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A Cross-National Perspective on Unemployment and First Births

Abstract

This article investigates the impact of unemployment on the likelihood of having a first child. Using micro-data from the European Community Household Panel (ECHP), I apply event history methods to analyze first-birth decisions in France, West Germany, and the UK (1994-2001). The results highlight weak negative effects of unemployment on family formation among men, which can be attributed to the inability to financially support a family. Among women, unemployment exerts a positive effect on the propensity to have a first child in Germany and the UK, where institutional settings aggravate work-family conflicts. Unemployment increases the likelihood of family formation among women with a moderate or low level of education. This does not, however, generally apply to French women or to highly educated women in Germany and the UK, who, when unemployed, favour a quick return to work over motherhood.

Keywords: fertility, first birth, cross-national comparison unemployment, welfare states.

JEL Classification: J13, J24, J64, C41

1 Introduction

With the advent of the second demographic transition, fertility plummeted below replacement levels in almost all industrial societies. A key factor in this fertility decline appears to lie in the relationship between women's rising labour market participation and the persistent traditionalism of gender roles and caregiver norms. The resulting work-family conflicts reflect the extreme difficulty women face in finding time for both family formation and labour market participation (Hobcraft and Kiernan 1995).

In this context, unemployment is a potentially fruitful area of research since it affects both time budgets and economic security: Unemployment can reduce the opportunity costs of parenthood and free up time for childrearing. At the same time, unemployment exacerbates economic hardships and undermines the individual's capacity to support a family. Starting from these basic as-

sumptions, the study at hand aims to analyse male and female fertility decisions for *first* births¹ under unemployment in a cross-national comparative perspective.

Previous studies on this topic can be divided into two groups: The first focuses on the impact of *individual* unemployment, the second on the impact of *aggregate* unemployment. From the latter perspective, men and women are more likely to postpone or abandon fertility plans when facing high unemployment rates and bleak economic prospects. A large body of literature emerged out of the Butz and Ward (1979) model and the Easterlin Hypothesis (1976), but has not succeeded in producing convincing evidence linking fertility outcomes to economic cycles. More recent studies have found a slightly negative effect of higher unemployment rates (Adsera 2011 and Kravdal 2002). However, studies focusing on aggregate economic indicators such as the unemployment rate are not capable of analyzing how the positive effect of unemployment on opportunity costs, due to price-of-time effects, translates into individual fertility choices.²

The study at hand shares its micro-level focus on unemployment and fertility with what has now become a broad body of research. However, most of the previous studies were conducted on a national or sub-national level and only few investigate both female and male fertility decisions. Liefbroer and Corjin (1999) found that among young adults in the Netherlands and Flanders, unemployment hampered the transition to fatherhood but promoted first births among women. Hoem (2000) reported low first birth rates among Swedish students, but no distinct effects among the unemployed during the period 1986 to 1997. In a more general study, Andersson (2000), identified a positive effect of unemployment on first-birth risk among younger Swedish women (aged 20 to 30). Based on Norwegian register data, Kravdal (2002) found that unemployment episodes diminish the transition to second and higher-order births, while having a weak positive impact on

¹ I focus on *first* births as this transition implies a much more fundamental life course change—requiring more careful consideration of contextual factors—than the choice to have subsequent children (Hobcraft and Kiernan 1995).

² The mentioned studies consider the impact of individual unemployment but lacked a comparative perspective, with Kravdal (2002) focusing on Norway, and Adsera (2011) using pooled data from 13 European countries.

first motherhood. The same study noted a strong negative fertility effect among men across all birth parities. Focusing on Finland, Vikat (2004) produced results showing a weak positive correlation between unemployment and individual fertility among younger women below 30. Among women 30 years or older, however, the relation was negative, albeit weak.

In a study on Germany, Kurz, Steinhage, and Golsch (2005) confirmed the gender differences in the impact of unemployment as found in the studies for Norway and the Netherlands, with unemployed women showing a higher likelihood and unemployed men a slightly lower likelihood to have a first child. Tölke and Diewald (2003), also confirmed this negative impact of male unemployment in Germany. Distinguishing between East and West Germany, Kreyenfeld (2000) reported a pronounced increase in the entry rate into motherhood beyond short-term unemployment. In a subsequent study focused on two East German cohorts, Huinink and Kreyenfeld noted a positive effect of unemployment on family formation, but stressed that “employment uncertainties do not generally contribute to a postponement of fertility” (2004: 28).

Comparing French and British female birth cohorts from the 1950s, Ekert-Jaffé et al. (2002) note that French women who were economically inactive had an increased likelihood to have a second or third child, and that the same was true of economically inactive British women with regard to first birth transition³. A similar point was stressed by Meron and Widmer (2002), who—with a focus on the 1952 to 1973 birth cohorts—reported that French women tend to delay the transition to first birth when facing individual unemployment. The findings by Adsera (2011) show a marginally positive impact of female unemployment on *second* births. Her analyses are based on a pooled sample of 13 European countries, which makes it difficult to delineate the impact of specific welfare state orientations. In a study on Austria, Del Bono, Weber and Winter-

³ However, these results should be interpreted with caution, since at least some of the economically inactive women had never been in work, and thus differ from unemployed women in their labour market attachment.

Ebmer (2012) found similar results suggesting that job displacement after firm closure persistently *reduced* fertility among both women and men. However, closer investigation revealed that the negative impact among women was limited to white-collar workers with high human capital investments.

The majority of the studies in this area focus on *female* fertility transitions made in unemployment. Among the few exceptions that consider the impact of male unemployment are the works by Tölke and Diwald (2003), Witte and Wagner (1995), as well as the studies by Kravdal (2002) and Del Bono et al. (2012). Effects of unemployment duration are considered only by Kreyenfeld for Germany (2001) and by Kravdal for Norway (2002). Moreover, cross-nationally comparative research based on micro-data remains rare with the exceptions being an ECHP based investigation by Golsch (2004), and a study by Ekert-Jaffé et al. (2002).

The study at hand aims to both extend and unify the perspectives of the studies cited above. To this end, I combine three key elements of the aforementioned investigations: First, I assess the specific impact of joblessness on fertility, distinguishing between economic inactivity and unemployment, as well as the duration of unemployment. Second, I consider a differential impact of male and female unemployment, as breadwinner expectations and caregiver norms are likely to exacerbate gender inequalities, thus producing differential impacts on fertility choices. Third, I use a cross-nationally comparative design to examine the role of differences in breadwinner and caregiver norms as well the role of country-specific institutional frameworks.

In line with this focus, the analysis addresses two central research questions: *first*, how do different institutional orientations and labour market conditions affect individual rationales for starting a family during unemployment? *Second*, how do these institutionally embedded (dis)incentives create differing rationales in men and women; that is, what are the gender-specific effects of unemployment on the transition to parenthood? In order to address these questions, I

compare microdata from welfare states of France, Germany, and the UK, which represent a variety of institutionalised gender role expectations, and labour market conditions predominant in industrialised countries. The empirical investigation is based on data from the European Community Household Panel (ECHP), which combines the rare advantages of a widely harmonised dataset with the possibility to use event history methods.

I will start in the next section with a general action theory perspective on rational actors, focusing on the gender differences that define the work-family nexus in industrialised countries. This will lay the foundations for the comparative framework that will be presented in Section 3 to examine how institutional variations in Germany, France, and the UK might affect the relationship between unemployment and fertility choices. Section 4 will present the methodology used in this study, followed by a discussion of the multivariate findings.

2 Fertility Decisions under Unemployment – Micro-Theoretical Considerations

Work and Family as Competing Life Domains

A starting point for the following discussion is the assumption that the desire to have children is a common life goal in modern societies. Parenthood, like gainful employment and a successful career, provides social approval and physical wellbeing. From the perspective of social production functions, family formation and gainful employment represent two alternative means of attaining these universal life goals (Lindenberg 1991). Yet the desire to have a child is generally rooted in immanent values, making it difficult to replace this goal completely with alternatives. The picture presented above addresses two central points. First, becoming a parent and investing in a career are choices that compete for limited time budgets. Second, having a first child requires a sound financial basis, which gainful employment provides. Unemployment limits the ability to provide

for a (future) family. Simultaneously, unemployment drastically diminishes the opportunity costs of parenthood, and parenthood offers an alternative means of gaining social approval.

