated by birth order, as there are potential differences in the role of the birth-related leave policies in the transition to first and second birth. The main reason behind

this possibility is the likely distinction in motivation between having a first and second child. While for some people, the motivation to start a family may be driven primarily by psychological factors, such a desire to fulfil the relationship with the partner or desire to become a parent (Langdridge et al. 2000; Langdridge et al. 2005; Dyer et al. 2008; Thompson & Lee 2011), the transition to second birth may be motivated by the social needs of the older child, or of the parents to reach a preferred family size. In such cases, the role of policy in the transition to first birth may be less important compared to the transition to second birth because the psychological value of the first child is likely to be different compared to the psychological value of the second child. In other words, in a situation where women face obstacles to combine work and family, they will be more likely to have only one child, rather than to abandon the idea of motherhood altogether (Kemkes-Grottenthaler 2003).

Hypotheses H7 to H12 will be empirically tested on a sample of women who did not have a child in the income reference period (i.e. the calendar year prior to the interview). The women in the sample cohabit with their heterosexual partners, either in married or unmarried union, and are between the age of 20 and 40. Single women were excluded from the analysis for two reasons. First, partnership status is an important determinant of fertility behaviour, and single women generally have a very small probability of giving birth (Nitsche et al. 2015; Klesment et al. 2014; Hoem et al. 2013). Second, partnership status highly correlates with age and work experience, which is in turn associated with entitlements for birth-related leave in number of European countries. Including single women in the sample could therefore provide an inaccurate policy effect estimate.

A multilevel analytical model has been constructed to test the association between individual birth-related leave characteristics (eligibility for a birth-related scheme, leave duration, compensation rate, and flexibility in leave use) and the transition to parenthood. The analysis was conducted on a random intercept multilevel analytical model with a logit link function

using the *melogit* command in Stata 14. A similar approach has been adopted, for instance, by Kristen Harknett, Francesco Billari, and Carla Medaila (2014) who used a two-level multilevel model with a random intercept logit function in a study of association between family support (paid parental leave, family expenditures, abd flexible work hours) and fertility intentions. Other examples of similar studies that have been conducted using multilevel modelling can be found in an assessment of the association between childcare facilities and fertility behaviour (Karsten Hank & Kreyenfeld 2003), the association between social expenditures on family support (family allowances, maternity and parental leave benefits, childcare subsidies) and fertility behaviour (Kalwij 2010), or the association between the country-level indicators of family benefits, maternity and parental leave, childcare enrolment and completed fertility (Baizán et al. 2013).

A multilevel analytical method allows for pooling of individual-level data from survey participants from all European countries in this study, but at the same time, it adjusts the estimated parameters for the commonalities between women living in the same country. The model is therefore able to compare the effect of birth-related leave characteristics on first birth among women entitled to similar support, but living in different countries. It also means that estimates will not provide direct information about how the support in individual countries compares with respect to first birth incidences, but rather how the individual birth-related leave characteristics influence people's fertility behaviour in Europe. The multilevel analytical model clusters time-varying indicators within each woman in the survey that are then clustered within each country. The three-level model is also able to differentiate how much of the variance in the dependent variable – likelihood of having first child[12]- is due to the changes in the women's circumstances (e.g. when she becomes eligible for a birth-related leave scheme, become entitled to higher benefits, etc.), the differences between individual women (e.g. between women entitled to short and long parental leave) and finally,

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[12] For more detail on construction of the dependent variable see section 4.2.2.

differences between countries – to what extent the variation in the propensity to first birth can be assigned to a cultural or social context of the country the women live in.

7.2   Data

This chapter uses the longitudinal EU-SILC dataset collected between the years of 2003 and 2009, with imputed values of the birth-related leave entitlements for each woman. The longitudinal data are important for the study of the fertility behaviour, especially in those cases when we do not have any information about the time when a child was conceived. To establish the association between birth-related leave policies and fertility behaviour, it is crucial to take into account the time around the potential conception, rather than the time around birth. This is because the socioeconomic situation around the time of birth can have little impact on whether the woman will have a child or not. The longitudinal data make the fertility research possible because it allows us to observe the socioeconomic situation of the women around the time of potential conception. Such analysis can be already conducted with only two waves of observations. However, such research would not be possible with cross-sectional data.

The total sample contains 22,719 women living in 27 European countries. This corresponds with 40,327 observations over the survey period. Each woman in the survey participated in an average of 1.8 survey waves. Although the data covers the time period between 2003 and 2009, not all countries collected their data in all these years (see Appendix 1). As it was previously mentioned, Germany had to be excluded from the sample because it provides only 2 waves of data, which is insufficient for the purpose of this research. Portugal was excluded as well, due to the strong suspicion of reusing their identification numbers for new survey participants who entered the survey in a new rotation group. The sample sizes vary across countries. Some countries in the EU-SILC dataset have considerably larger sample sizes than others. Overrepresentation of women from particular countries could negatively

influence the estimated outcomes and lead to biased estimates. To limit this problem, I have introduced probability weights to account for non-response and attrition between waves. These weights are then calibrated to ensure that each country contributes equally to the statistical analysis. This was done through a simple equation that introduced a calibration mechanism, which divided the total sample of childless women between the age of 20 and 40 who cohabit with their male partner by the same sample of women in each country. The mechanism was calculated separately for each country included in the analysis. The personal base weight was then multiplied by this calibration mechanism in order to ensure that women from countries with high sample sizes do not contribute to the model more than women from countries with small sample sizes.

7.2.1 Explanatory variables

The explanatory variables in the analytical models contain four indicators that correspond with birth-related leave characteristics – eligibility for any form of birth-related leave, leave duration, financial compensation, and flexibility in leave use. The eligibility for a birth-related leave is a separate indicator that is to be used in only one of the analytical models to test the first hypothesis. To prevent a loss in observations caused by women who are not eligible for support from the birth-related leave schemes the information about non-eligibility was incorporated in the policy indicators of leave duration and financial compensation. Those women in the sample who would not be eligible for any form of support from the birth-related leave scheme were assigned a zero-value on these two policy indicators. Table 7.2 indicates that in the sample of childless couples, about 84% of women in Europe would be entitled to some form of a birth-related leave.

Birth-related leave duration for women is measured as a pooled indicator of maternity leave before and after birth, and parental leave in order to capture the full picture of the birth-related leave support provided to each woman. The average duration of a birth-related leave

in Europe among childless women is 77.7 weeks. Because the birth-related leave duration has limited within-country variation, and the overall birth related leave is not normally distributed, the variable was divided into four categories based on the quartile values. The first category combines women who would not be entitled to any form of leave with those who would be entitled to very short leave (up to 29 weeks). The proportion of non-eligible women on the total number of observations in the duration category, up to 29 weeks, is about 55%. The remaining categories correspond with leave that is as follows: longer than 29 weeks but does not exceed 52 weeks; 52 weeks to 156 weeks; and very long leave, exceeding 156 weeks but not longer than 204 weeks (the longest birth-related leave in Europe). The representation of the country observations for each of the four categories is presented in Table 7.1. It is clear that most of the countries have observations in at least two of the leave duration categories. Exceptions are Belgium, Iceland, Sweden, Austria, Latvia, and Finland who have all their observations in only one of the leave duration categories. Both leave eligibility and duration have 42 missing values in the whole sample of cohabiting childless women.

The information about the financial compensation for time spent on a birth-related leave is also based on pooled birth-related leave data. However, since parental leave is often much longer than maternity leave, the total financial compensation needs to be weighted according to the duration of leave in individual schemes. The weighted financial compensation (FC) for birth-related leave was calculated according to the following equation:

$$FC_i = ML\ benefit\ \left(\frac{ML\ duration\ before\ birth + ML\ duration\ after\ birth}{Total\ leave\ duration}\right)$$
$$+ PL\ benefit\ \frac{PL\ duration}{Total\ leave\ duration}$$

Table 7.1 Categories of leave duration and the proportion of observations by country (unweighted)

Leave duration	Countries
0-29 weeks	**BE** (15%), **IS** (7%), NL (14%), PL (6%), GR (6%), IT (17%), FR (10%), ES (8%), CY (3%), SI (2%), RO (2%), NO (3%), UK (4%), BG (1%), LT (1%), IE (1%), DK (1%), MT (1%)
29-52 weeks	LU (16%), DK (13%), NO (13%), IT (29%), SI (8%), GR (7%), IE (3%), NL (6%), CY (2%), MT (1%), UK (2%)
52-156 weeks	**SE** (26%), **AT** (12%), PL (13%), UK (21%), RO (7%), **LV** (5%), LU (3%), CZ (3%), HU (3%), BG (2%), EE (2%), SK (2%), IE (1%)
156-204 weeks	**FI** (24%), FR (25%), ES (24%), HU (9%), CZ (7%), SK (5%), EE (4%), LT (2%)

Source: Longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

This equation produced a total gross weekly benefit for birth-related leave for each woman in the survey and for each year that women participated in the survey. This information was then used to compare the financial compensation of each woman to her labour market income, in order to assess whether and how her financial situation would change after birth. The relative measure was used instead of the simple indicator of birth-related leave benefits, because it better reflects how the presence of a child would influence the financial situation of the potential recipient. On average, women in Europe would be compensated for about 45% of their previous earnings. This also includes women who would not be entitled to any form of financial support, and those whose financial support exceeds their labour income. Because the distribution of the compensation rate is not a standard normal distribution, the continuous variable was recoded into a categorical variable with three categories – low compensation rate (0-33% of previous earnings), moderate compensation rate (33-66%), and

high compensation rate (over 66%). Due to missing values on earnings, there is 138 missing values on compensation rate.

Table 7.2 Descriptive statistics for sample of childless couples (female partner is 20-40 years old).

Variables	Mean	Std. Dev.	Min	Max	Valid observations
birth	12.8%				41,602
Explanatory variables					
leave eligibility	83.6%				41,560
leave duration (weeks)	77.7	63.4	0	204	41,560
leave compensation rate	45.0%	35.1	0	110	41,464
Flexibility - low	4.2%				41,602
flexibility - moderate	54.7%				41,602
Flexibility - high	41.2%				41,602
Control variables					
Woman's age (at income ref. period)	28.5	5.1	19	39	41,602
Man's age (at income ref. period)	31.5	6.6	15	62	41,089
Cohabiting	49.5%				41,602
Married	50.5%				41,602
Woman's education - low	12.8%				41,602
Woman's education - middle	45.7%				41,602
Woman's education - high	39.9%				41,602
Working full-time	67.2%				41,602
Working part-time	10.3%				41,602
Unemployed	6.5%				41,602
Student	7.0%				41,602
Economically inactive	8.4%				41,602
Man is working	88.4%				41,602
Woman's earning/week	€ 293.40	€ 291.14	€ 1.00	€ 7,071.55	41,464
Man's earning/week	€ 427.79	€ 406.62	€ 0.003	€ 13,440.63	40,510
Average unemployment rate	6.7%	2.6%	2.38%	13.42%	41,602
Use of childcare services amongst children under 3	28.7%	15.8%	2.00%	72.00%	41,602

Source: Longitudinal EU-SILC 2003-2009, MISSOC 2004-2009, LP&R Annual Reviews 2005-2009, Multilinks Database 2004 & 2009, EPIC.

The final indicator of birth-related leave is the flexibility in use of leave. It is a voluntary measure that is not dependent on the individual characteristics of potential recipients (with the exception of the Czech Republic). It is therefore impossible to include this indicator on the individual level together with leave duration and financial compensation. The degree of flexibility was instead measured on a country level, using an index with a 10-point scale ranging from the lowest to the highest flexibility. It was then recoded into three categories that stand for low, medium, and high flexibility (for more detail on the construction of the flexibility index see Section 5.2.2.4). Only about 4% of observations were collected from countries with low flexibility levels in birth-related leave use. About 55% of observations were collected in countries with moderate flexibility in leave use, and 41% in countries with high flexibility.

7.2.2   Control variables

In addition to explanatory variables, the analytical models also include other covariates that were found to be important in the transition to parenthood. Their omission from the analysis could provide biased estimates of the policy associations with the first birth transitions. As it was already mentioned, one of the strongest determinants of starting a family is marital status. It has been found that the vast majority of births are observed among couples, particularly within married partnerships (Perelli-Harris et al. 2012; Dominguez-Folgueras & Castro-Martin 2013; Berghammer et al. 2014). Although the sample contains only women who cohabit with male partners, the analytical model distinguishes between married and unmarried cohabitation. There are no missing values on the variable indicating marital status (or rather partnership status). It is because the variable of marital status used in the analysis was created by combining three original EU-SILC variables – PB190 "Marital status"[13], PB200 "Consensual union"[14] and PB180 "Spouse/partner ID". The purpose of combining the

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[13] This variable has five categories: never married, married, separated, widowed and divorced.

[14] This variable has three categories: yes, on a legal basis; yes, without a legal basis; no.

variables was to identify both married and cohabiting couples and lower the number of missing values on such variable (280 on PB190 and 221 on PB200). Married women were identified only through the variable PB190. Cohabiting women are those who were not married but lived in a consensual union either on a legal basis or without a legal basis. As cohabiting were identified women that had missing values on both variables PB190 and PB200 but they contained an information about their partner's ID. The number of women who were cohabiting with a male partner but had missing values on both variables was 149. There is a possibility that these women were incorrectly identified as cohabiting while they are in fact married. However, the number of affected observations is negligible to the total number of observations and is therefore unlikely to cause significant bias in the estimates.

Another important determinant of the transition to parenthood is financial stability (Roberts et al. 2011; Thompson & Lee 2011; Larsson et al. 20 02; Broen et al. 2005; Regushevskaya et al. 2013). To account for this, the model includes labour income for both partners, and their economic activity around the time of potential conception. Due to the relatively small number of women who are self-employed either on a full-time or part-time basis, they were merged with employed women according to their working hours. The economic activity of the male partners is simplified into two categories of working and not working. There is considerable number of missing values on partners' economic status (1,070 and 2.7% of total observations) and earnings (1,092 and 2.6% of total observations). In contrast, the number of missing values for women's economic status and earnings is considerably smaller (278 and 138 respectively). Because the number of missing data do not represent a significant share of the total sample, these observations were deleted from the analysis.

The analytical model also includes the women's age around the time of possible conception. Because the sample contains women between the ages of 20 and 40, age is not normally distributed. For this reason, the women's age was recoded into dummy variables with the age of 28 being the reference category. This is both the average and median age for the age of

the childless women in the sample. Women's and men's weekly earnings were transformed into a logarithmic scale to ensure a distribution that is closer to a standard normal distribution.

The indicator of education level was categorised into three main groups – low, middle and high. The original variable 'Highest ISCED Level Attained' (PE040) consists of seven categories. The 'low education' category contains women who were never educated, people with pre-primary education, primary education, and lower secondary education. The 'middle education' group includes categories of upper secondary education and post-secondary non-tertiary education. Finally, the 'high education' category includes women with a university degree – with "first stage of tertiary education (not leading directly to an advanced research qualification)" and "second stage of tertiary education (leading to an advanced research qualification)" (European Commission 2009, p. 264). The categories created by EU-SILC are based on the International Standard Classification of Education (ISCED 1997) and are coded according to their standards. More information can be found in the document *ISCED 1997: International Standard Classification of Education* produced by the United Nations Educational, Scientific and Cultural Organization (2006). The education variable had 1,030 missing values. Part of these missing values were present amongst individuals who participated more than once in the survey. To limit the number of missing values, I used the values on educational attainment from the previous and/or subsequent years to fill the missing information. This was conditioned on the participant not being in education between the waves and accounted for 368 missing values.

Apart from the individual characteristics and leave designs, women's financial security and consequently their transition to parenthood can be also influenced by the labour market. To take this into account, the model includes information on the unemployment rate. This is measured as an average unemployment rate in each of the countries in the study over the period covered by the analysis. The availability of formal childcare facilities for children

below the age of three represents a policy measure that can allow mothers to resume their links with the labour market following birth. Therefore, the analytical model also includes an indicator for the proportion of the children under the age of three who use formal childcare services. Due to a lack of data that would cover the whole time period in the survey, the indicator was constructed as an average value for the years 2005 – 2009[15].

Table 7.2 summarises characteristics of the sample and variables included in the analytical model. It shows that during the survey, 5,325 women became mothers, which represents 12.8% of total observations. About 84% of the women in the sample would be eligible for some form of birth-related leave. On average, the women in the sample would be entitled to 77.7 weeks of a birth-related leave and would be compensated for about 45% of their earnings. Most women live in countries with moderate flexibility in birth-related leave use (54.7%), and high flexibility (41.2%). Limited flexibility in leave use is available to about 4% of the sample. On average, couples in the sample are more likely to be married (50.5%). Women in the sample are on average 28.5 years old, and their male partners are on average three years older. The age was calculated as a combination of survey year and the year of birth of the respondents. Male partners had 960 missing values on the variable indicating their year of birth. Since some of these men participated in more than one wave, I used the information from the previous and/or subsequent waves to fill the missing year of birth. This process accounted for 447 missing values. Although secondary or middle education is the most common educational category (45.7%), women with a university degree represent the second largest group in the sample (39.9%). Women are most likely to be in full-time employment (67.2%) and 88.4% of their male partners are working.

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[15] The only exceptions are Bulgaria (2005-2009) and Romania (2007-2009). The Eurostat indicator used in this calculation is the indicator *ilc_caindformal* - 'Formal childcare by age group and duration - % over the population of each age group' generated by Eurostat from the cross-sectional EU-SILC dataset.

In some countries, leave entitlements are dependent on economic activity and earnings. Since the analytical model includes information on entitlements together with these economic indicators, there is a chance that they correlate highly with each other. High correlations between explanatory and control variables tends to inflate standard errors, and incorrectly identify statistically significant outcomes. To check for this potential problem I have run diagnostics on multicollinearity between the explanatory and controlling variables using the *collin* command in Stata 14 (Ender 2010). The Variance Inflation Factor (VIF), which identifies how much the variance in a coefficient is inflated, did not reveal any multicollinearity problems with the main explanatory variables. The VIF was found to be higher only on women's weekly earnings (VIF = 2.99 in Model 1, VIF = 3.08 in Model 2, VIF = 2.99 in Model 3). Because these are control variables, it is safe to proceed with the analysis (Allison 2012).

7.3   Missing data

The previous section reported missing values on individual explanatory and control variables used in the analytical model. However, because the dataset was designed as a panel dataset, the number of observations does not necessarily correspond with the number of respondents. Therefore, it would be impossible to judge how big an impact the deletion of the missing data could have on the analysis. This section will, therefore, analyse more closely the missing values. There are 41,602 observations in the sample of cohabiting childless women between the age of 20 and 40. This corresponds with 20,483 women. It means that, on average, each woman participated on 2.03 waves. Out of these 41,602 observations, 1,977 observations contain at least one missing value. These 1,977 observations are clustered within 1,419 women (6.9% of the sample).

The analysis of the missing data so far suggests that 1,419 women would be deleted from the sample. Nonetheless, the missing values do not have to be present in all waves in which

these women participated. Further analysis revealed that only about 624 women have missing values in all waves and will have to be deleted entirely (about 3% of the sample). The remaining 795 women had at least one missing value in one to four waves but have a full set of values in at least one wave they participated in the survey. Out of the 795 women, 650 will lose one wave of data, 113 will lose two waves of data, 30 will lose three waves of data and only 2 women will lose four waves. The number of missing values and the number of respondents that would have to be excluded from the sample is relatively low. It is, therefore, unlikely that excluding these cases from the sample would significantly affect the analysis.

7.4   Results

This section will empirically test the six hypotheses outlined in Chapter 3. The first analytical model was constructed to provide an answer to hypothesis H7. The second analytical model then simultaneously tests hypotheses H8 and H12, which refer to the effects of the individual aspects of the birth-related leave, while the third model examines hypotheses H9 – H11.

7.4.1   Eligibility for a birth-related leave and first birth

The first analytical model (Table 7.1; for full model see Appendix 5) tests hypothesis H7, which predicts that women who are not eligible for birth-related leave have a lower propensity to birth, compared to women who are eligible for birth-related leave. In other words, this analytical model compares women who are not entitled to any form of leave and any financial support for their time spent on childcare with women who are entitled to maternity and/or parental leave with or without entitlements for financial compensation[16]. This hypothesis is based on the argument that eligibility conditions for the birth-related

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[16] Provided that some countries do not secure financial compensation in the parental leave scheme.

scheme contribute to the socioeconomic situation of women after birth. Since birth-related leave provides protection against dismissal, and in most European countries, financial compensation for the time spent on leave as well, it is expected that women who are not entitled to such support will tend to postpone motherhood until they will be eligible for this support to improve their position after birth. Contrary to expectations, the results in Model 1 revealed that although there is a positive association between being eligible for birth-related leave and the transition to first birth, the estimated effect is not statistically significant. This means that statistically, women who would be eligible for support from the birth-related leave scheme do not differ in their propensity to transition to first births, from women who would not be eligible for such support. This finding is contradictory to those provided by studies conducted using British and American data (Zabel 2009; Cannonier 2014).

There are several explanations for the absence of a statistically significant association between the eligibility for birth-related leave and first birth. The characteristics of women who would not be eligible for any form of leave is related to one explanation. The majority of non-eligible women are either economically inactive (38.8%), unemployed (30.4%), or students (23.8%). The non-statistically significant estimates for the leave eligibility suggest that it is may be economic status of women that is important for the transition to first birth, rather than the eligibility for a birth-related leave. The different direction of estimated associations between individual categories of women's economic status provides some answer to the non-significant outcome of the eligibility variable. Although students have considerably lower propensity for parenthood, the likelihood of becoming mothers does not statistically differ from women who are in full-time employment. Moreover, economically inactive women are more likely to become mothers compared to women in full-time employment. Such effects could be potentially explained by the specificity of the unemployed and economically inactive women, in comparison to students and employed women. They might hold distinct family values, or have resigned from employment

altogether. Unfortunately, the EU-SILC dataset does not provide variables that could control for these underlying factors. On the other hand, the absence of a relationship between the eligibility for a birth-related leave and first birth incidences could mean that what actually matters is the extent of the support, rather than having support or not.