A Gender Perspective on Unemployment and Family Formation

If we are to interpret a person's wages as an indicator of the value of his or her time, then unemployment or bleak labour market prospects will reduce the price of time required for childcare. Ignoring the income loss resulting from unemployment for a moment, job loss should thus have a positive impact on the transition to parenthood due to reduced opportunity costs of the unemployed partner who can specialise in the homemaker role. However, "...for a number of products and services, market prices alone do not provide sufficient information on their theoretically relevant opportunity costs [...]" (Mincer 1963). That is, in the case of male unemployment, there are limits on the extent to which the father can take over the responsibilities of childcare. The mother's quick return to work can be facilitated by the father taking on a larger share of parental obligations. But since some tasks, such as breastfeeding, can only be carried out by the mother, the father cannot take on full responsibility, especially in early infancy. Indeed, childbearing always requires an at least temporary absence from the labour market for the mother. However, when the father is unemployed and the (to-be) mother is the sole income-earner, *her* temporary exit from the labour market is likely to conflict with the need to maintain the family's economic autonomy. Hence, unemployment reduces the opportunity costs of parenthood for women, while this effect is of subordinate relevance for men. Moreover, in countries such as Germany, where a male breadwinner model predominates, the negative social impacts of paternal unemployment may entirely outweigh any reduction in opportunity costs.

It should be taken into account that some women deliberately choose to become economically inactive or unemployed prior to family formation – for example, to focus on the homemaker role in preparation for motherhood. The potential curtailment of unemployment benefits and loss of

job reinstatement rights are likely to discourage voluntary labour market exits prior to childbirth. Yet a woman's decision to focus on the homemaker role prior to family formation may be driven by the gender roles prevalent in her society. Hence, the possibility that labour market exits are voluntary needs to be considered in the discussion of the empirical findings below.

Duration Effects of Unemployment

Aside from gender differences in educational attainment and the resulting occupational aspirations, there are additional factors that mediate how unemployment affects fertility choices. A higher level of educational and vocational skills translates into a higher earning capacities and increased career options. However, human capital endowments tend to deteriorate with the duration of labour market absence (Mincer and Ofek 1982). "The longer a woman would be out of the labour force, the greater a loss she would incur in terms of skill degradation and lost opportunities..." (Gauthier and Hatzius 1997: 296). In this sense, the negative impact of human capital depreciation is more pronounced among highly skilled professionals who have invested heavily in their skill endowments (Del Bono et al. 2012). For both women and men, quick re-entry into the labour market is imperative: It prevents women from becoming trapped in a homemaker role (Ott 1995) and prevents men's role as earners from being undermined. However, in societies that offer little compensation for the high opportunity costs of parenthood, having a child while being unemployed and the opportunity costs are low may outweigh the depreciation of one's human capital. This may apply especially to women with a lower level of education. For women with a higher level of education, a quick return to employment may be favourable to avoid further depreciation of their human capital (Happel et al. 1984). In this context, unemployment and the concomitant skill loss among men primarily signals a decline in the ability to support a family, especially when assuming a generally lower level of paternal involvement in childcare.

However, the assumed causality of unemployment affecting childbearing decisions may also be reversed, when fertility plans affect the length of an unemployment episode. This might be the case, when a person planning to have a child in the near future is more likely to reject certain types of work (jobs requiring family relocation or travel, or jobs that are strenuous or hazardous). Moreover, a woman's employability may suffer if employers anticipate that she has near-future fertility plans (Del Bono et al. 2012). However, individuals with fertility desires could also be compelled to accept even less attractive job offers in anticipation of family formation. This might be relevant for men who want to comply with breadwinner norms or for women who want to profit from reinstatement rights or maternity benefits, which require an existing working contract.

3 Cross-National Comparison of France, Germany, and the UK – Institutional Orientations and Labour Market Behaviour 1994-2001

The following section will extend the micro-theoretical framework with a cross-national comparison of France, Germany, and the UK. These countries share similarities as well as important differences in social stratification, the containment of risks, and gender inequalities (Esping Anderson 1990, 1999, 2009; Sainsbury 1996; Daly 2000; Orloff 2009) that can help to understand the mechanisms linking unemployment and fertility choices. The UK is a liberal welfare state, with a highly deregulated labour market, and combines a basic level of protection against economic risks such as unemployment with strong work incentives for both men and women. Entitlement to welfare support in the UK is restrictive, means-tested, and aimed only at the most severe hardships. France and Germany, in contrast, represent two distinct types of corporatist conservative welfare states providing generous protections against a broader array of risks (Esping-Andersen 1999). A key characteristic of these welfare regimes is a high level of labour market regulation, extensive employment protection, strong support for families, family-centred cash benefits, and tax relief.

Beyond this, the two welfare states are characterised by institutional support for the nuclear family, welfare support that is frequently conditional on previous labour market status, and a high level of market coordination that tends to widen the chasm between jobless individuals and a well protected workforce.

Labour Market Participation in France, Germany, and the UK

Although France and Germany appear to be similar in their orientation on the conservative welfare state, they differ in key respects, namely, in the integration of women into the labour market and in the incentives and disincentives that structure the sexual division of labour. Scholars have linked these differences to the fundamental gap in fertility rates between these countries, with Germany representing the lower and France representing the upper boundary in the span of fertility rates across Europe (Fagnani 2007). The following investigation of the relationship between unemployment and fertility focuses on this intersection between the encouragement of labour market activity and the prevalence of traditional caregiver roles across the three countries.

Part of the story behind the striking differences in fertility behaviour across the three countries under examination here lies in the deeply rooted tradition of female labour market participation in France and the broad accessibility (and wider acceptance) of publicly provided childcare there. A glance at female labour participation rates confirms this picture: While female labour participation in both Germany (63%) and France (62%) is slightly lower than in the UK (67%), Germany has a substantial share of female part-time employment (51%; France 41%; UK 27%) (OECD 2011; average values 1993-2001, persons aged 15-64). Male part-time employment is negligible in all three countries, while overall labour market participation rates of men (Germany: 73%, France: 79%, and the UK: 82%) far exceed those of women. This first look at the three countries' labour markets shows that British women are most closely attached to the labour market, surpassing France and especially Germany, both of which show high rates of female part-time employ-

ment. The impression of superior labour market integration among British women, however, provides an incomplete picture, as suggested by male-female income differences and a series of further indicators.

In the three countries, France showed the smallest gender wage gap during the period 1994-2001, amounting to a 13% male-female earnings differential. The wage gap was substantially higher in Germany (21%) and the UK (24%, Eurostat 2012). Importantly, the income differential is not only the result of unequal pay between men and women in similar jobs, but also reflects the extent of gender segregation in labour markets due to the higher share of women in professions with lower pay as well as the higher incidence of career breaks for women (Blau and Kahn 2000). Childbirth is a major cause of such career interruptions, and the incentives provided by a country's welfare system to either encourage caregiving or the return to work (e.g., by making child-care affordable and widely available) affects the opportunity costs of parenthood. In France, mothers with small children are employed at a slightly higher rate (66%) than in the UK (62%) and Germany (60%; age 20 to 49 with dependent children under 12; Eurostat, 2005). Moreover, a significant share of working women in Germany (35%) and the UK (36%) only manage to combine motherhood with part-time employment, further distinguishing these countries from France (18%). Additionally, the incompatibility of work and motherhood and the limited assistance of the British and German welfare state in reconciling these roles exacerbate occupational sex segregation. Accordingly, in the UK and Germany, women are more integrated into labour market segments where the tasks resemble and are compatible with domestic tasks in general and with childrearing in particular (Charles and Grusky 2004; Soskice 2005: 173).

In contrast to women, men rarely experience career interruptions in the transition to parenthood. Less than 2% of the fathers in France, Germany, and the UK took advantage of paternal leave during the 1990s (Bruning and Plantenga 1999; Haas 2002). In fact, at the onset of the new

millennium, the employment rate of fathers in all three countries exceeded that of men without dependent children (Eurostat 2005, men aged 20 to 49 in 2003). This is due to a lack of institutional measures encouraging men to take on primary responsibility for early childcare, and is also related to social norms assigning the caregiver role to women and the breadwinner role to men. These traditional gender role expectations are still prevalent in the UK, and are even more pervasive in Germany (Crompton and Lyonette 2006).

Work-Family Conflicts and the Welfare State

Among women, Germany reinforces traditional gender roles through the provision of family subsidies, whereas France, with its tradition of laicism, reinforces the ideal of the working mother through generous provision of high-quality public daycare (Fagnanai 2007). A similar tradition of extensive childcare provision is also seen in the British preschool system and boarding school system and the high prevalence of boarding schools there. Yet the high costs of the largely privatised childcare supply in the UK results in a continuity of traditional gender roles in the family domain (Lewis 1992; Daly and Rake 2003). This encouragement of maternal care is counteracted by the restrictive system of social support, which requires couples to mitigate economic risks through a dual-earner model. Accordingly, the strong labour market attachment of British women is due more to economic constraints than to the welfare state's philosophy of fostering female economic autonomy and career-family compatibility.