Table 7.3 Random intercept multilevel logistic regression - transition to first birth

Covariates	Model 1		Model 2	
	OR	Std. Dev.	OR	Std. Dev.
Eligibility for birth-related leave	1.0400	0.0800		
Leave duration				
0-29 weeks			1	
29-52 weeks			0.9013	0.0718
52-156 weeks			0.7002***	0.0583
156-204 weeks			1.2182*	0.1150
Compensation rate				
0-33%			1	
33-66%			0.9944	0.0648
66-110%			1.3433***	0.0964
Flexibility				
Low			1.2652	0.3781
Moderate			1	
High			0.7585	0.1622
Control variables				
Married		1	1	
Cohabiting	0.4078***	0.0181	0.4045***	0.0180
Education - low	0.9898	0.0564	0.9935	0.0568
Education - middle		1	1	
Education - high	1.0541	0.0440	1.0594	0.0423
Working FT		1	1	
Working PT	0.8607*	0.0521	0.8327**	0.0509
Economically inactive	1.4786***	0.1453	1.5136***	0.1411
Unemployed	0.9142	0.0902	0.9325	0.0872
Student	0.4903***	0.05122	0.5093***	0.0519
Woman's earnings (log)	0.9797	0.0143	0.9978	0.0148
Partner's age	0.9799***	0.0040	0.9798***	0.0040
Partner is not working		1	1	
Partner is working	1.2496**	0.1022	1.2465**	0.1018
Partner's earnings (log)	1.0326	0.0171	1.0353*	0.0172

Covariates	Model 1		Model 2	
	OR	Std. Dev.	OR	Std. Dev.
Unemployment rate	1.0285	0.0350	1.0378	0.0392
Use of childcare services amongst children under 3	1.0097	0.0054	1.0137	0.0072
Intercept	0.1806***	0.0669	0.1538**	0.0630
Random effects				
σ^2_{u0}		.7091		.7144
σ^2_{u1}		.1547		.1816
AIC		29535.76		29510.62
n_1		40,327		40,327
n_2		22,719		22,719
n_3		27		27

Source: Longitudinal EU-SILC 2003-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Note: *** $p < 0.1\%$, ** $p < 1\%$, * $p < 5\%$

7.4.2 Duration and flexibility of birth-related leaves and the transition to first birth

The second model introduces individual birth-related leave characteristics – leave duration, compensation rate, and degree of flexibility in leave use. They were included in the model to identify whether particular birth-related leave profiles may influence women's transitions to first births. The theoretical arguments outlined in this thesis suggest that policy support that strengthens the gender division of paid work between partners has a negative effect on fertility behaviour. A birth-related leave policy that is expected to strengthen the gendered division of labour is characterized as long in duration and inflexible. The two arguments are summarised in hypotheses H8 (i.e., women who are entitled to long leave have a lower propensity to birth compared to women who are entitled to short leave) and H12 (i.e., women living in a country with high flexibility in leave use have a higher propensity to birth compared to women living in a country with low flexibility). The 'genderising' effect of financial compensation is less apparent. As discussed in Chapter 3, the role of financial compensation for the time spent on leave in the 'genderising' characteristics of the birth-

related leave comes to light only when combined with other characteristics of the leave scheme. Such an argument requires the introduction of interaction terms in the analytical model, which would hinder the direct effects of the leave duration and flexibility in leave use. For this reason, hypotheses H9 – H11 will be tested in a separate analytical model.

The previous model has shown that being a woman without eligibility for birth-related leave support does not necessarily mean a lower propensity to first birth. This model tests whether the duration of leave can have a negative effect on the transition to first birth. Controlling for the effect of the financial compensation and flexibility in leave use, the effect of leave duration is not clearly negative. The estimates suggest that women who are entitled to very short leave (up to 29 weeks) and leave that does not exceed one year have the same propensity to transition to first birth. In comparison, women who would be entitled to leave that is longer than one year, but does not exceed three years, are less likely to become mothers in any given year than those women who would be entitled to shorter leave. Surprisingly, women who would be entitled to very long leave that exceeds three years have the higher propensity to transition to first birth than women who would be entitled to leave shorter than one year.

Hypothesis H12 predicts that women who live in a country with higher flexibility in use of paid birth-related leave are more likely to become mothers, compared to women who live in a country where the paid birth-related leave cannot be easily combined with employment. However, the empirical findings do not support this hypothesis. Instead, it appears that the flexibility in birth-related leave use is not directly associated with the propensity to first birth. Observing the change in estimates in a step-by-step model (not shown) revealed that flexibility in leave use does not influence the predictive power of the other birth-related leave aspects. Therefore, hypothesis H12 is not supported with the data at hand. Although there is no hypothesis about the transition to first birth, the indicators of compensation rates show that benefits, which replace at least 66% of labour income, are positively associated

with the transition to first birth. The following analytical model will assess whether the effect of the financial compensation varies depending on the leave duration.

7.4.3 Financial compensation and the transition to first birth

The previous section argued that the 'genderising' aspect of the financial compensation for the time spent on leave is apparent only when combined with other characteristics of the birth-related leave. For instance, generous financial compensation is likely to have a 'genderising' effect when combined with long birth-related leave. This is because women can be motivated to use the whole leave they are entitled to and will postpone their return to employment. Alternatively, it can may taken for granted within the social network of new mothers, or within the wider society, that women will use their full entitlements and in consequence will not adopt behaviours that would go against this stereotype. Low financial compensation in combination with either long or short leave can have a similarly 'genderising' character that motivates women to leave the labour market to take care of their small children. Because the 'genderising' effect, and consequently, the association with transition to first births, may also depend on the availability of childcare services or the flexibility in leave use, these policy measures were also included in the model. To somewhat simplify the problem, hypotheses H9 – H11 regarding the financial compensation were formulated as follows:

H9: Women entitled to high financial compensation and long leave have lower propensity to give birth, compared to women entitled to short leave with generous financial compensation.

H10: Women entitled to low financial compensation and short leave have a lower propensity to give birth, compared to women entitled to short leave with generous financial compensation.

H11: Women entitled to low financial compensation and long leave have lower propensity to give birth, compared to women entitled to short leave with generous financial compensation.

They argue that the direction of the association between the financial compensation on the transition to first birth is dependent on the duration of birth-related leave. To test the hypotheses, interaction terms were created between the categories of leave duration and compensation rates with a reference category of very short leave (0-29 weeks) and a very low compensation rate (0-33%). Figure 7.1 shows the estimated effects of the interaction terms. Because the estimates of the control variables did not change, the full table was not included (see Appendix 5). Model 2 revealed that women entitled to short leave (up to one year) are more likely to become mothers than women entitled to longer leave (one to three years long). However, rather unexpectedly, the analytical model also showed that those women who would be entitled to very long leave (three to four years long) have higher propensities to first birth, compared to women who would be entitled to short leave. Because such a long leave is both 'genderising' and represents a high opportunity cost for mothers, the finding cannot be meaningfully explained with existing theoretical explanations. The interaction effects introduced in Model 3 shed some light on this puzzling association.

Figure 7.1 Estimation of the interaction between leave duration and compensation rate (Model 3)
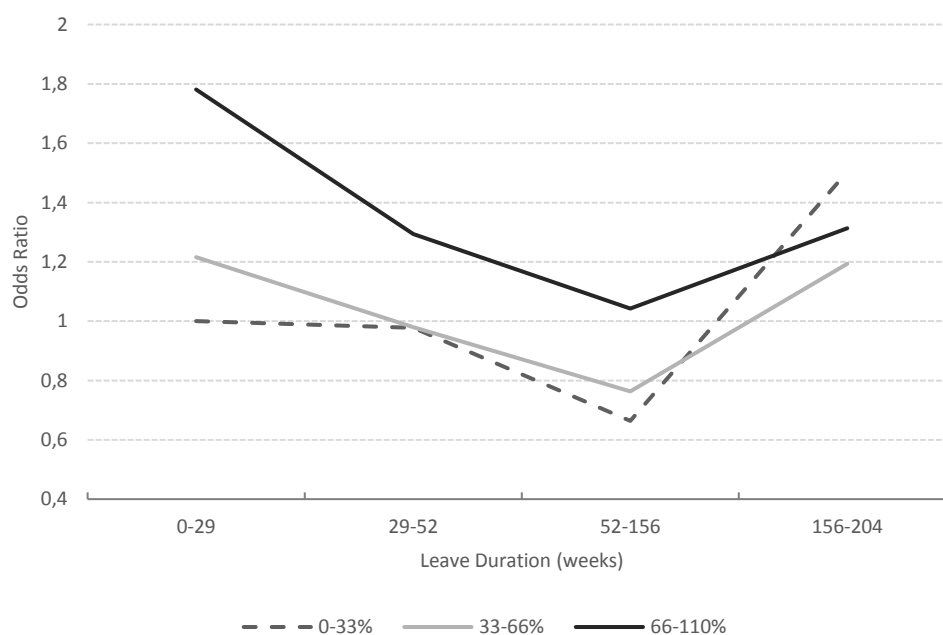
Source: Longitudinal EU-SILC 2003-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

The interaction effects show that the association between very long leave and the transition to first birth differs depending on the degree of financial compensation. According to the results, women who are compensated for at least 66% of their pre-birth earnings have the highest likelihood of becoming mothers compare to women who would be compensated on lower rate. However, the positive effect of generous financial compensation on transition to motherhood decreases as the leave duration increases. This is not the case for the last category of very long leave where the likelihood of first birth increases again. Despite the increase, women who are entitled to long leave in combination with high financial compensation have lower likelihood of becoming mothers in any given year compare to women who are entitled to shorter and generously compensated leave. Such outcome supports the hypothesis H9.

The combination of generous financial compensation (66-110%) with short leave (0-29 weeks) is the least 'genderising' among birth-related leave characteristics, which provide mothers with time to care for their children when they are very small while compensating them for large share of their pre-birth earnings. At the same time, it enables them to resume their careers relatively early after the birth, and this way, minimises the negative effect of small children on women's career prospects. The estimate shows that women who are entitled to this birth-related leave support are most likely to become mothers in any given year. At the same time, the estimated effect is not a negligible one. Their chances to become mothers is about 80% higher than the chance of women who are entitled to very short leave with limited financial compensation. This means that both hypotheses H10 and H11 were both supported by this outcome.

Although not all of the estimated effects are statistically significant, the hypothesised relationship can be observed in categories of the very short (0-29 weeks) and very long leave (156-204 weeks). While financial compensation has a positive effect on the transition to motherhood for short birth-related leave, the estimated effect of financial compensation is decreasing for longer leave. This suggests that the generosity of the birth-related leave is not universal, as indicated by the direct association presented in Model 2, and must be reflected in combination with the leave duration. Therefore, Model 3 almost exclusively supported hypotheses H9 – H11. It provides evidence that generous financial compensation is associated with higher propensity to first birth. In turn, it also revealed that generous financial compensation in combination with long birth-related leave decreases the likelihood of becoming a mother. It also showed that a similarly negative effect can be observed in the combination of poorly financially compensated leave with long leave (particularly the combination of 0-33% compensation and 52-156 weeks long leave), and also in combination of low financial compensation with short leave (the reference category).

7.5   Conclusion

This chapter has shown that individual leave eligibility is associated with the transition to first birth, a finding that is absent from the current literature. The approach used is based on the assumption that women's decisions about particular behaviours depend on the consequences of the behaviour. It assumes that each woman has some knowledge about the consequences of a child for their personal and professional life, and how the presence of a child may influence their financial situation. At the same time, it assumes that women also have some knowledge about the support from the welfare state that they will receive upon the birth of the child, and take this information into account when deciding whether and when to start a family. This chapter has empirically tested the effects of birth-related leave policies from several perspectives. It first looked at the differences in the propensity to transition to first births, by comparing women who would be eligible for a birth-related leave to those who would not be entitled to such a support. This approach has been adopted by some case studies in the past (Cannonier 2014; Zabel 2009) but in contrast to these previous findings, the analysis conducted here, using data from 27 European countries, did not find any statistically significant difference between eligible and non-eligible women. If this study had no other individual-level indicator of the birth-related leave policy, we could conclude that this policy does not have any effect on the transition to first birth. However, the results revealed that what actually matters are the individual characteristics of the birth-related leave, and how extensive support to which the women are entitled to is. Moreover, it pointed to another important aspect of the association between the birth-related leave and first birth incidences; the results suggest that the effect of the financial compensation varies according to how it pairs with the leave duration and vice versa.

When examining the direct effect of the leave duration, financial compensation and flexibility in leave use, the analytical model showed that generous financial compensation that replaces at least 66% of pre-birth earnings is associated with a higher propensity to first

birth. The outcomes regarding the leave duration pointed to a negative association between leave duration and transition to first birth. But unexpectedly, the model also estimated that women who would be entitled to leave that is longer than three years do not statistically differ from women entitled to short leave in their propensity to parenthood. Such findings could lead to a conclusion that generous financial compensation is universally supportive of fertility behaviour. Similarly, we could conclude that very long leave is not in conflict with fertility behaviour. However, such conclusions would be false as demonstrated by the final analytical model, which included interaction terms between leave duration and financial compensation. It revealed that while the generous financial compensation is positively associated with first births when combined with short leave, the association is negative when combined with very long leave. Women who are entitled to a short birth-related leave and compensated for a major share of their pre-birth earnings are also those who have the highest propensities to transition to first births. The findings therefore suggest that the extent to which birth-related leave can mitigate the negative effects of a child on women's employment, following birth, is associated with a greater likelihood of becoming mother. This result is in line with gender equity theory and the multiple equilibria hypothesis. In contrast, the results also suggest that full compensation for the time spent on childcare is an insufficient policy measure to motivate women to start a family, and instead, the effect of the financial compensation is subordinated to the leave duration. This partially contradicts the economic theory of fertility, which predicts that financial benefits alone play an important role in determining fertility behaviours. However, it is important to emphasise that these associations were estimated using an analytical model that also controlled for availability of childcare facilities for children under the age of three, and flexibility in leave use. It is therefore necessary to acknowledge that the positive effect of the short and generous birth-related leave would not have to necessarily occur in countries with shortages in childcare spaces for very young children.

The empirical results were subjected to a set of sensitivity analysis (not shown) and were proven to be robust. The robustness checks involved exclusion of the women who would not be eligible to a birth-related leave, and who create a considerable share of the reference categories for both leave duration and financial compensation. After slight adjustments of the leave duration categories to keep the quartiles, the estimated effects of the birth-related leave indicators revealed association with the same direction and statistical significance. Another robustness check was conducted using a macro-level indicator of societal gender norms measured on a macro-level. This is to check for the role of contextual factors that are hypothesised to play a role in fertility behaviour, according to the multiple equilibria hypothesis. The indicator was created from an attitudinal survey question that asks respondents how much they agree with the statement that men have more of a right to a job than women when jobs are scarce. The data was collected from the European Social Survey and World Values Survey for all available years that best correspond with the time when the EU-SILC data were collected. The categories disagree and disagree strongly were pooled together and included in the model on a country-level. The variable was not included in the main analytical model because the attitudinal question is missing for Malta. Adjusted analytical models that excluded Malta revealed that the indicator for societal gender norms does not have any statistically effect on the transition to motherhood, nor does it even alter the individual-level effects of the policy indicators, or any other control variables included in the model.

This analysis has several limitations. The most limitations arise from the issues in the EU-SILC survey data. First of all, the birth-related leave entitlements correspond only with statutory entitlements and do not take into account support from an employer or that negotiated through collective agreements. Another limitation stems from the lack of information about whether the women participating in the survey were employed in the public or private sector. Consequently, all entitlements were coded as if all the women in the

survey were employed in private sector. Although the number of countries that provide different support by public and private sector employment is small, there could be some small inaccuracies in the estimated support for the women living in such countries (for more detail see Chapter 4). Finally, the analytical model assumes that individual women have perfect information about the support they will receive following birth. Although it is likely that individual women have some idea about the extent of the support they will receive from their social networks, it is not clear whether they perfectly align with the estimated amount of support assigned to them.

Apart from the limitations, applications of the personalised values of the birth-related leave support in analytical models of first birth transitions contributes considerably to the demographic research of fertility and also to social policy research. The significance of this contribution for social policy research lies in the ability of this policy measure to assign accurate values for support and to consequently estimate behavioural outcomes even before the event, for which the policy offers protection, occurs. This is also relevant for fertility research and particularly with respect to the transition to first births. Until now, it was only possible to estimate the policy effect on the transitions to first birth occurrence only in terms of a contextual effect, which is highly inaccurate (see Chapter 3). Moreover, the detailed measures make the findings highly relevant for policy makers who are considering adjustments in the birth-related leave policy designs and would like to consider the effect of their actions for fertility behaviour.

III. Appendix

Appendix 5 Random intercept multilevel logistic regression model on transition to first birth - full models 1-3

Covariates	Model 1		Model 2		Model 3	
	OR	Std. Dev.	OR	Std. Dev.	OR	Std. Dev.
Eligibility to birth-related leave	1.0400	0.0800				
Leave duration						
0-29 weeks			1		1	
29-52 weeks			0.9013	0.0718	0.9772	0.1931
52-156 weeks			0.7002***	0.0583	0.6638***	0.0754
156-204 weeks			1.2182*	0.1150	1.5034***	0.1674
Compensation rate						
0-33%			1		1	
33-66%			0.9944	0.0648	1.2158	0.1516
66-110%			1.3433***	0.0964	1.7809***	0.2385
Flexibility						
Low			1.2652	0.3781	1.3652	0.4154
Moderate			1		1	
High			0.7585	0.1622	0.7503	0.1635
Interactions						
33-66% * 29-52 weeks					0.8245	0.1879
33-66% * 52-156 weeks					0.9458	0.1749
33-66% * 156-204 weeks					0.6527**	0.1075
66-110% * 29-52 weeks					0.7435	0.1833
66-110% * 52-156 weeks					0.8819	0.1766
66-110% * 156-204 weeks					0.4906***	0.0947
Control variables						
Level 1 covariates						
Age (at income reference period)						
19	1.3337*	0.1826	1.3240*	0.1818	1.3264*	0.1823
20	0.9167	0.1151	0.9109	0.1146	0.9112	0.1147
21	0.7909*	0.0921	0.7878*	0.0919	0.7903*	0.0922
22	0.7664*	0.0812	0.7578*	0.0804	0.7634**	0.0810
23	0.7439**	0.0850	0.7372**	0.0726	0.7414**	0.0730

24	0.7793**	0.0713	0.7686**	0.0704	0.7714**	0.0707
25	0.7925**	0.0686	0.7886**	0.0683	0.7902**	0.0684
26	0.8332*	0.0690	0.8311*	0.0689	0.8326*	0.0690
27	0.9625	0.0764	0.9646	0.0766	0.9647	0.0766
28	1		1		1	
29	1.1864*	0.0938	1.1894*	0.0941	1.1899*	0.0941
30	1.0434	0.0875	1.0462	0.0879	1.0475	0.0879
31	1.1193	0.0960	1.1220	0.0963	1.1219	0.0963
32	1.0119	0.0936	1.0155	0.0940	1.0173	0.0941
33	0.8286	0.0827	0.8345	0.0834	0.8378	0.0837
34	0.8705	0.0910	0.8760	0.0916	0.8773	0.0917
35	0.7698**	0.0854	0.7740*	0.0860	0.7782*	0.0864
36	0.6185***	0.0753	0.6233***	0.0759	0.6237***	0.0759
37	0.3925***	0.0560	0.3952***	0.0564	0.3968***	0.0566
38	0.3608***	0.0544	0.3618***	0.0546	0.3634***	0.0548
39	0.2990***	0.0480	0.3039***	0.0485	0.3055***	0.0488

Level 2 covariates

Married	1		1		1	
Cohabiting	0.4078***	0.0180	0.4045***	0.0179	0.4055***	0.0180
Education - low	0.9898	0.0564	0.9935	0.0568	0.9908	0.0566
Education - middle	1		1		1	
Education - high	1.0541	0.0419	1.0594	0.0423	1.0549	0.0421
Working FT	1		1		1	
Working PT	0.8607**	0.0521	0.8327**	0.0509	0.8310**	0.0508
Economically inactive	1.4786***	0.1453	1.5136***	0.1411	1.5694***	0.1528
Unemployed	0.9142	0.0902	0.9325	0.0872	0.9745	0.0955
Student	0.4903***	0.0512	0.5093***	0.0519	0.5254***	0.0555
Woman's earnings (log)	0.9797	0.0143	0.9978	0.0148	0.9910	0.0150
Partner's age	0.9800***	0.0040	0.9798***	0.0040	0.9798***	0.0040
Partner is not working	1		1		1	
Partner is working	1.2500**	0.1022	1.2465**	0.1018	1.2418**	0.1015
Partner's earnings (log)	1.0326	0.0171	1.0352*	0.0172	1.0351*	0.0173

Level 3 covariates

Unemployment rate	1.0285	0.0350	1.0378	0.0392	1.0410	0.0400
Use of childcare services amongst children under 3	1.0097	0.0054	1.0137	0.0072	1.0130	0.0073
Intercept	0.1806***	0.0669	0.1538***	0.0630	0.1471***	0.0616

Random effects

σ^2_{u0}	.7091	.7129	.7047
σ^2_{u1}	.1547	.1816	.1875
AIC	29535.76	29510.617	20690.59
n_1 – observations	40,327	40,327	40,327
n_2 – women	22,719	22,719	22,719
n_3 - countries	27	27	27

Source: Longitudinal EU-SILC 2003-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

Note: Statistically significant estimates at 5% level in bold.

8 'GENDERISING' ASPECTS OF BIRTH-RELATED LEAVE POLICIES AND THE TRANSITION TO SECOND BIRTH

This chapter will examine the relationship between birth-related leave policies and transitions to second births. It adds to the findings from the previous chapter to address whether the birth-related leave policies that promote the traditional division of labour are associated with a lower propensity to birth. The empirical analysis of the association between the birth-related leave policies and transitions to first birth provided evidence that the policy design which strengthens the traditional gender division of labour upon birth are indeed associated with a lower propensity to parenthood. In contrast, this chapter analyses the distinct process with respect to the association between the birth-related leave policy and second birth. The process is considered to be distinct because in contrast to the first birth transitions, the mothers already have direct experience with the birth-related leave support and have very good idea about what they might expect were they to have a second child in any given year following the first birth. At the same time, the second birth transitions combine two possible effects of the birth-related leave policies. On one hand, the duration of the leave affects the economic status of new mothers following the first birth, which can consequently play a role in the timing of the second child. On the other hand, the anticipated birth-related leave following the second birth can contribute to the decisions regarding the second birth. For instance, being on a long leave with the first child and the anticipation of an additional few years of career interruption with the following child may motivate women to postpone their transition to second birth.

The previous chapter mentioned that the association between the birth-related leave policies and fertility received more attention in the second birth transitions rather than in the first birth transitions. But the vast majority of the studies of second birth incidences follow the

association between the birth-related leave policies and fertility only through the use of the leave policy with the first child and do not take into consideration the potential additional effect of the policy following the second birth. For instance, using parental leave for an extended amount of time with the first child was found to be negatively associated with the transition to second birth in Norway and Sweden (Duvander & Andersson 2006; Duvander et al. 2010). Similarly, studies that measured parental leave on a country-level to estimate its effect on individual level fertility behaviour did not find any statistically significant effects of leave duration or generosity on the second birth transition (Baizán et al. 2013; Harknett et al. 2014). There could be various explanations for such inconclusive findings. One of the reasons is related to the way the policy effects are measured - scholars can arrive to quite different conclusions when observing the effects on a micro- or a macro-level. While the micro-level studies follow the actual use of the birth-related leave policies, the research, which uses a macro-level policy indicator, usually measures a broader policy concept. Another explanation is the two-fold effect of birth-related leave policy designs.

The research on maternal employment also provides some insights into the effect of birth-related leave policies on propensity to second birth. Empirical evidence shows that mothers tend to return to the labour market when their entitlements to parental leave expire (Kluve & Tamm 2012; Ondrich et al. 1996; Ondrich et al. 2003; Guendelman et al. 2014; Pylkkänen & Smith 2003). This suggests that women tend to return to work before having another child. It is possible to argue that women in countries with longer birth-related leave space their births further apart than women who live in countries with shorter birth-related leave. Nonetheless, there seem to be some discrepancies in research findings that point to different return strategies depending on the type of leave support. According to this research, women who live in countries with short birth-related leave usually return to the labour market before they have another child (Pronzato 2009). In contrast, in countries where leave entitlements are longer than one year and are not conditional on previous employment, women are more

likely to have second children before or shortly after their leave entitlements expire (Lalive & Zweimüller 2009; Pronzato 2009; Šťastná & Sobotka 2009; Hoem 1993; Cygan-Rehm 2013). Therefore, women's economic statuses may have a different effects on the transition to second birth, depending on the duration of the birth-related leave. This chapter will assess the association between birth-related leave policies and the propensity to second birth from both of these perspectives – their effect on the economic status after the first birth, and their effect from the anticipated career interruption following the second birth. For this reason, this chapter represents a considerable advancement in the existing way of assessing the policy effect on the transition to second birth, and contribution to fertility research.