A similar shortage of public childcare exists in West Germany, where maternal childcare remains the norm. Fagnani notes that "There is still a widespread and strong belief in the merits of maternal care and the majority of women remain reluctant towards outside full-time care" (2007: 53). This statement does not, however, fully apply to East Germany. The former Socialist system, with its focus on female employment, introduced a departure from the ideal of the female sole caregiver, and its legacy has left the region with a higher number of childcare institutions. Hence,

the GDR shared more similarities with the current French state in encouraging the combination of career and motherhood than it did with the West German system, which reinforces the model of maternal care. Many of the institutional regulations in the GDR are still reflected in persistently different childbearing behaviour and strong female labour market attachment in East Germany (Schmitt et al. 2010). For this reason, the empirical analysis will restrict its focus to West Germany, the heartland of the conservative German welfare state.

>Table 1: Leave Regulations and Family Subsidies 1994-2001 about here<

In West Germany, which is home to more than 80% of the German population, the rationing of childcare together with the generous maternal leave policies and reinstatement rights in place during the period of observation, 1994-2001, encouraged a maternal retreat from the labour market. No major change in German family policies was made until 2007, when a parental leave reform, *Elterngeld*, was introduced to promote maternal labour market attachment by offering 2/3 income replacement scheme as well as the option for fathers to take paid parental leave. Until then, parental leave benefits amounted to a mere €307 per month for the two years following birth, but were available regardless of labour market status. However, regulations like *Ehegattensplitting*, a tax incentive that encourages a single-earner model, still underscore the impression that German policy continues to reinforce a traditional division of labour.

In France, the 1985 introduction of the *Allocation Parentale D'Education* (APE) – a generous parental leave programme that offers significant benefits for third and subsequent children (and since 1994 for second children as well, but none for the first child) – serves as a good example of the French welfare state's pro-natalist orientation. These policies have widely supported French women to balance motherhood and a career. However, gender equity is not a key goal of French welfare state and the division of labour within the home remains fairly traditional, as is the case in Germany and the UK as well (Crompton and Lyonette 2006). This is underscored by a very small

percentage of men taking parental leave, rendering domestic childcare primarily a female domain in all three countries. During the period of observation, France was the only one of these countries to encourage paternal involvement in childcare by offering paid paternity leave after childbirth (Table 1). In the UK, paternity leave was introduced in 2003 (European Commission 2011). Germany still lacks the option of paid paternity leave following childbirth.

However, the key difference among the three countries lies in the extent to which the welfare state still maintains a view of the mother as *sole* care provider. France stands out as the country that has gone furthest in promoting flexible working hours, offering affordable daycare, and promoting the social acceptance of public care provision. In contrast, the West German and British systems tend to aggravate female role conflicts. Germany encourages women's retreat from the labour market by failing to meet the objective demand for public childcare while providing generous leave regulations and tax breaks that promote single-earner couples. The UK reinforces similar work-family conflicts through the limited availability of public childcare and rudimentary parental and child benefits, as reflected in low child allowances, low parental leave subsidies, and a very short duration of paid maternity leave (Table 1), all of which effectively encourage a dual-earner model (Misra et al. 2007).

Unemployment and Policy Response across Countries

Turning to the risk of unemployment as a potential threat to a (future) family's financial security, *unemployment rates* in the observed countries increased slightly between the early 1990s and 2001. The UK deviated from this trend thanks to its flourishing economic development during the 1990s, with unemployment rates falling below 5% in 2001 (Wells 2001). In Germany, the unemployment rate remained moderate, at around 8%, and largely flat between 1993 and 2001, reaching a peak of 9% in 1997. Despite this relative stability, labour market deregulation and increasing global competition exacerbated labour market insecurities and precarious employment in

Germany, particularly during the late 1990s (DiPrete 2002; Mills and Blossfeld 2003). Among the three countries, France stands out with the highest unemployment rates during the period of observation, rising to a maximum of about 12% in 1998.

>Figure 1 a-c: Gender Specific Unemployment Rates 1970-2005 about here <

The incidence of long-term unemployment was substantially lower in the UK in 2000 (28% of all unemployed) than in France (43%) or Germany (52%; see OECD 2005). This difference has been attributed to the combination of in-firm training and laws discouraging layoffs in coordinated market economies such as France and Germany, where laws and regulations promoting long-term employment contracts tend to increase the disparity between labour market insiders and outsiders (Hall and Soskice 2001). In contrast, deregulated labour markets like the UK are characterised by a higher unemployment risk. The threat of *long-term unemployment* is mitigated, however, by a high turnover rate, which makes labour market exits but also re-entries more common (McGinnity 2004: 121).

The female unemployment rate exceeded the rate for men in most industrialised countries up to and throughout the 1990s. However, during the deep recession of the mid-1990s, women in the UK showed a lower risk of unemployment than men. This might be an indicator that women are steadily gaining ground in skilled occupations, but may also be due to the higher share of women working in the service sector, which was affected less severely by the labour market crisis of the 1990s. The lower female unemployment rate in the UK should be taken with a grain of salt, however, as these rates are probably affected by gender-specific underreporting of unemployment due to a limited duration of benefit eligibility.

> Table 2: Unemployment Benefit Regulations 1994-2001 about here <

Focusing on the regulations for unemployment benefits, Germany and France both provided a comprehensive unemployment support during the time of observation. The liberal welfare state of the UK deviates from this model, with unemployment insurance providing a low flat-rate benefit for six months. A series of programmes aimed at encouraging target groups to return to the labour market were introduced under the *New Deal* in 1996. However, the support system consolidated in the 1996 *Jobseeker's Allowance (JSA)* introduced little change in terms of benefit levels and eligibility rules and remained largely unchanged up to 2001. Since 1996, unemployment assistance payments in the form of the income-based JSA (Table 2) remain widely unavailable due to the strict means-testing of household income (McGinnity 2004). This creates a traditionalising effect on couple-relationships if the woman is unemployed and places high pressure on these women to re-enter the labour market to avoid economic dependency on a breadwinner. Moreover, the reduced opportunity costs of parenthood during unemployment are countered by a lower household income. In contrast to the UK, both Germany and France provide generous income replacement schemes amounting to around 60% of previous net income, with the duration of payments depending on the individual's previous unemployment insurance contributions (Table 2). After a certain duration, unemployment benefit payments are replaced with slightly less generous but universal social assistance payments. Benefit payments in Germany are increased by 7% if the recipient has dependent children (European Commission 2002). However, the generous support in Germany and France is overshadowed by the threat of long-term unemployment and welfare dependence. The resulting risk of human capital depreciation is likely to undermine the generally supportive context for family formation during unemployment in these countries.

Hypotheses

The hypotheses originate from micro-theoretical assumptions and are extended with deductions from the cross-national framework. The hypotheses aim to present a testable basis to analyse the role of institutional and cultural backgrounds in first-birth decisions under unemployment.

Opportunity cost hypothesis: Unemployment lowers the opportunity costs of family formation. Childless persons therefore show a higher probability of opting for a first child during periods of unemployment, independent of other factors, especially gender.

Breadwinner / homemaker hypothesis: Unemployment increases the probability of first birth transitions for women but not for men. This effect should be more pronounced in Germany, where normative expectations and the welfare state cultivate a breadwinner-homemaker divide. The UK should yield similar results given the traditional gender roles and low provision of public childcare there, but the impact should be weaker, as the lower level of benefit provision encourages a dual-earner model. For French women, the relation between unemployment and fertility should be the least pronounced, as both the provision and normative acceptance of public childcare limits the opportunity costs of motherhood. Given the dominance of the male earner model across all three countries, male unemployment signals reduced breadwinner capabilities and should thus result in a reduced propensity to become a father during unemployment.

Compensation hypothesis I: The loss in social status due to unemployment can be compensated for by a focus on the private domain. Starting a family may serve as an alternative means of gaining social approval. This functions for both men and women.

Compensation hypothesis II: In societies where female labour market participation has become increasingly common, the social stigma of joblessness (Hakim 2003: 369) might encourage women to compensate for job loss by attaining social esteem through motherhood. The more

traditional the gender roles in a society, the higher the normative status of parenthood. Hence, the gains from compensation should be higher in Germany and lower in France. Among men, the compensation effect during unemployment should be most pronounced where benefit policies already encourage male contributions to childcare – as is the case in France.

Human capital investment hypothesis: More highly skilled professionals pursue quick re-entry into the labour market to avoid depreciation of their human capital investments. Given dominant breadwinner norms, men avoid the depreciation of their human capital that would result from extending unemployment to take over childcare. Even among women, who are frequently ascribed the role of caregiver, human capital depreciation might offset the reduction in opportunity costs when having a child during unemployment. The aim of avoiding a devaluation of skill investments should be more pronounced in coordinated market economies of France and Germany, where the risk of long-term unemployment is high and leave regulations guarantee job reinstatement rights after childbirth. Moreover, extending an unemployment episode to have a child might further impede a return to the labour market, particularly in Germany and the UK, where employers may perceive applicants with children as more limited in the time they have available for their job due to the limited public childcare options available.

Duration effect hypothesis: The likelihood of starting a family increases with the duration of unemployment. This assumes that social disapproval due to economic inactivity increases, while confidence in swift labour market re-entry declines over time, eventually leading to discouragement regarding occupational prospects.

4 Data and Methods

In analysing the gender-specific effects of unemployment on family formation, I focus on the transition to *first* parenthood as dependent variable, which I analyse using event history methods.

The central independent variable is the individual experience of unemployment, for which I distinguish between frictional (defined here as 1 to 4 months duration) and economically more threatening unemployment episodes (defined as > 4 months)⁴. I use micro-data from the European Community Household Panel (ECHP), representative of the EU member states for the period 1994 to 2001. Survey topics include a broad range of demographic and employment-related indicators, making the ECHP a unique database for comparative research across the EU from the early 1990s to the turn of the millennium. I focus here on France, Germany, and the UK⁵. In contrast to the French sample, which was harmonised *ex ante* with the other ECHP survey member countries, the data for Germany and the UK were harmonised *ex post* by integrating panel data from the British Household Panel Study (BHPS) and the German Socio-Economic Panel (SOEP)⁶.

4.1 First-Birth Decision as Dependent Variable

The key variables in the model are the time of childbirth and occupational status (time-varying). The timing of first childbirth is based on the ECHP fertility histories of women, which were collected with the starting wave of the ECHP. For men, as well as for women who joined the panel after wave 1, the fertility status is assigned on the basis of the observed household composition. This results in two biasing effects: a) a potential misspecification of a person as childless (if a parent no longer resides with his/her child), or b) in a misspecification of the timing of first birth (if a parent no longer resides with his/her *first* child, in which case the oldest child residing with the parent will be misinterpreted as the first child). The latter bias is limited, however, since even the oldest of the observed cohorts (1960) probably still lived with their first child in 1994. The

⁴ Different categorical and functional representations of unemployment duration have been tested. A discussion can be found in the results section (5). Estimate results are available from the author on request.

⁵ Relying on data, cloned from ongoing national panels (SOEP and BHPS), panel attrition in the German and British sample is somewhat lower than in the French sample (Peracchi 2002; Watson 2003).

⁶ ECHP data structure and questionnaire were originally designed with focus on the SOEP and BHPS survey.

bias of misspecifying the timing of family formation (or the status of being childless) is perhaps most severe for men who were separated and no longer shared a household with their first child.

With focus on the dependent variable, I argue that the transition to first birth is the consequence of a rational decision. As a key aim of this paper is to link unemployment directly to the birth decision, the empirical models approximated the timing of this event with a point in time *ten months prior to birth*. The detailed data available in the ECHP allows such a procedure, since both the information on individual unemployment (self-ascribed status in the ECHP calendar of activities⁷) and the time of childbirth⁸ are available on a monthly basis.

Two issues related to such a model based on a monthly level of analysis need to be mentioned: first, for covariates recorded annually in the ECHP, I have centred any changes between the month of the interview in t_0 and t_1 .⁹ Second, the linking of birth decision and monthly occupational status could yield unreliable estimates if couples had problems putting their fertility plans into action within a reasonable period. However, Bongaarts (1982), finds, based on various medical studies, that couples have a 50% chance of conceiving within the cycle after initially making the decision to have children (parents below 30 show an even higher rate of success). This suggests that backdating causes a misspecification of two to three months or more in only a limited number of cases¹⁰. Hence, it is possible that backdating biases model estimates but the size of the effect is likely to be very low. Yet it should be noted that standard errors are probably inflated due to the noise introduced by an unspecified number of involuntary terminations of pregnancy.

⁷ Monthly unemployment data in the ECHP are self-reported. Hence, they are not congruent with the ILO definition of unemployment. ECHP data for Germany are based on *reported* unemployment.

⁸ As ECHP data for Germany lack the month of birth, these data have been reconstructed from the original SOEP.

⁹ Example: The highest schooling degree at interview date May 1999 was an O-level degree; the highest schooling degree at interview date April 2000 was an A-level degree: The O-level degree would be considered until October 1999, the A-level degree would be considered starting with November 1999.

¹⁰ Sensitivity tests showed that backdating between ten and twelve months of birth yields similarly robust results.

4.2 Design of the Multivariate Analysis

In analysing the impact of unemployment on the timing of first birth decision, I apply *event history methods*. I consider first births to previously childless respondents aged 16 to 41 during the period of analysis (1994 to 2001) from cohorts 1960 to 1981.¹¹ Since first-birth risk (taken as a proxy for the first-birth decision) is not uniformly distributed across the fertile life span, I rely on a piecewise-constant exponential estimate (Jenkins 2005: 38f.) as this flexible type of model is capable of representing the functional form of the baseline hazard. The first birth (decision) hazard is specified as:

$$\theta(t) = \begin{cases} \bar{\theta}_1 \exp(\beta' X_1 + \gamma' Z_1(t)) & t_1 \in (193; 252) \\ \bar{\theta}_2 \exp(\beta' X_2 + \gamma' Z_2(t)) & t_2 \in (253; 312) \\ \bar{\theta}_3 \exp(\beta' X_3 + \gamma' Z_3(t)) & t_3 \in (313; 396) \\ \bar{\theta}_4 \exp(\beta' X_4 + \gamma' Z_4(t)) & t_4 \in (397; 456) \\ \bar{\theta}_5 \exp(\beta' X_5 + \gamma' Z_5(t)) & t_5 \in (457; 492) \end{cases} \quad (1.1)$$

The regression parameters γ and β refer to the time-variant (Z) and time-invariant (X) covariates. The baseline hazard $\bar{\theta}$ remains constant *within* the five intervals t_1 to t_5 , where t_1 starts with the 16th year of age (month 193 since birth)¹² and differs *between* the intervals (age in months since respondent's birth in parentheses). The specified time intervals (1.1) approximate a normal distribution of the baseline hazard of first birth.

¹¹ This introduces a problem of left-censoring, since some men and women who had their first child prior to the period of observation 1994 to 2001 were excluded from the sample of analysis as they are no longer at risk. The peak hazard of having a first child rests around age 28 to 30, while hazards before 21 are low. Hence, this left-censoring bias is primarily relevant in the older cohorts. In order to evaluate a potential estimate bias due to this selection effect, all analyses have been replicated with a reduced sample of cohorts 1975 to 1981. These analyses did not yield any change in the direction of effect and generally support the results presented in section 5.

¹² Time at risk is generally considered to start with age 16. This does also apply to persons, who enter the sample at a higher age. In that case, retrospective fertility histories are used to determine, whether a person is still at risk of having a first child (cf. the previous note accordingly).

4.3 Model Description and the Set of Covariates

For each of the selected countries, I estimate separate models for men and for women in order to identify country-specific as well as gender-specific effects. *All* covariates are considered as time-varying. This includes educational attainment, union status, and regional unemployment rate. Model I (Table 4) examines the mere effect of either short-term (1 to 4 months) or longer unemployment episodes (> 4 months) on the likelihood to start a family. Model II (Tables 5-7) implements a broader set of covariates including the net *monthly personal income*¹³, as an indicator of the ability to support a family. This monetary measure has been adjusted for purchasing power parities within the EU to guarantee comparability across both countries and time. Regarding educational and vocational attainment, ISCED serves as an indicator of human capital investments and labour market options (OECD 2006). In this model, unemployment is analysed as part of the activity status, together with full- and part-time work, education, and economic inactivity.

> Table 3: Sample of Respondents – Selected Descriptive Statistics about here <

Model III (Tables 5-7) extends Model II with interaction effects between educational attainment and unemployment (ignoring duration effects), while Model IV supplements all estimates with partner data, excluding singles and couples living apart together. The partner variables include relative income (an indicator of the division of labour and thus the traditionalism of gender roles within the couple), partner's income, educational attainment, and unemployment. Model V (Table 8) aggregates the data across all countries with interaction effects between country and unemployment. Models I to III rely on a larger sample, which also includes couples in separate households. The separate analyses show that among those who appear to be single, about 10% had their first child during the time of observation (consensual unions 20%, marriages 69%). This

¹³ Income is based on the monthly share of annual earnings, income from self-employment, as well as from renting and assets, excluding private or public transfers (the latter are included as controls in the estimates).

birth rate among apparently single persons is related to the fact that the ECHP does not distinguish between unpartnered singles and persons living in a relationship but not sharing a joint household at the time of the interview. Model IV (Tables 5-7) and V (Table 8) exclude members of couples that live in separate households, allowing the consideration of partner information and relative income. This procedure excludes couples living in separate households or households with partial non-response of one of the partners. Across the models, *all* variables are time-varying indicators.

5 Results of the Multivariate Analysis

An initial set of estimates (Table 4, Model I) considers solely the impact of short-term and longer unemployment (1-4 vs. >4 months; reference: full-time employed). This initial model in Table 4 shows patterns of opposing gender-specific effects of unemployment on family formation. The impact pattern is negative among men and positive among women. Only women in France and men in the UK deviate from this picture: while the effects remain insignificant among British men, unemployment is *negatively* associated with family formation among French women. These results offer the first indication of strong labour market attachment among these women. Moreover, across all countries, it is longer unemployment episodes of more than four months that leave the most significant traces.