Postponement of childbearing to older ages has been found to be one of the driving forces behind the considerable decline of period total fertility rates in Europe over the past decades (Lesthaeghe & Willems 1999; Sobotka 2004b). Arguably, the degree of fertility decline depends on the end of the postponement transition and fertility recuperation in older ages (Lesthaeghe & Moors 2000; Frejka 2012). On an individual level, the postponement of the transition to first birth can be influenced by several factors. These determinants of first birth incidences were examined and discussed in the previous chapter. The postponement of first births can consequently influence the timing of the second birth (Van Bavel & Rozanska-Putek 2010), together with various internal and external factors. Such external factors may include state support throughout the birth-related leave. For instance, if parents tend to use their whole entitlements, then parents who are entitled to very long birth-related leave with their first child may postpone their transition to second birth, compared to parents entitled to relatively shorter leave. The later transition to second birth may potentially hinder parents' ability to have another child. The second research question therefore asks if the genderising characteristics of birth-related leave influence couples' decisions to postpone parenthood to have a second child before the end of the woman's reproductive period.

8.1 Methods

The sample for the analysis was selected from women who live with their male partners either in married or unmarried union. Due to the rotational design of the EU-SILC longitudinal data, which in the vast majority of countries renew each sub-sample within a four-year period (for more detail see Section 4.1.1), it is not possible to follow the same sample of women that was drawn for the analysis in Chapter 7. The sample here comprises of women who were between 20 and 40 years old and at the time of possible conception already had one child that was less than 11 years old. As was the case in the previous chapter, this chapter empirically tests hypotheses H7 to H12. Apart from that, it will add an additional hypothesis, which will account for the possible dual effect of the birth-related leave policies – before and after the second birth. In accordance with gender equity theory and the multiple equilibria hypothesis, we can expect that mothers will prefer to return to their employment before having another child in order to restate their position in the labour market and diminish negative effects on career progress. Hypothesis H13 is as follows:

H13: Mothers on a birth-related leave have a lower propensity to transition to second birth, compared to mothers who have returned to employment.

The first analytical model will assess hypothesis H7, which argues that women who are not eligible for a birth-related leave have a lower propensity to have a child, compared to women who are eligible for a birth-related leave. The second analytical model will simultaneously test hypotheses H8, H12 and H13, to assess whether leave duration, flexibility in leave use, and being on leave play a role in the transition to second birth. The third analytical model will then assess hypothesis H9 – H11, which look at the interaction between leave duration and financial compensation for the time spent on leave. The multilevel analytical model introduced in the previous chapter was also used in this chapter. The analysis was again

conducted on a random intercept multilevel analytical model with a logit link function, using *melogit* command in Stata 14.

8.2   Data

Individual hypotheses will be tested using the longitudinal EU-SILC data that were collected between 2003 and 2009 in 27 European countries. The total sample contains 22,591 women and 42,133 observation points in total after excluding missing values. About 11% of couples in the sample had their second child during the survey. On average, the women in the sample that match the sample requirements participated in 1.9 survey waves. As was the case in the previous chapter, Germany and Portugal were excluded from the analysis, and the sample sizes of some countries were reduced so they better match the sample size of the remaining countries in the sample. This has been done to prevent any potential over-representation of particular policy characteristics on the individual level. The countries with sample sizes considerably larger than the average were Italy, Poland, France, and Spain. To limit this problem, I have introduced probability weights to account for non-response and attrition between waves. These weights are then calibrated to ensure that each country contributes equally to the statistical analysis.

8.2.1   Explanatory variables

The explanatory variables contain four main indicators of birth-related leave entitlements – eligibility for a birth-related leave, leave duration, compensation rate for the time spent on leave, and flexibility in use of leave. The chapter also works with a hypothesis, which predicts that being on leave is associated with a lower propensity to second birth. Therefore, ideally this chapter should include an additional indicator of a birth-related leave that would specify whether a parent is on a birth-related leave with the first child. Unfortunately, the

Table 8.1 Descriptive statistics of women (20-40 years) with one child under the age of 11 (unweighted).

Variables	Mean	Std. Dev.	Min	Max	Valid Observations
birth	10.99%				43,015
Explanatory variables					
leave eligibility	76.8%				42,982
leave duration (weeks)	75.9	66.0	0	204	42,982
leave compensation rate	48.4%	39.8	0	110	42,881
Flexibility - low	7.1%				43,015
flexibility - moderate	60.0%				43,015
Flexibility - high	32.9%				43,015
Control variables					
Woman's age at first birth	27.3	4.5	12	40	43,015
Man's age (at income ref. period)	33.5	5.8	16	63	42,881
Cohabiting	23.81%				43,015
Married	76.19%				43,015
Woman's education - low	17.12%				43,015
Woman's education - middle	50.28%				43,015
Woman's education - high	31.81%				43,015
Working full-time	50.02%				43,015
Working part-time	13.90%				43,015
Unemployed	8.17%				43,015
Student	1.53%				43,015
Economically inactive	25.78%				43,015
Man is working	91.53%				43,015
Woman's earning/week	€ 194.34	247.9	1	8359.2	42,204
Man's earning/week	€ 394.98	557.5	0.0096	76675.4	42,881
Average unemployment rate	7.2%	2.9	2.38	13.4	43,015
Use of childcare services amongst children under 3	24.2%	16.1	2	72	43,015

Source: Longitudinal EU-SILC 2003-2010, MISSOC 2004-2009, LP&R Annual Reviews 2004-2009, Multilinks Database, EPIC.

EU-SILC dataset does not include information on whether a parent is on a birth-related leave. It is therefore necessary to use a proxy indicator instead. The proxy is the category "other inactive" in the economic status. The data shows that the proportion of economically inactive women among mothers of children under 11 is considerably higher than amongst childless women (26% of one-child mothers compared to 8.4% childless women). They are also more likely to have small children – 64.2% of the economically inactive mothers have a child under the age of three (not shown). Although it is not possible to fully isolate women on birth-related leave from those who are economically inactive, the indicator appears to be a decent proxy indicator of being on a birth-related leave.

The indicator for eligibility for a birth-related leave will be introduced separately in an analytical model. Among the cohabiting couples with one child under the age of 11, about 76.8% of women would be entitled to any form of birth-related leave. The eligibility for a birth-related leave will be omitted from the following analytical models, and the individual birth-related leave characteristics will be introduced instead. The average duration of birth-related leave for a second child is about 76 weeks and second-time mothers would be compensated on average for about 48.4% of their pre-birth earnings. Because birth-related leave duration is not a perfectly continuous variable, it was grouped into quartiles. The quartiles correspond with leave duration that lasts from 0 to 26 weeks, from 26 to 52 weeks, from 52 to 156 weeks and from 156 to 204 weeks. The difference compared to the analytical models that estimated the association between the birth-related leave policies and transition to first birth is therefore quite small – only in the category of the leave that is less than a year long (the cut-off point in Chapter 8 was 29 weeks). The values of financial compensation were categorised for the same reason, however the categories remained identical to the previous chapter (0-33%, 33-66%, and 66-110%). The macro-level indicators of flexibility in leave use indicate that only about 7.1% of women live in a country with low flexibility,

while the majority of first-time mothers live in a country with moderate flexibility in leave use.

8.2.2 Control variables

The analytical models control for variables that could influence the estimated association between the birth-related leave entitlements and the transition to second birth. One such variable is the women's age at the time of their first birth. The descriptive statistics show that the first-time mothers in the sample became mothers at the age of 27.3. To provide more meaningful interpretation, the age at first birth was centred on the mean value. The majority of the women live in married union (76.2%) and reached the middle education level (50.2%). Full-time employment is also the most prevalent economic status amongst first-time mothers (50%) closely followed by economic inactivity (25.8%). In contrast, unemployment is rather rare (8.1%). About 91.2% of male partners are working and earning on average €395 a week while their female partners earn on average about half of their partner's labour income (€194).

In some countries, leave entitlements are dependent on economic activity and earnings. Since the analytical model includes information on entitlements together with these economic indicators, there is a chance that they correlate highly with each other. High correlations between explanatory and control variables tends to inflate standard errors and incorrectly identify statistically significant outcomes. To check for this potential problem I ran diagnostics on multicollinearity between the explanatory and controlling variables using the *collin* command in Stata 14 (Ender 2010). The Variance Inflation Factor (VIF), that identifies how much the variance in a coefficient is inflated, showed relatively high correlation with women's earnings and category of economic inactivity (VIF = 3.78 and VIF = 3.51 respectively). Since the women's labour income poses as a control variable, while economic inactivity represents a proxy for being on a birth-related leave, the indicator of

women's earnings was excluded from the analytical models. This represents a certain limitation for the estimated effect of the birth-related leave policies because the labour income represents a distinct indicator from the indicators of financial compensation for the time spent on leave.

8.3   Missing data

Some of the explanatory and control variables introduced in previous section have missing values. The highest number of missing values is amongst the partners' variables. The variable of partner's age had 812 missing values. The age variable is calculated as a difference between the year of the survey and year of birth. Since the year of birth is a constant, it is possible to recover at least some of the missing values by using the information from previous and/or following waves. This way it was possible to lower the number of missing values to 386 (0.8% of all observations). Partners' economic status and earnings have 898 and 974 missing values respectively, which corresponds with 1.8% and 1.9% of total observations. Amongst maternal variables, the highest number of missing values is on education (400 and 0.8% of all observations). Women's economic status has 276 (0.6%), earnings and compensation rate have 155 (0.3%). There are no missing values on marital status. The reason for lack of missing values on this variable is described in detail in section 7.2.

However, because the dataset was designed as a panel dataset, the number of observations does not necessarily correspond with the number of respondents. Therefore, it would be impossible to judge how big an impact the deletion of the missing data could have on the analysis. This section will, therefore, analyse more closely the missing values. There are 50,304 observations in the sample of cohabiting mothers of one child who are between 20 and 40 years old. This corresponds with 21,424 women. It means that, on average, each woman participated on 2.4 waves. Out of these 50,304 observations, 1,644 observations

contain at least one missing value. These 1,644 observations are clustered within 1,103 women (5.2% of the sample).

The analysis of the missing data so far suggests that 1,103 women would be deleted from the sample. Nonetheless, the missing values do not have to be present in all waves in which these women participated. Further analysis revealed that only 393 women have missing values in all waves and will have to be deleted entirely (about 1.8% of the sample). The remaining 710 women had at least one missing value in one to five waves but have a full set of values in at least one wave they participated in the survey. Out of the 710 women, 604 will lose one wave of data, 74 will lose two waves of data, 26 will lose three waves of data, 5 women will lose four waves and only one woman will lose five waves. The number of missing values and the number of respondents that would have to be excluded from the sample is relatively low. It is, therefore, unlikely that excluding these cases from the sample would significantly affect the analysis.

8.4   Results

The analytical models in this chapter examine whether the 'genderising' characteristics of the birth-related leave influence the transition to second birth. The dependent variable indicates whether a woman had a second birth during the time she participated in the survey. The first analytical model tests hypothesis H4, and includes only the indicator of eligibility for any form of a birth-related leave. The second analytical model introduces the indicators of the duration of a birth-related leave, compensation rate for the time spent on leave, and flexibility in leave use. It simultaneously tests the hypotheses H5, H7 and H8. The last hypothesis requires interaction terms between the leave duration and compensation rate and will be tested in a separate analytical model.

8.4.1 Eligibility for a birth-related leave and the transition to second birth

The first model tests hypothesis H7, which predicts that the women who would be eligible for birth-related leave with their second child have a higher propensity to have child compared to their non-eligible counterparts. The estimated effect shows a positive association between the eligibility for birth-related leave and propensity to second birth but this association is statistically insignificant. It means that statistically, eligible mothers have the same likelihood of having a second child as mothers who would not be entitled to birth-related leave. The same outcome was found for the transition to first birth. The absence of the association does not necessarily mean that there is no relationship between birth-related leave policies and the transition to second birth. Instead, it might indicate that what actually matters is the design of birth-related leave. The individual characteristics of the birth-related leave policies will be examined in the following analytical models.