>Table 4: Piecewise Constant Estimates of First-Birth Risks during Unemployment about here<

The Impact of Unemployment Duration across Countries

Aside from occupational discouragement in the case of longer unemployment episodes, the reduction of disposable household income is perhaps the most severe occurrence associated with job loss. Importantly, the negative impact of unemployment on deciding to become a *father* in France (Table 5, Model II) and West Germany (Table 6, Model II) vanishes after controlling for net in-

come, transfer receipt, and education. This provides an initial indication that the negative unemployment effects among men are related primarily to a decline in breadwinner capabilities. In contrast, unemployment exerts a distinct positive impact on the transition to motherhood in Germany and the UK (Table 7), which is about two to three times the risk among full-time working women (reference category). The effect remains robust at a similar magnitude after controlling for additional characteristics across all empirical models. This initial picture of an increased likelihood of starting a family during unemployment (except in France) also reflects the uneven distribution of labour market risks and opportunities between men and women in most OECD countries, as outlined in Section 3.

In analysing the impact of unemployment duration, I have considered linear effects, as well as a decreasing marginal impact that represents a growing discouragement over time. However, contrary to what was hypothesised, a closer investigation showed that unemployment duration does not exert a simple linear effect on the likelihood to have a first child¹⁴. Tests of different categorical representations of unemployment duration hint at different threshold levels, defining when unemployment starts to affect the propensity towards family formation¹⁵. These differences duration effects might be related to the eligibility for unemployment benefits, which is suspended in the UK after six months, e.g., often making the woman economically dependent on a male breadwinner. Beyond such institutional factors, the consideration of shorter and longer unemployment episodes (Models II & IV, Tables 5, 6, 7) also serves as a means to distinguish confident job-searchers in frictional unemployment from the discouraged long-term unemployed, who see their employment prospects as weak. The distinction between 1 to 4 month episodes (which

¹⁴ The consideration of a decreasing marginal effect appears to provide a meaningful representation of the negative relation between unemployment duration and first-birth risk among both French men and women.

¹⁵ Detailed results can be obtained from the author on request.

slightly exceeds the definition of frictional unemployment) and longer episodes provides the most consistent and meaningful representation of unemployment duration across the three countries.

Longer periods of unemployment among women in West Germany and the UK are associated with particularly robust effects of an increased likelihood to start a family (Tables 6 & 7, Model II). Controlling for situations in which economic support from a partner might compensate for the experience of occupational insecurity in the form of unemployment (Model IV), the increased likelihood to start a family remains dominant in these countries. Interestingly, in France, unemployment generates a *negative* impact on the decision to become a mother after controlling for partner characteristics like partner's income, education, and unemployment (Table 5, Model IV)¹⁶ This means that particularly in relationships in which a partner could compensate for the loss in household income caused by female unemployment, French women favour regaining their economic independence over family formation. In contrast to women in Germany and the UK, who – according to the *compensation hypothesis* stated above – focus on social esteem gained from motherhood, French women show a strong attachment to the labour market. These findings are in line with the perception of an institutional and cultural background in France that makes it easier to balance career and family, through the broad acceptance of public childcare and the generous and targeted system of family support.

Economic inactivity

In cases in which job search is no longer compulsory because the duration of unemployment exceeds the period of eligibility, or where repeated failure to find a job has undermined confidence about re-entering the labour market, people are likely to identify themselves as economically inactive. Hence, economic inactivity is frequently a state, sequential to lasting unemployment. The multivariate findings suggest distinct effects of economic inactivity on the propensity to decide

¹⁶ Note that this effect should be interpreted with caution due to a low level of significance ($p=0.069$, see Model IV).

for the transition to *motherhood*. The strength of the effects varies from an approximately 50% higher likelihood to start a family during unemployment in West Germany (Table 6, Models II & III) to a more than six times higher likelihood in the UK (as compared to women employed full-time, Table 6, Models II & III; see also Ekert-Jaffé et al. 2002). The reason for the large effect in the UK is probably the fact that unemployment insurance benefits there are provided for six months only, and respondents thus describe their status as inactive and out of the labour force, rather than unemployed¹⁷. However, in some cases the relation between economic inactivity and first births may also be consequence of women, deliberately staying out of the labour force in anticipation of a planned motherhood.

Among men, economic inactivity is generally rare across the present set of countries, and the impact on the likelihood to start a family remains largely insignificant. Exceptions to this rule are men in the UK, who show an *increased* rate of transition into first parenthood during economic inactivity (Table 7, Model IV). This finding contradicts the idea of the UK as a country with a strong breadwinner tradition (Lewis 1992; Daly and Rake 2003). This positive impact of male economic inactivity on the transition to fatherhood is only significant in the partner model (Model IV), which controls for the availability of a second income. This means that a focus on a male homemaker role, which might compensate occupational status loss, could be backed by a female earner's income (Tölke and Diewald 2003). This contradicts the extended *compensation hypothesis*, which posited that such an effect would be limited to France, where male childcare contributions are institutionally promoted, and should thus be more valued socially. Yet the reversal of traditional gender roles in the UK remains a somewhat speculative interpretation. Future research might help to determine whether this finding does indeed represent a reversal of traditional roles, perhaps as consequence of social pressure, or improved female bargaining power.

¹⁷ In fact, this share of transitions to work from economic inactivity among British women (47.2% in 1993) distinctively exceeds the rates in France or Germany (17.6% and 23.5%, respectively; Rubery et al. 1998: 121, 138).

Unemployment and educational attainment

As theoretically argued, the impact of unemployment should vary with the level of educational attainment due to differences in foregone earnings and human capital depreciation. Model III, which considers interaction effects between educational/vocational attainment and unemployment, suggests barely any mediating effect (and particularly no negative effects as assumed), regardless of level of educational attainment among men across the three countries (Tables 5, 6, 7). This clearly contradicts what was put forth in the *human capital investment hypothesis* in Section 3. Instead, unemployment among men appears to undermine breadwinner capabilities but is only salient in terms of income loss, while a clear negative fertility effect is not prominent in any of the educational groups (Model III).

However, there is clear evidence of a differential impact of unemployment across female educational groups. Generally, women with higher educational degrees (ISCED 5-7) in Germany and the UK do not show the increased likelihood to start a family during unemployment otherwise common in these countries (Model III, Tables 6 & 7). As argued above, women with high skill endowments will likely seek to maintain their economic independence and occupational options and therefore focus on swift labour market reintegration. In France's coordinated market economy, a higher risk of consolidating unemployment, combined with the welfare state's encouragement of female labour market participation and work-family compatibility, results in a tendency among more highly educated women not to start a family when unemployed (Model III, Table 5). This confirms the expectations for France as formulated in the *human capital investment hypothesis*. However, a corresponding negative effect among highly educated women in German and the UK cannot be identified.

In contrast, women with moderate and low levels of educational or vocational attainment in West Germany and the UK show the common pattern of an *increased* probability of having a first

child during unemployment (Model III). These women face limited occupational prospects and little threat of human capital depreciation due to their already low level of skill endowments. Furthermore, the opportunity costs of parenthood are already high in West Germany and the UK, and traditional gender role norms are prevalent in both countries. In this context of institutionally and culturally mediated conflicts between career and family, it is primarily women with comparatively bleak labour market prospects who decide for a first child during unemployment.

The cross-national model (Model V)

A final set of estimates (Model V, Table 8) summarises the analysis in direct cross-national comparison. Interaction effects distinguish the impact of unemployment by country. The results of these unemployment indicators are widely consistent with the country-specific estimates. In this context, male unemployment shows no significant effects on the propensity to start a family in any of the four countries after controlling for income, education, and partner characteristics.

Among women, a positive impact of unemployment and economic inactivity on the likelihood to start a family remains salient in this model – again with the exception of French women. The effect is particularly pronounced among women in the UK, who have been unemployed longer. They show a 2.2 times higher likelihood of having a first child than women who are employed full-time. If these women report economic inactivity – an indicator of discouragement with job search efforts – the likelihood is increased by a factor of 3.6. In West Germany, a weaker effect of longer unemployment (a 70% increased probability) provides a picture that otherwise resembles the situation in the UK. Yet there is no significant impact of economic inactivity in Germany. This perhaps is a consequence of the longer duration of unemployment support, which fosters labour market attachment by requiring job search efforts.

6 Summary & Conclusion

This study has investigated the impact of individual unemployment on fertility choices of men and women under influence of different welfare regimes. Among men, unemployment generally seems to hamper the transition to first fatherhood. In contrast, women in Germany and the UK who face severe difficulties of combining work and family show an increased likelihood to start a family during unemployment. This, positive fertility effect of individual unemployment, however, cannot be found among French women, for whom work-family conflicts are kept at bay through a comprehensive system of family related support, and it also remains missing among highly educated women, who are reluctant to extend an unemployment episode with family formation.

Among men, unemployment hampers the capacity to support a future family and thus promotes the postponement of fertility transitions. This, however, is related to a direct income decline, whereas I did not find any consistent evidence that unemployment persistently signals reduced breadwinner capabilities, beyond imminent economic setbacks (see also Del Bono et al. 2012). Looking at the impact of unemployment among women in Germany and the UK – two countries that clearly leave women to shoulder the burden of reconciling work and parenthood – longer periods of unemployment strongly increase the likelihood to start a family. This impact becomes dominant only after discouragement with job search efforts reduces labour market attachment. Importantly, these two countries both provide paradigms of contradictory institutional arrangements in market-oriented (i.e. individualistic) and family-oriented institutions (McDonald 2000). On the one hand, traditional gender roles are still culturally embedded and institutionally reproduced through the neglect of maternity protection and support (UK), strict maternal caregiver norms (West Germany), and a limited supply of public childcare in both countries. On the other hand, both countries promote women's occupational aspirations and economic independence, whereas the limited protection from social and economic risks particularly in the UK makes

it necessary for women to establish themselves economically. Against this backdrop – and in a context where confidence in finding a job tends to wane as unemployment drags on – the reduced opportunity costs of parenthood and the compensating gains in wellbeing and social esteem might eventually outweigh occupational aspirations and labour market attachment.

France, in contrast, embodies a different paradigm, in which a strong encouragement of female labour market attachment and institutional mechanisms reconciling work and family apparently undermine arguments for having a first child during unemployment. Accordingly, French women seem to have more in common with their male counterparts, showing a reduced propensity to have a first child when unemployed. In summary, the cross-national findings stress the exceptional link between labour market participation and fertility behaviour among French women.

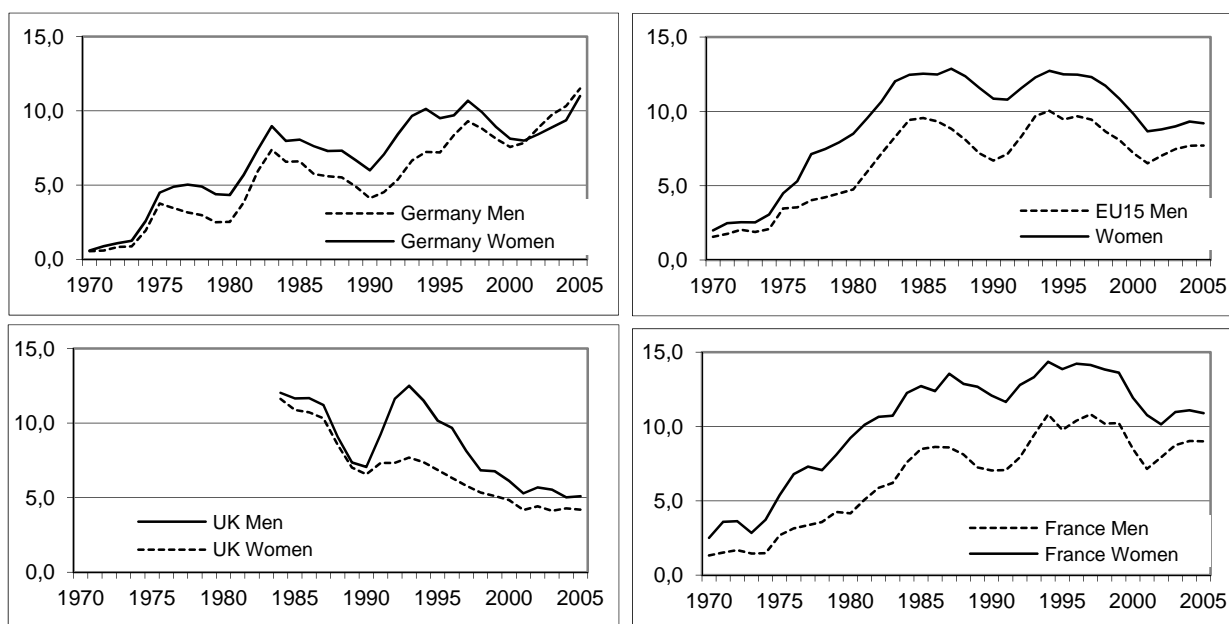
In contrast, an increased likelihood of family formation during unemployment appears to be of particular relevance for women in West Germany and the UK with lower educational attainment. These women are frequently economically dependent on a male earner, often embrace more traditional gender roles, and face particularly bleak labour market prospects, compared to women with higher skill endowments. Among the more highly educated women in Germany and the UK, the findings show no tendency to make the transition to parenthood during unemployment. Obviously, these women instead focus on re-entering the labour market in order to avoid becoming stuck in a homemaker role: this, after all, would not only lead to a depreciation of their human capital and reduce their career options but would also reinforce their economic and social dependence on a male breadwinner.

In interpreting these findings, a word of caution might be in place: Among some mothers and fathers, fertility plans might recoil on their employment decisions. In that sense, a tangible plan to have a child might encourage men to accept more adverse job-offers, thus shortening unemployment duration, while current childbearing desires among women might negatively affect employ-

ability or hamper the willingness to accept jobs, which are considered too strenuous or otherwise incompatible with a pregnancy. Once data becomes available that allows, an investigation of the role and the magnitude of this potential bias, a closer inspection might be a fruitful endeavour in future research, which investigates the relation between unemployment and fertility choices.

Figures & Tables:

Figure 1a-c: Gender specific Unemployment Rates 1970-2005



Source: OECD 2007

Table 1: Leave Regulations and Family Subsidies 1994-2001

	Maternity & Paternity Leave		Net wage replacement ⁽⁵⁾	Additional Parental Leave & Subsidies	Child Allowance (1 st child)
	Duration	Type	%		
UK	6 weeks	maternity	90 ⁽¹⁾	13 weeks since 1999 (both parents eligible, no benefits)	105€ flat / month
	12 weeks	maternity	115€ / week ⁽¹⁾		
D	14 weeks	maternity	100	3 years eligibility; flat rate for 2 yrs (307€, means tested)	154€ flat / month
F	16 weeks	maternity	100	3 years elig.; flat rate for 2 yrs with 2 nd child (496€) APE ⁽³⁾ + 160€ for 3 yrs APJE ⁽⁴⁾	none (111€ for 2 nd child)
	3 days	paternity	~70 ⁽²⁾		

(1) Statutory Maternity Pay. Means tested option of Maternity Allowance (115€/week, for 18 weeks).

(2) Min. 11.45€/day flat or higher wage replacement (depending on labour contracts).

(3) Allocation Parentale d'Education; 1994 extension of parental leave regulations: Eligibility with the 2nd child (previously the 3rd child). Prerequisite 2 years of employment within last 5 years. Benefits restricted to second or further children.

(4) Allocation Pour Jeune Enfant, childrearing leave.

(5) No wage replacement for unemployed persons except in Germany (low flat rate by health insurance); Parental leave payments for unemployed in Germany and France (see ⁽³⁾ and ⁽⁴⁾).

Sources: Kamerman 2000, European Commission 2002.

Table 2: Unemployment Benefit Regulations in 2001

	Eligibility Duration:		Previous Employment Required (months)	Level of Income Replacement	Supplements for Dependent Children
	Insurance ⁽¹⁾	Assistance			
UK	6 ⁽²⁾	Unlimited ⁽³⁾	None	50€-83€ per week	-
D	6-32	Unlimited	12 within 36	60% of net	7% of last net
F	4-60	Unlimited	4 within 8	57.4% of net / 23.88€ per day/min	-

(1) The duration and amount of benefit receipt may vary according to the contribution period, age, and family context. Note that eligibility duration and benefit rules were subject to minor changes between 1994 and 2001.

(2) Unemployment insurance benefits changed to contribution based Jobseeker's Allowance (JSA) in 1996. Eligibility rules and benefit levels remained broadly unchanged.

(3) Income support, changed to income-based Jobseeker's Allowance in 1996. Means tested minimum support (based on family income). Only available if the partner works part-time or less (<24 hours/week).

Sources: European Commission 2002, McGinnity 2004.