Table 8.2 Random intercept multilevel logistic regression model on transition to second birth.

Covariates	Model 1		Model 2	
	OR	Std. Dev.	OR	Std. Dev.
Eligibility to birth-related leave	1.0958	0.0818		
Leave duration				
0-26 weeks			1.2437**	0.1022
26-52 weeks			1.1150	0.1043
52-156 weeks			1	
156-204 weeks			1.0304	0.0932
Compensation rate				
0-33%			0.7943**	0.0597
33-66%			0.9786	0.0637
66-110%			1	
Flexibility				
Low			0.8809	0.3257
Moderate			1	
High			0.9286	0.2436
Control variables				

Married	1		1	
Cohabiting	0.7449***	0.0379	0.7474***	0.0379
Education - low	0.9236	0.0552	0.9294	0.0555
Education - middle	1		1	
Education - high	1.6785***	0.0801	1.7072***	0.0818
Working FT	1		1	
Working PT	1.0170	0.0573	0.9929	0.0565
Economically inactive	1.2375**	0.0813	1.1711**	0.0764
Unemployed	0.9098	0.0799	0.8461	0.0740
Student	0.6584**	0.1105	0.6294**	0.1053
Age at 1st birth	0.9489***	0.0060	0.9496***	0.0060
Partner's age	0.9731***	0.0047	0.9732***	0.0047
Partner is _not_ working	1		1	
Partner is working	0.9407	0.0939	0.9415	0.0937
Partner's earnings (log)	1.0429*	0.0199	1.0427*	0.0198
Unemployment rate	0.9865	0.0445	0.9995	0.0467
Use of childcare services amongst children under 3	1.0294***	0.0074	1.0287**	0.0090
Intercept	0.0158***	0.0075	0.0165***	0.0081

Random effects

σ^2_{u0}	1.1794	1.1614
σ^2_{u1}	.2817	.2888
AIC	26952.01	26971.39
n_1	42,133	42,133
n_2	22,591	22,591
n_3	27	27

Note: *** $p < 0.1\%$, ** $p < 1\%$, * $p < 5\%$

In regard to the estimated associations between the control variables and propensity to second birth, there is a considerable difference in the transition to second birth, compared to the transition to parenthood discussed in the previous chapter. First of all, the analytical model of the transition to first birth did not show any differences in the propensity to

parenthood among women with different educational attainment. In contrast, highly educated women appear to have higher propensity to second birth compared to women with lower educational attainment. Not only is the effect statistically significant, it also has notable magnitude. It shows that women with a university education are about 70% more likely than women with a lower educational attainment to have a second child. Above that, the analytical model of the first birth incidences also showed that fathers' employment is more important than their actual earnings. However, for the transition to second birth, the labour income of the fathers is actually more important than their employment. This may reflect the additional costs of another child, which might not be bearable for some couples, and result in the postponement of having another child or even having only one child. In other words, the stable income from the fathers' employment may not be sufficient for some couples when considering another child. This may explain the change in the significance level of the association between paternal labour income and the transition to second birth.

Apart from that, the availability of formal childcare facilities for children under the age of three was estimated to have a positive effect on the transition to second birth, as it also has on the transition to parenthood. The availability of formal childcare services is measured through a proxy that indicates the proportion of children under three who are enrolled in nurseries. It estimated that a 1% increase in this enrolment corresponds with a 2.9% increase in propensity to second birth. Therefore, women who live in a country with 72% enrolment have a higher propensity to second birth of about 161% than women who live in a country with 2% enrolment. The following subsection will look at the association between the individual factors related to the birth-related leave, and second birth incidences, and will also discuss the effects of the economic status, which is also expected to be related to being on a leave with the first child.

8.4.2   Duration and flexibility of birth-related leaves and the transition to second birth

The second model introduces individual birth-related leave characteristics – the leave duration, compensation rate, and flexibility in leave use. The analytical model reveals a negative association between the categories of leave duration, and the propensity to second birth (H8). It shows that women who would be entitled to a leave that is no longer than half a year have a higher propensity to transition to second birth, compared to women who would be entitled to a longer leave. Hypothesis H12 argues that women living in a country that enables them to combine work with birth-related leave have a higher propensity to second birth, compared to women living in a country with low flexibility. However, the analytical model did not find any support for this statement. Although in this thesis there is no hypothesis about the direct effect of the financial compensation for the transition to second birth, the analytical model showed a positive and statistically significant association between these two variables.

This chapter has introduced an additional hypothesis that relates to the birth-related leave associated with the first child. It argues that women who are on leave with their first child have lower propensity to second birth compared to mothers who have returned to the labour market. Since the EU-SILC did not collect information about being on maternity or parental leave as a part of the economic status for the years that are used in this analysis, a proxy measure was used instead. The proxy indicator of 'being on leave' is the category of economic status that indicates economically inactive mothers. The variable was already included in Model 1. The estimates of the first model suggest that mothers who are on leave with their first child have a higher and statistically significant propensity to second birth. This effect remains even when controlling for the characteristics of the leave. If the category of 'other inactive' is a reliable proxy for mothers who are on a childcare leave, the findings would indicate that women tend to space their births closer together and time the second birth whilst still on leave or shortly after the leave with the first child expires. However, the

effect can be also driven by stay-at-home mothers who left the labour market following the birth of their first child or were never economically active. To clarify this relationship, it would be necessary to use data that would clearly distinguish between these two categories. Using the proxy, the finding is in contrast with the hypothesised effect.

8.4.3   Financial compensation and the transition to second birth

The third analytical model tests hypotheses H9 – H11, which predict that the direction of the association between the financial compensation on the transition to second birth is dependent on the duration of the birth-related leave. The hypotheses are specified as follows:

> **H9**: Women entitled to high financial compensation and long leave have lower propensity to give birth, compared to women entitled to short leave with generous financial compensation.

> **H10:** Women entitled to low financial compensation and short leave have lower propensity to give birth, compared to women entitled to short leave with generous financial compensation.

> **H11:** Women entitled to low financial compensation and long leave have lower propensity to give birth, compared to women entitled to short leave with generous financial compensation.

The estimated effects of the control variables did not change, and so the Figure 8.1 includes only the interaction terms between leave duration and compensation rate. Model 2 found that the birth-related leaves that do not last longer than half a year are associated with a higher propensity to second birth. But the propensity to second birth did not differ between other duration categories (for the full model see Appendix 6). At the same time the low financial compensation for the time spent on childcare was found to be negatively associated with the propensity to second birth.

Figure 8.1 Estimates of the interaction between leave duration and compensation rate
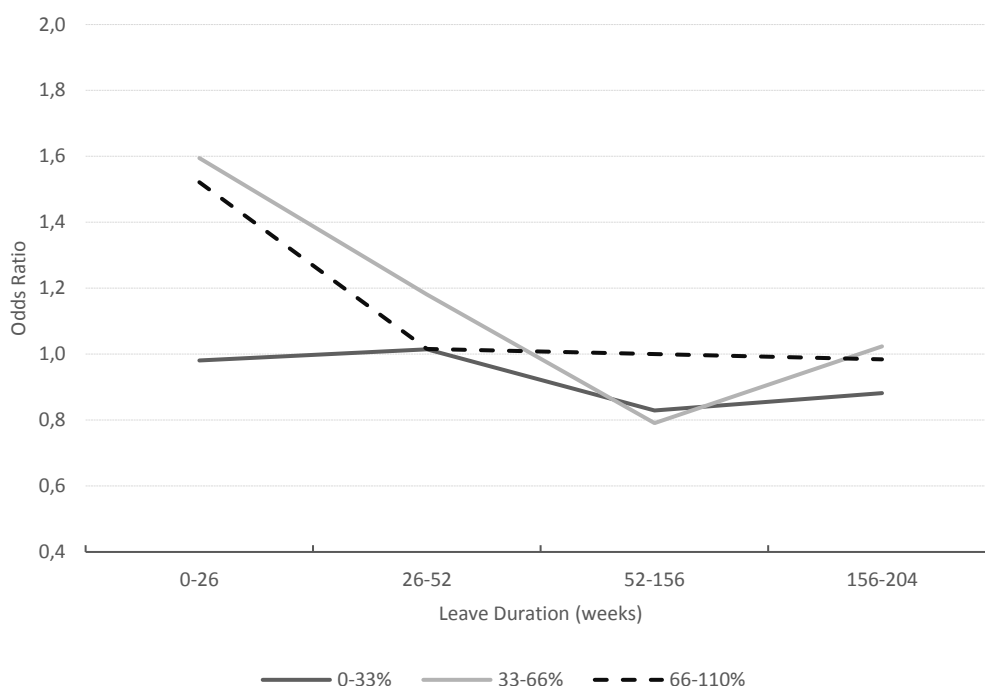
Source: Longitudinal EU-SILC 2004-2009, LP&R Annual Reviews 2005-2009, MISSOC 2005-2009, Multilinks Database 2004 & 2009

The analytical model found similar outcomes to those presented in the previous chapter. It shows that mothers entitled to long and generously compensated leave have lower propensity to second birth compared to mothers who would be entitled to the same financial compensation but considerably shorter leave. The hypothesis H7 was therefore supported by the data at hand. It shows that generosity in financial compensation cannot be automatically associated with a higher propensity to second birth. Similarly, mothers entitled to short leave do not have a higher propensity to second birth unless they are compensated for a larger share of their pre-birth income. The similarity in the estimated outcomes for the association between the birth-related leave characteristics and the transition to both first and second birth

points to an importance of birth-related leave policies in fertility behaviour among European women.

8.5   Conclusion

This chapter has extended the analytical models from the previous chapter on the transition to second birth. The separation of the analytical models for first and the second birth was largely driven by the potential difference in motivation of prospective parents to have first and to have a second child. Apart from that, the reasoning can be also built around the potentially differing effect of birth-related leave policy on the transition to first and second birth. While first-time mothers are likely to have some information about the support from the birth-related leave scheme from their social network, their information is also likely to be imperfect. In contrast, parents with one child are most likely to have very good idea about the support they would receive were they to have a second child, thanks to their direct experience with the support for their first child. It is therefore likely that their fertility decisions would be better informed than when they were deciding about starting a family.

In addition, the reason for separating the analysis by birth order also lies in the potential two-fold effect of birth-related leave policy on the transition to second birth. On one hand, being on leave with the first child can influence a mothers' decision to have their second child in any given time. It was hypothesised in this chapter that mothers who are still on leave with their first child will postpone their second birth for after they return to the labour market, in order to limit the negative effect of having a child on their career prospects. On the other hand, the anticipated leave the mother would take with their second child can also influence her decision to have another child. Until now, the potential two-fold effect of the birth-related leave has not been taken into account in fertility research. This chapter therefore contributes to our knowledge about the role of policy in the transition to higher order births.

The analytical models introduced in this chapter enabled the separation of these two effects. First, the effect of the use of the leave was measured through a proxy – the category of the economic status that groups economically inactive women. Because the economically inactive women represent the second largest group of the economic status variable and because the vast majority of the economically inactive women had a child under the age of three, we can be reasonably sure that these women use some sort of a birth-related leave. If the hypothesis regarding the use of leave with the first child was correct, we would expect a statistically significant and negative association between economically inactive women and their propensity to second birth in comparison with employed women. But the hypothesis was not confirmed by the data at hand. Instead, the analytical models revealed that regardless of the current economic status, the character of the support associated with another child is important for the transition to second birth. It indicates that the anticipated birth-related leave support for the second child is more important in the decision to have a second child than the actual use of the leave. The outcomes suggest that there is no statistically significant difference in propensity to second birth between working mothers and mothers that are still on a birth-related leave with their first child. It means that women on leave do not tend to return to their employment before having another child. However, if the anticipated leave for the second child is longer than half a year, and on top of that, their pre-birth income is not appropriately compensated, the likelihood of having another child decreases considerably.

The estimated association between the anticipated birth-related leave and the transition to second birth are in line with the findings presented in the previous chapter. The mothers who would be entitled to short birth-related leave following their second birth have a higher propensity to second birth, compared to mothers who would be entitled to longer leave. In contrast to the hypothesised relationship, the data did not provide any evidence of a direct association between flexibility in leave use, and the transition to the second birth. However, this does not necessarily mean that flexibility does not play a role in parents' decisions to

have another child. Its effect may be in fact indirectly channel through the leave duration and financial compensation. Unsurprisingly, the generosity of the financial compensation was found to be positively associated with the transition to second birth. Nonetheless, as was the case with the transition to first birth, the positive association between financial compensation and second birth incidences is not universal. The analysis revealed that the relationship between the financial compensation and the second birth differs depending on how it is combined with the leave duration. According to the results, women who are compensated for a large share of their pre-birth income and are entitled to very long birth-related leave in fact have considerably lower likelihood of having another child in any given year compared to women who would be entitled to generous financial compensation and short birth-related leave. This is in accordance with the hypothesised relationship that expected those birth-related leave policies that strengthen the traditional division of paid work between partners to negatively influence fertility behaviour.

Although the estimated results are robust, the analysis is subjected to several limitations. First of all, the use of economic inactivity as a proxy for use of a birth-related leave with the first child can be quite inaccurate. The author is aware of the limitation of this measure and for this reason has kept the original title of the category instead of alternative title 'on leave'. To eliminate or limit this imprecision, data which would allow the application of the data enriching process and at the same time distinguish women who are on a birth-related leave would have to be employed. The EU-SILC data has introduced this category in their questionnaire in 2010. This analysis would therefore benefit from use of the more recent data to assess whether the results correspond with these findings. Another limitation lies in the potentially imprecise imputed values on the birth-related leave entitlements that may have arisen from the lack of information about the type of employer (i.e., whether the women are employed in public and private sector) and the relatively short employment history (i.e., during the calendar year proceeding the year of the interview). Although the analysis uses a

longitudinal data it does not account for potential endogeneity problem which may arise from women's selection for specific type of jobs which can provide them with better birth-related leave support. To account for this problem, it would be necessary to use a cohort study, which would cover the whole life-course in a European comparison. Unfortunately, such a survey is not currently available.

IV. Appendix

Appendix 6. Random intercept multilevel logistic regression model on transition to second birth - full models 1-3

Covariates	Model 1		Model 2		Model 3	
	OR	Std. Dev.	OR	Std. Dev.	OR	Std. Dev.
Eligibility to birth-related leave	1.0958	0.0818				
Leave duration						
0-26 weeks			1.2437**	0.1022	1.5216**	0.2406
26-52 weeks			1.1150	0.1043	1.0157	0.1355
52-156 weeks			1		1	
156-204 weeks			1.0304	0.0932	0.9843	0.1183
Compensation rate						
0-33%			0.7943**	0.0597	0.8292	0.1165
33-66%			0.9786	0.0637	0.7909	0.1090
66-110%			1		1	
Flexibility						
Low			0.8809	0.3257	0.914	0.3479
Moderate			1		1	
High			0.9286	0.2436	0.9274	0.2504
Interactions						
0-33% * 0-26 weeks					0.7777	0.1582
0-33% * 26-52 weeks					1.2048	0.3016
0-33% * 156-204 weeks					1.0807	0.1866
33-66% * 0-26 week					1.3253	0.3765
33-66% * 26-52 weeks					1.4697*	0.2549
33-66% * 156-204 weeks					1.3153	0.2295
Control variables						
Level 1 covariates						
Age of the first child (income reference period)						
0		1		1		1
1	4.8310***	0.3837	4.8246***	0.3813	4.8085***	0.3808
2	8.3284***	0.7705	8.3216***	0.7637	8.2837***	0.7643

3	7.8555***	0.7955	7.8767***	0.7911	7.8526***	0.7936
4	7.2828***	0.7795	7.2942***	0.7755	7.2715***	0.7773
5	6.7358***	0.7584	6.7480***	0.7549	6.7363***	0.7575
6	4.3683***	0.5248	4.3820***	0.5240	4.3703***	0.5243
7	3.8633***	0.4853	3.8923***	0.4874	3.8968***	0.4893
8	3.2902***	0.4439	3.3189***	0.4467	3.3155***	0.4470
9	2.1493***	0.3306	2.1622***	0.3319	2.1593***	0.3317
10	1.6850**	0.2848	1.6974**	0.2865	1.6937**	0.2860

Level 2 covariates

Married		1		1		1
Cohabiting	0.7449***	0.0379	0.7474***	0.0379	0.7490***	0.0379
Education - low	0.9236	0.0552	0.9294	0.0555	0.9329	0.0557
Education - middle		1		1		1
Education - high	1.6785***	0.0801	1.7072***	0.0818	1.6936***	0.0813
Working FT		1		1		1
Working PT	1.0170	0.0573	0.9929	0.0565	1.0008	0.0571
Economically inactive	1.2375**	0.0813	1.1711**	0.0764	1.1991**	0.0901
Unemployed	0.9098	0.0799	0.8461	0.0740	0.8781	0.0835
Student	0.6584**	0.1105	0.6294**	0.1053	0.6294**	0.1053
Age at 1st birth	0.9489***	0.0060	0.9496***	0.0060	0.9496***	0.0060
Partner's age	0.9731***	0.0047	0.9732***	0.0047	0.9732***	0.0047
Partner is *not* working		1		1		1
Partner is working	0.9407	0.0939	0.9415	0.0937	0.9415	0.0937
Partner's earnings (log)	1.0429*	0.0199	1.0427*	0.0198	1.0427*	0.0198

Level 3 covariates

Unemployment rate	0.9865	0.0445	0.9995	0.0467	0.9995	0.0467
Use of childcare services amongst children under 3	1.0294***	0.0074	1.0287**	0.0090	1.0287**	0.0090
Intercept	0.0158***	0.0075	0.0165***	0.0081	0.0165***	0.0081

Random effects

σ^2_{u0}	1.1794	1.1614	1.1527
σ^2_{u1}	0.2817	0.2888	0.3067
AIC	26952.01	26971.39	26973.5
n_1 – time	32,458	32,458	32,458
n_2 – women	17,636	17,636	17,636
n_3 – country	27	27	27

Note: Statistically significant estimates on 5% level in bold.

9   CONCLUSION

The aim of the thesis was to examine the association between birth-related leave policies and fertility behaviour in Europe. It was particularly focused on whether expectations about the traditional division of labour between partners, which are embedded in some of the birth-related leave policy designs, could be responsible for lower fertility outcomes. Gender and the division of labour between partners has gained a prominent position in fertility research throughout the past decades. Despite this, the research that considers the role of the policy in shaping the gender relations, and consequently, fertility behaviour, is still limited. This is particularly true of comparative research and studies that consider the role of birth-related leave policies. This thesis addressed this gap in the literature and contributes to fertility research with insights from the social policy field. By doing so, this thesis introduced several contributions to the field of social policy and also to fertility research. The following sections will summarise the main findings and contributions of this thesis. It will then discuss its limitations and suggestions for future research.

9.1   Policy support - different realities for different woman

The conventional approach to the measurement of the association between birth-related leave policies and fertility behaviour can be characterised in two groups. The first approach represents research that makes use of survey data that contain information about the use of birth-related leave policies by participating women (Vikat 2004; Lappegård 2010; Duvander et al. 2010; Thomese & Liefbroer 2013). The other approach observes the fertility effects in the survey data and in aggregated data, accounting for policy as a contextual factor in both cases (Gauthier & Hatzius 1997; Luci & Thévenon 2011; Baizán et al. 2013; Harknett et al. 2014). However, both of these approaches have considerable limitations. The former can be

applied only to those women who are already mothers, and is therefore subjected to a selection effect. In other words, such approach does not take into consideration that policy design may have played a role in their decision to become mothers in the first place. Consequently, this research cannot provide answers to the question about whether birth-related leave policies may already have an effect on transitions to first births. Moreover, this approach requires the survey to collect information about whether the respondents have used some birth-related leave. This requirement considerably limits the possibility of conducting a large comparative research, as not all surveys collect such information.

The second approach, which includes policy as a contextual factor, uses macro-level indicators of the birth-related leave policies based on legislative rules. The most commonly used indicators are leave duration and replacement rate, or alternatively, full-rate equivalents that indicate the generosity of the birth-related leave support (ibid.). Although this approach can be used in the measurement of the association between birth-related leaves and the transition to first birth, it also contains considerable limitations. Application of this indicator in empirical research necessarily requires the assumption that all women living in the given country are eligible for the support from this policy scheme. In addition to this assumption, researchers also have to work with an assumption that all women are entitled to the same support in both absolute and relative terms. But when taking into consideration the complex rules which the birth-related leave policies consist of, this is a very unlikely scenario. Social policy research often turns to these macro-level indicators when comparing the welfare state support across countries (Smith & Williams 2007; Szelewa & Polakowski 2008; Ray et al. 2009). However, by doing so, this approach overlooks the stratification of welfare state support that was already pointed out by Gøsta Esping-Andersen (1990b). The slow advancement in this area left us with a lack of knowledge about the coverage of the individual social policy measures, and how well it corresponds with the needs of existing populations. Although we can deduce how many women and men are collecting support

from birth-related leave schemes, we do not know how large a share of the population would be in fact entitled to such support if they all were to give birth in a given year.

This thesis addressed this issue and created a new set of indicators of birth-related leave support using legislative rules and comprehensive survey data. The information about each woman participating in the EU-SILC survey was combined with the legislation that was in place in a given year and country, to identify women that would be eligible for support from the birth-related leave scheme, were they to have a child in a given year. This approach allowed me to estimate the share of the population that individual birth-related leave policies would apply to. Moreover, it allowed me to examine whether some social groups have worse access to the support than others. These are aspects of the welfare support that can be hypothesised, but until now have not been empirically tested. Apart from the identification of women who would be entitled to birth-related leave, the approach also allowed for the estimation of how long a leave each woman would be entitled to, and also what their birth-related leave benefits look like. This latter information was then used to calculate a personalised compensation rate – an indicator that shows how much the women's ("labour") income would change were they to have a child. Thanks to the use of survey data, it was possible to take into consideration the minimum and maximum thresholds imposed on the benefit payment, and also to compare the flat-rate benefits to the real labour earnings, which until now was not possible.

This approach to the measurement of the birth-related leave policies provides new and comprehensive knowledge about the distribution of the policy entitlements within and across societies. This approach is also capable of capturing the stratification of the policy support (demonstrated in Chapter 5), which was not previously possible on so many countries. As such, the alternative measurement of the birth-related leave entitlements represents a considerable contribution to the field of social policy. By introducing a measure of policy support as a personalised value for each woman, it was possible to estimate whether and how

these policies are associated with fertility behaviour. Moreover, by disentangling the eligibility for a leave scheme from the entitlements to leave duration and financial compensation, it was possible to examine which of the birth-related leave aspects play a decisive role in fertility behaviour, and whether it is the various dimensions combined that is important for the prospective mothers. Such analysis is unique in the context of welfare state and social policy research. It rejects the dominant understanding of context as an independent macro-level entity that is common for each individual living in the same country or region. Instead it argues that context does not necessarily have to mean the same thing for each individual. It points to the complexity of the social policy designs that influence different people differently and therefore creates distinctive conditions for each individual and family. The method introduced in this thesis captures the variability in the policy designs and shows what the context actually means for each woman living in the same country and how the support varies across countries for women with identical characteristics.