Table 3: Sample of Respondents – Selected Descriptive Statistics

Descriptive Statistics (values in %, unweighted)	<i>France</i>		<i>West-Germany</i>		<i>UK</i>	
	♂	♀	♂	♀	♂	♀
Birth Cohorts						
1960-1967	20.8	13.8	31.2	23.6	28.6	23.2
1968-1974	43.9	42.8	39.6	39.9	38.8	37.2
1975-1981	36.0	43.4	29.2	36.6	32.6	39.7
Activity Status						
Full-time Employed	40.5	29.02	46.5	38.8	56.2	47.3
Full-time & Public Emp.	8.1	8.3	9.9	16.5	9.1	16.4
Part-time Employed	2.5	5.4	5.1	6.5	3.5	6.2
Self-Employed	2.4	0.8	3.4	1.3	5.8	2.7
In Education/ Apprentice	29.5	40.1	24.2	27.3	14.8	19.6
Economically Inactive	2.1	1.9	0.5	2.5	1.9	2.7
Retired / Other / Missing	6.1	4.5	2.1	2.8	2.1	2.2
Activity Status: Unemployment						
Unemployed (UE)	8.9	10.1	5.8	4.5	6.6	3.7
Short-term UE (1-4 mon.)	3.4	3.6	2.1	1.7	2.5	1.8
Longer UE (> 4 mon.)	5.5	6.5	3.7	2.8	4.1	1.9
Long-term UE /last 5 years	7.4	7.7	5.6	4.5	11.0	4.4
Partner Related Information						
Relative Income: About even	45.9	45.7	42.8	42.1	44.9	39.2
Traditional (♂ 1/3 above ♀)	30.2	30.1	39.8	39.5	37.3	39.1
Female Earner (♀ 1/3 > ♂)	14.1	14.1	13.7	14.6	11.9	16.5
Both not working	6.1	7.2	2.4	2.7	3.5	3.1
Employment: Partner Inactive	3.2	0.7	4.2	0.6	5.4	0.9
Partner Unemployed	11.2	6.4	3.6	4.2	2.5	4.1
Partnership Status						
Single / Living Apart Togeth.	75.2	70.2	68.7	58.8	63.2	55.8
Consensual Union	13.1	15.1	11.9	15.1	14.6	16.9
Married	11.8	14.8	19.4	26.9	22.2	27.4
Educational Attainment						
ISCED 0-2 (<2 nd stage secnd)	25.2	20.1	32.1	31.7	34.8	30.7
ISCED 3 (2 nd stage secondary)	34.7	35.7	53.0	54.2	15.7	16.9
ISCED 5-7 (3 rd lvl. edu)	20.2	23.8	12.1	9.4	46.0	50.3
n of person-months	137840	114459	110439	89780	100914	84718
n of cases	2424	2110	1806	1583	1763	1556
n of cases with Partner	1079	1091	925	970	980	962
n of births '94-'00 (backdated)	554	614	419	479	410	459

Source: ECHP 1994-2001 (author's calculations). Cohorts 1960-1981.

Note: Sample description based on person-months of observations (i.e. repeated records for each observed person).

Table 4: Piecewise Constant Estimates of First-Birth Risk during Unemployment – Basic Model

Model I	Reference: Full-time employed	France		West-Germany		United Kingdom	
		Haz. Rat.	SE	Haz. Rat.	SE	Haz. Rat.	SE
♂	Short-term UE (<4 months)	0.72	0.18	0.31	0.18**	1.10	0.33
	Longer UE (>4 months)	0.33	0.09***	0.68	0.19	0.79	0.22
♀	Short-term UE (<4 months)	0.82	0.16	1.02	0.33	1.00	0.37
	Longer UE (>4 months)	0.61	0.10***	1.43	0.31*	2.10	0.52***

Source: ECHP 1994 to 2001 (author's calculations). Cohorts 1960-1981.

Note: Unemployment effects estimated as part of the activity status dummy set (see Table 3 for details).

Significance levels based on $p < 0.10$ (*), $p < 0.05$ (**) and $p < 0.01$ (***).

Omitted controls include piecewise constant terms for age and dummy variables as part of the activity status set as listed in Table 5.

Table 5: Determinants of First-Birth Risk - Piecewise Constant Estimates for France

Model Type	II				III				IV			
	♂		♀		♂		♀		♂		♀	
	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE
Activity Status												
Full-time Employed	1		1		1		1		1		1	
Part-Time Employed	0.87	0.29	1.15	0.17	0.88	0.29	1.15	0.17	0.79	0.27	1.11	0.17
In Education / Apprenticeship	0.40	0.11***	0.32	0.06***	0.40	0.11***	0.31	0.06***	0.50	0.17**	0.30	0.07***
Economically Inactive	0.69	0.39	1.13	0.31	0.70	0.39	1.12	0.31	1.31	0.73	1.15	0.34
Short-Term UE (1-4 Months)	1.26	0.32	0.91	0.18					1.60	0.51	0.87	0.20
Longer UE (> 4 Months)	0.95	0.28	0.74	0.13*					1.20	0.45	0.68	0.14*
UE*Lower Education (ISCED 0-2)					1.32	0.42	0.68	0.20				
UE*Mid Education (ISCED 3-4)					0.74	0.32	0.95	0.21				
UE*Higher Education (ISCED 5-7)					0.61	0.36	0.62	0.17*				
Partner's Employment Status												
Unemployed / Inactive	0.99	0.13	0.71	0.15	0.98	0.13	0.71	0.15	1.05	0.15	1.10	0.27
Unemployment Rate												
Regional / NUTS1	1.03	0.02	1.03	0.02*	1.03	0.02	1.03	0.02*	1.03	0.02	1.04	0.02**
Individual Income (per 1000 Euro/Month; PPP adjusted)												
Net Income from Work & Assets	1.11	0.03***	1.07	0.05	1.11	0.04***	1.07	0.05	1.09	0.04**	1.08	0.07
Partner's Net Income									1.13	0.06**	1.08	0.04**
Relative Income												
Equal Income Level	1		1		1		1		1		1	
Traditional (♂ 1/3 > ♀)									1.01	0.12	1.13	0.13
Female Main Earner (♀ 1/3 > ♂)									0.74	0.14	0.71	0.12**
Educational Attainment												
2 nd Stage of Secondary Edu (ISCED 3)	1		1		1		1		1		1	
< 2 nd Stage of Secondary (ISCED 0-2)	1.10	0.13	1.04	0.13	1.06	0.13	1.09	0.15	1.10	0.14	1.06	0.15
3 rd Level Education (ISCED 5-7)	0.86	0.10	1.09	0.11	0.86	0.10	1.14	0.12	0.83	0.10	1.19	0.13
Type of Relationship												
Single & Living Apart together	1		1		1		1					
Consensual Union	27.11	6.28***	9.73	1.47***	27.05	6.28***	9.75	1.47***	1		1	
Married	59.30	13.63***	20.18	2.96***	59.31	13.65***	20.29	2.98***	2.22	0.22***	1.92	0.19***
n of Person-Months	135416		112349		135416		112349		33518		33498	
n of Subjects / Events	2424 / 554		2110 / 614		2424 / 554		2110 / 614		1079 / 528		1091 / 551	
Log Pseudo likelihood	342.22		321.19		343.93		321.89		446.28		485.68	
Wald's Chi²	10688.48		12226.71		10719.53		12197.77		8915.58		8937.37	

Source: ECHP 1994 to 2001 (author's calculations). Cohorts 1960-1981.

Note: Estimated Ratios apply to monthly hazards. Robust standard errors.

Significance levels based on $p < 0.10$ (*), $p < 0.05$ (**) and $p < 0.01$ (***).

Omitted controls include public and self-employment (activity status dummy set), dummy variables for calendar year, earlier long-term unemployment, flag variables for missing values, and piecewise constant terms for age.

Table 6: Determinants of First-Birth Risk - Piecewise Constant Estimates for West Germany

Model Type	II				III				IV			
	♂		♀		♂				♂		♀	
	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE
Activity Status												
Full-time Employed	1		1		1		1		1		1	
Part-Time Employed	0.75	0.23	1.04	0.21	0.75	0.23	1.04	0.21	0.83	0.27	1.06	0.24
In Education / Appren- tice	0.80	0.21	0.46	0.10***	0.80	0.21	0.47	0.11***	1.12	0.34	0.63	0.17*
Economically Inactive	(a)		1.52	0.34*	(a)		1.54	0.34*	(a)		1.29	0.32
Short-Term UE (1-4 Months)	0.45	0.27	1.54	0.52					0.33	0.24	1.29	0.52
Longer UE (> 4 Months)	1.41	0.41	2.47	0.61***					1.27	0.46	2.17	0.65***
UE*Lower Education (ISCED 0-2)					0.73	0.33	2.23	0.66***				
UE*Mid Education (ISCED 3-4)					1.48	0.48	1.84	0.53**				
UE*Higher Education (ISCED5-7)					0.50	0.52	2.56	1.57				
Partner's Employment Status												
Unemployed / Inactive	1.64	0.28***	0.68	0.19	1.63	0.28***	0.69	0.19	1.69	0.32***	0.81	0.27
Unemployment Rate												
Regional / NUTS1	0.95	0.03	0.98	0.03	0.95	0.03	0.98	0.03	0.96	0.04	1.00	0.04
Individual Income (per 1000 Euro/Month; PPP adjusted)												
Net Income from Work & Assets	1.11	0.08	1.29	0.10***	1.11	0.08	1.29	0.10***	1.07	0.09	1.24	0.08***
Partner's Net Income									1.24	0.09***	1.09	0.08
Relative Income												
Equal Income Level									1		1	
Traditional (♂ 1/3 > ♀)									1.13	0.16	1.10	0.16
Female Main Earner (♀ 1/3 > ♂)									1.00	0.26	1.09	0.23
Educational Attainment												
2 nd Stage of Secondary Edu (ISCED 3)	1		1		1		1		1		1	
< 2 nd Stage of Secondary (ISCED 0-2)	1.22	0.18	1.42	0.18***	1.27	0.19	1.39	0.18**	1.24	0.19	1.34	0.19**
3 rd Level Education (ISCED 5-7)	1.11	0.15	0.91	0.14	1.14	0.16	0.89	0.14	1.26	0.19	0.94	0.16
Type of Relationship												
Single & Living Apart together	1		1		1		1					
Consensual Union	2.34	0.66***	1.48	0.32*	2.34	0.66***	1.48	0.32*	1		1	
Married	20.84	4.12***	8.98	1.30***	20.81	4.11***	8.97	1.30***	8.94	2.06***	6.60	1.22***
n of Person-Months	108663		88230		108663		88230		33978		36352	
n of Subjects / Events	1806 / 419		1583 / 479		1806 / 419		1583 / 479		925 / 375		970 / 400	
Log Pseudo likelihood	131.63		106.66		131.16		106.28		251.86		237.52	
Wald's Chi²	9114.47		10622.58		10026.65		11992.06		6714.18		7355.06	