The method builds a bridge between macro- and micro-levels that, until now, were considered as two separate and distinct analytical viewpoints. It transforms the policy context from a static and distant body into a fluid reality for every individual. This opens up new research opportunities for investigating the welfare state support for various risk groups such as lone mothers or people with precarious and unstable employment history. It helps to specify the impact of the policy on people with different socio-economic backgrounds, test whether such policy brings the intended outcomes or whether it introduced adverse consequences or is associated with positive externalities. Moreover, the method allows easy application of a policy design from one country to population from another country to project and estimate the consequences of transferring one policy into a different context. This form of analysis is currently promoted by EUROMOD but their estimates work primarily with data from benefit recipients. Another advantage of the method of policy

measurement is that it allows to differentiate between the effects of individual aspects of the policy measure and target the weaknesses in the policy rather than introducing complex reforms. It also enables the simple projection of potential changes in the policy measures and estimations of how alternative reform proposals would influence conditions of individuals and families. It is therefore valuable to policy-makers.

This method also introduces a lot of new opportunities for fertility research and for the field of social demography in general. The thesis introduced a unique analysis of policy effects on the transition to first birth. The identification of leave entitlements allows the estimation of how the situation of childless couples would change were they to have a child. This was used as a predictor of the timing of the first birth. Such analysis was previously unthinkable because following the policy effect for each individual was possible only with transition to second and higher order births because it requires actual use of the policy. Introducing the policy context on the individual level allows examination of whether a policy can influence the timing of the transition to parenthood and which individuals and couples are most affected by the policy constellation.

9.2 Introducing policy stratification into gender theories of fertility behaviour

The thesis works with theories that explain the fertility variation across European countries in terms of changing gender roles and the position of women on the labour market. Both the gender equity theory and the multiple equilibria hypothesis are both relatively new theoretical approaches that are still in a process of formation and refinement by their authors. The shift in their concepts and presentation can be seen, for instance, in the work of Peter McDonald published between 2000 and 2013 (McDonald 2000a; McDonald 2000b; Mcdonald 2013), or in the book, *The Incomplete Revolution,* published in 2009 by Esping-

Anderen, and his recent work published in collaboration with Francesco Billari (Esping-Andersen 2009; Esping-Andersen & Billari 2015). The multiple equilibria hypothesis in particular works with arguments that were extended in this thesis.

The multiple equilibria hypothesis argues that the welfare state support has a potential to facilitate the diffusion process of gender egalitarian norms from the population of highly educated women, to women with lower educational attainment. By doing so the adoption of the gender egalitarian norms in such societies will be faster and so will the increase in fertility rates towards the population replacement level. However, the arguments introduced in this thesis pointed to the potential inability of certain policy designs to act as catalysts of gender egalitarian norms. The argument put forward by the multiple equilibria hypothesis predicts that the policy support is not stratified, and all women have access to a particular policy scheme. But the results presented in chapter 5 have shown that such an assumption is not necessarily accurate. The diffusion of the gender egalitarian norms throughout the society is therefore not determined only by the character of the policy (i.e., whether it supports gender egalitarian behaviour) but also whether the policy entitlements are based on universal principles or not. In line with the multiple equilibria hypothesis, we could therefore expect that the diffusion process will be slower in countries where the policy promoting gender egalitarian behaviour is not available to everyone. This conceptual extension of the multiple equilibria hypothesis therefore suggests that it is not sufficient to understand the general level of policy support within a country in order to understand fertility behaviour, but to also account for the stratification of that policy support.

Both the gender equity theory and the multiple equilibria hypothesis are presented as macro-level theories that aim to explain processes behind fertility behaviour and other family outcomes. However, their arguments suggest that both the theories have a multilevel character. Unfortunately, the multilevel character of the theories has not yet been explored and developed. This thesis has attempted to address this issue and point to some aspects of

the theories that should be taken into account. Since the theories are relatively young and not fully developed yet, the analytical approach to testing their hypotheses is considerably limited. As a consequence, the empirical analysis presented in this thesis does not only test the main arguments but also the suggested extension to these theories which sees policy as shaping and framing the decisions of individuals in unique and individually specific ways. However, the thesis is working with their arguments and applying them on very short period of time that does not allow to fully test the presented arguments.

9.3   Can birth-related leave policies be associated with fertility behaviour?

The previous two sub-sections summarised the main contributions of the thesis but they only brushed over its empirical contribution. It has already been mentioned that the empirical findings revealed that the entitlements to a birth-related leave are indeed stratified. The analysis also found that the main source of stratification in the birth-related leave entitlements are the eligibility conditions for the birth-related leave scheme as such. Nonetheless, this is true only for the financial compensation for the time spent on leave, since the leave duration does not tend to vary across educational categories. The findings revealed that when taking into account only those women who would be eligible for a birth-related leave, the women with low educational attainment would be entitled to the most generous financial compensation in many countries. In the remaining countries, the stratification is not as prominent. In none of the countries studied were women with lower educational attainment entitled to financial compensation that would be smaller than that of their counterparts with higher educational attainment. However, this is not true when taking into consideration the eligibility conditions which determine who is eligibile to the support from the birth-related scheme. This is because the countries where a woman needs to be economically active or employed, and in many cases also have some employment history, would provide support to only a small proportion of women with low educational attainment.

In these countries, the highly educated women have the highest chances to be covered by the birth-related leave policies. Consequently, policy stratification is stronger in those countries that do not provide universal coverage. Moreover, the protection of women with low educational attainment is considerably worse in these countries than for women with the same level of education who live in countries with universal coverage. By extending the policy coverage to the entire population, the countries could expect a response in form of a more egalitarian division of labour, and arguably in fertility outcomes as well.

Another empirical contribution brought in by this thesis is the application of the personalised values of birth-related leave entitlements in an analytical model that observes the association between the policy support and the transition to first birth. To the author's knowledge, this is the first attempt to measure policy support on an individual level among childless women. This approach allows us to go into greater depth with regard to the policy structure and determine which policy characteristics are more important for fertility behaviour or whether the particular composition of the leave design is detrimental or supportive for transitioning to parenthood. This approach also allowed us to construct more specific hypotheses regarding the genderising aspects of the birth-related leave designs. The empirical outcomes revealed that the leave duration tends to be negatively associated with the propensity to first birth and the generosity of the financial compensation has a positive effect on the propensity to first birth. However, the analytical models also revealed that the effect of the financial compensation is dependent upon the leave duration. The generous and very long leave, which is also hypothesised to be a design that is the strongest supporter of the traditional gender division of labour, is associated with the lowest propensity to first birth. In contrast, childless women who would be entitled to generous but short leave have the highest propensity to motherhood. In contrast to the hypothesised relationship, the analytical models did not find any association between the flexibility in leave use and transition to first birth.

Similar outcomes were found in the chapter that examined the association between the birth-related leave entitlements and the transition to second birth. The leave duration was found to be negatively associated with the transition to second birth and the financial compensation for the time spent on leave was estimated to be positively associated with the transition to second birth. Moreover, the interaction term between the leave duration and financial compensation showed a similar pattern to the first birth, although not as prominent. In general, short and generous leave was found to be positively associated with the transition to second birth, when compared to long and generous leaves. However, the flexibility in leave use did not show any association with the transition to second birth. Overall, the findings support the theoretical arguments of gender equity theory and the multiple equilibria hypothesis in that a policy promoting maternal employment is associated with higher fertility outcomes. These findings shed light on the interaction between leave duration and financial compensation. They demonstrate that the generous financial compensation alone is not necessarily supportive of fertility behaviour. Instead, it can be detrimental when combined with long birth-related leave, which prolongs women's detachment from their employment and the labour market more generally.

9.4   Limitations and suggestions for future research

The outcomes of the thesis are subjected to several limitations. The way the individual birth-related leave entitlements are represented is one set of limitations. The main limitation lies in the lack of information about the maternity and parental leave legislative rules in some of the countries, or in some of the years during which these countries participated in the survey (for more detail see chapter 4). The EU-SILC dataset does not indicate whether the respondents are working in the public or private sector. This is a certain limitation especially in those countries that provide different support for their citizens depending on the sector they are working in. In these countries it was assumed that all of the survey participants were

working in the private sector. Extending the EU-SILC database to include an employment sector indicator would make the estimates of the birth-related leave entitlements more precise. This would also shed more light on other forms of welfare support stratification.

It is also important to bear in mind that the estimates of the birth-related leave entitlements refer only to the statutory entitlements and do not take into account the potential welfare support provided by the employer. Unfortunately, the EU-SILC data does not provide any information about the maternity or parental leave support that would be provided from the employment contract. This issue therefore could not be taken into account and was omitted from the research. However, the issue of private welfare support could be very relevant for research such as this one. This is because the occupational benefits are likely to be available primarily to highly educated women, which contributes to the stratification of the welfare support.

Another issue, which could influence the estimated values of the birth-related leave entitlements, is concerning the estimation of the maternity and parental leave benefits. The weighted value of the benefits was used in those countries where the financial compensation decreases over time. For instance, if women would be entitled to a year-long leave but were compensated only for the first 6 months, their financial compensation was calculated as an average monthly benefit over the period of 12 months. Taking the progressive character of the financial compensation into account may provide more accurate estimates of the association between the birth-related leave entitlements and propensity to first and second birth. This issue should therefore be tackled in future research.

With respect to the empirical analysis, men's birth-related leave entitlements were completely excluded and the focus remained only on women. However, birth-related leave availability to fathers and their greater participation in childcare and housework was hypothesised to have a positive effect on the fertility behaviour (see chapter 2). The decision

of excluding men from the analysis was made for the lack of adequate space in this thesis for developing the theoretical arguments and conducting the empirical analysis. Nonetheless, this issue should be addressed in future research. Special attention should be paid to the fathers' entitlements to paternity and parental leave, and to a distinction between individual transferable rights to leave and individual non-transferable rights to leave. Particularly their association with financial compensation for the time spent on leave and the leave duration can represent a considerable advancement in our understanding of fathers' motivation to use their entitlements to a birth-related leave. A considerable extension would also be to analyse the couple's dynamics and differences in the birth-related leave entitlements and how they associate with the couple's fertility behaviour.

Another limitation in the analytical process is the focus only on the birth-related leave policies and aggregated values of childcare. A study of the complementarity between the birth-related leave policies and support for childcare facilities could provide further insight into the state support of gender egalitarian norms. A considerable advancement would be to apply information about the use of childcare by individual parents on an individual level, especially in analysing high order births. The EU-SILC dataset holds such information but only in its cross-sectional data collection. More information on the childcare supply, such as opening hours or the number of childcare facilities on a regional or municipal level, would also help to better specify the role of the policy support in fertility behaviour. Moreover, including other entitlements to support for families with young children, such as child benefits or baby bonuses, would add complexity to the empirical analysis. It would therefore be beneficial to extend the data enriching method to these additional policy supports. Another way to improve the existing empirical analysis would be linking the micro-level analysis with the macro-level outcomes, to estimate how big an effect birth-related leave policies may have on the overall fertility rates.

Despite these limitations the thesis has shown that the support from the birth-related leave schemes is stratified within and across countries. This provides empirical evidence that not all women are entitled to the same policy support despite living in the same country. The policy stratification is apparent mainly in the financial benefits. Amongst women that would be eligible for a birth-related leave if they had a child, women with low educational attainment would be entitled to higher financial compensation compared to women with high educational attainment. The thesis however confirmed that there is a clear divide in the form and extent of the policy stratification depending on the birth-related leave design. Countries that base their eligibility conditions around economic status and working history clearly disadvantage prospective mothers with low educational attainment. Their insecure and unstable position on the labour market are most likely the reasons why only small proportion of these women would meet the eligibility conditions.

The thesis has also shown that the birth-related leave support is associated both with the transition to first birth and transition to second birth. Moreover, the analysis has revealed that being eligible to a birth-related leave scheme by itself is not necessarily relevant for the fertility behaviour. Instead, the duration of the leave and the financial compensation are better indicators of the fertility outcomes. The empirical results confirmed that birth-related leave designs that promote a traditional division of paid labour are associated with lower propensity to have a child. This is particularly the case of birth-related leave that exceed one year. The analysis has also shown that the financial compensation for the time spent on a birth-related leave does not have a straightforward relationship with the fertility behaviour. Instead, the financial benefits appear to moderate the strength of the association between the leave duration and transition to first and second child.

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