Source: ECHP 1994 to 2001 (author's calculations). Cohorts 1960-1981

Note: Estimated Ratios apply to monthly hazards. Robust standard errors. (a) Results omitted due to low n of cases.

Significance levels based on $p < 0.10$ (*), $p < 0.05$ (**) and $p < 0.01$ (***).

Omitted controls include public and self-employment (activity status dummy set), dummy variables for calendar year, earlier long-term unemployment, flag variables for missing values, and piecewise constant terms for age.

Table 7: Determinants of First-Birth Risk - Piecewise Constant Estimates for the United Kingdom

Model Type	II				III				IV			
	♂		♀		♂				♂		♀	
	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE	Haz.	SE
Activity Status												
Full-time Employed	1		1		1		1		1		1	
Part-Time Employed	0.84	0.26	1.01	0.21	0.85	0.27	1.01	0.21	0.87	0.29	1.14	0.24
In Education / Appren- tice	0.17	0.11***	0.34	0.10***	0.17	0.11***	0.34	0.10***	0.36	0.27	0.46	0.18*
Economically Inactive	1.61	0.59	6.04	1.22***	1.65	0.60	6.04	1.21***	3.01	1.24***	6.30	1.41***
Short-Term UE (1-4 Months)	1.21	0.41	1.27	0.49					1.34	0.59	1.44	0.64
Longer UE (> 4 Months)	0.77	0.24	2.71	0.79***					1.19	0.44	2.40	0.96**
UE*Lower Education (ISCED 0-2)					1.21	0.38	2.16	0.73**				
UE*Mid Education (ISCED 3-4)					0.81	0.64	1.31	0.67				
UE*Higher Education (ISCED5-7)					0.54	0.30	1.80	0.65				
Partner's Employment Status												
Unemployed / Inactive	3.39	0.55***	1.03	0.25	3.38	0.55***	1.03	0.25	3.48	0.66***	1.64	0.45*
Unemployment Rate												
Regional / NUTS1	0.98	0.03	1.04	0.02*	0.98	0.03	1.04	0.02*	0.98	0.03	1.02	0.02
Individual Income (per 1000 Euro/Month; PPP adjusted)												
Net Income from Work & Assets	1.05	0.05	1.05	0.07	1.04	0.05	1.04	0.07	1.02	0.06	1.07	0.08
Partner's Net Income									1.10	0.07	0.95	0.08
Relative Income												
Equal Income Level									1		1	
Traditional (♂ 1/3 > ♀)									1.24	0.18	1.36	0.20**
Female Main Earner (♀ 1/3 > ♂)									1.24	0.27	1.03	0.21
Educational Attainment												
2 nd Stage of Secondary Edu (ISCED 3)	1		1		1		1		1		1	
< 2 nd Stage of Secondary (ISCED 0-2)	1.24	0.22	1.35	0.22*	1.20	0.22	1.34	0.22*	1.52	0.29***	1.28	0.23
3 rd Level Education (ISCED 5-7)	1.07	0.18	1.05	0.16	1.08	0.18	1.05	0.16	1.24	0.23	1.06	0.17
Type of Relationship												
Single & Living Apart together	1		1		1		1					
Consensual Union	9.73	2.34***	3.82	0.68***	9.65	2.31***	3.84	0.68***	1		1	
Married	25.49	5.84***	10.39	1.64***	24.76	5.65***	10.46	1.66***	2.74	0.38***	2.70	0.37***
n of Person-Months	99151		83162		99151		83162		36471		36816	
n of Subjects / Events	1763 / 410		1556 / 459		1763 / 410		1556 / 459		980 / 380		962 / 390	
Log Pseudo likelihood	103.07		102.92		103.73		101.68		103.07		102.92	
Wald's Chi²	9124.73		11977.16		9165.70		12023.07		11148.71		14624.09	

Source: ECHP 1994 to 2001 (author's calculations). Cohorts 1960-1981.

Note: Estimated Ratios apply to monthly hazards. Robust standard errors.

Significance levels based on $p < 0.10$ (*), $p < 0.05$ (**) and $p < 0.01$ (***).

Omitted controls include public and self-employment (activity status dummy set), dummy variables for calendar year, earlier long-term unemployment, flag variables for missing values, and piecewise constant terms for age.

Table 8: Determinants of First-Birth Risk - Piecewise Constant Estimates across Countries

Model Type	V			
(Cross-Country Partner Sample)	♂		♀	
	Haz. Ratio	SE	Haz. Ratio	SE
Activity Status				
Reference: Full-time Employed	1		1	
Part-Time Employment	0.80	0.15	1.12	0.12
In Education/Apprentice	0.74	0.15	0.47	0.07***
Inactive*France	1.39	0.76	1.83	0.46**
Inactive*West Germany	(a)		1.19	0.24
Inactive*UK	2.24	0.80**	3.64	0.74***
Short-Term Unemployment (1-4 mo.)*France	1.64	0.48*	1.19	0.25
Short-Term Unemployment (1-4)*Germany	0.69	0.29	0.97	0.31
Short-Term Unemployment (1-4)*UK	1.29	0.50	1.23	0.51
Longer Unemployment (> 4 months)*France	1.23	0.44	0.86	0.18
Longer Unemployment (> 4)*Germany	1.01	0.29	1.71	0.40**
Longer Unemployment (>)*UK	1.22	0.38	2.22	0.80**
Partner's Employment Status				
Unemployed / Inactive?	1.79	0.17***	1.19	0.19
Unemployment Rate				
Regional / NUTS1	1.00	0.01	1.00	0.01
Individual Income (Euro/Month PPP adjusted)				
Net Income from Work & Assets	1.05	0.03	1.07	0.04*
Partner's Net Income from Work & Assets	1.11	0.04***	1.06	0.04
Relative Income				
Reference: Equal Income Level	1		1	
Traditional (♂ 1/3 above ♀)	1.09	0.08	1.10	0.08
Female Main Earner (♀ 1/3>♂)	0.98	0.12	0.89	0.10
Education				
Reference: 2 nd Stage of Secondary E. (ISCED 3)	1		1	
Less than 2 nd Stage of Secondary E.(ISCED 0-2)	1.27	0.10***	1.14	0.09*
Third Level Education (ISCED 5-7)	0.96	0.07	1.05	0.07*
Partner's Education				
Reference: 2 nd Stage of Secondary E. (ISCED 3)	1		1	
Less than 2 nd Stage of Secondary E.(ISCED 0-2)	1.09	0.09	1.16	0.09**
Third Level Education (ISCED 5-7)	1.02	0.07	0.91	0.07
Type of Relationship				
Reference: Consensual Union	1		1	
Married	2.88	0.20***	2.61	0.18***
Summary Statistics				
n of Person-Months	113154		115872	
n of Subjects / Events	3212 / 1370		3241 / 1421	
Log Pseudo likelihood	808.68		819.57	
Wald Chi²	24739.89***		25378.82***	

Source: ECHP 1994 to 2001 (author's calculations). Cohorts 1960-1981

Note: Estimated Ratios apply to monthly hazards. Robust standard errors. (a) Results omitted due to low n of cases. Significance levels based on $p < 0.10$ (*), $p < 0.05$ (**) and $p < 0.01$ (***)

Omitted controls include public and self-employment (activity status dummy set), dummy variables for calendar year, earlier long-term unemployment, flag variables for missing values, and piecewise constant terms for age.

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