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## Labour Market Integration, Occupational Uncertainty, and Fertility Choices in Germany and the UK

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### *Research Article*

## **Labour market integration, occupational uncertainties, and fertility choices in Germany and the UK**

**Christian Schmitt**

This publication is part of the Special Collection on “Employment  
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Kreyenfeld, Gunnar Andersson & Ariane Pailhé.

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## **Labour market integration, occupational uncertainties, and fertility choices in Germany and the UK**

**Christian Schmitt<sup>1</sup>**

### **Abstract**

Contrasting the conservative German welfare state with the liberal market economy of the United Kingdom, this paper examines how each welfare regime affects the first-birth decisions of men and women under the conditions of either high labour market integration (full-time work in a permanent position) or occupational uncertainty (part-time work or work with a fixed-term contract). The results, which are based on BHPS and GSOEP data, suggest for Germany that occupational uncertainty hampers transitions to parenthood, but are inconclusive for the UK. Among highly educated women in both Germany and the UK, however, a high degree of labour market integration is found to delay family formation.

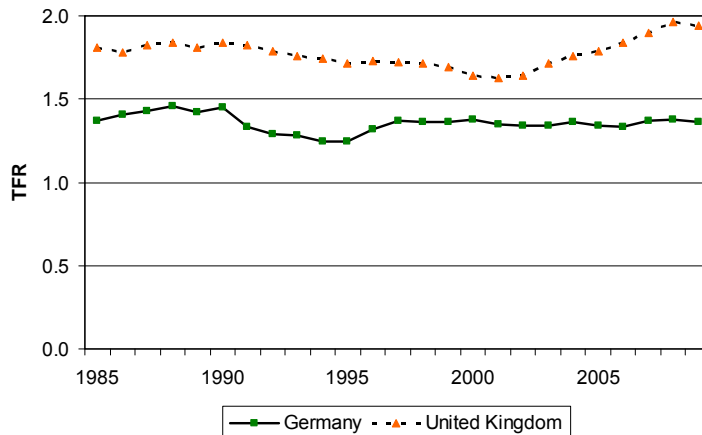
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## **1. Introduction**

Family formation is a key turning point in the life course, and for many potential parents today, achieving the financial security necessary to start a family is a difficult and time-consuming process. Recent research has focused on how fertility decisions are shaped by the relationship between social policies, labour market conditions, and the changing gender contract (Oppenheimer 1994, Brewster and Rindfuss 2000, Crompton and Lyonette 2006, McDonald and Meyers 2009). This study extends this research by investigating how individual labour market integration (i.e., obtaining a permanent full-time job that is in line with one's vocational training, and/or acquiring the education or professional record that provides access to such a job) might expedite the realisation of fertility plans by providing the economic resources needed to start a family. The welfare state plays a key role in this process by determining general labour market risks and options. Against this backdrop, couples have to decide whether their family plans require one or both partners to have a stable position in the labour market to compensate for low levels of welfare state support to families (Hobcraft and Kiernan 1995). Furthermore, they must do so in the context of culturally and institutionally embedded gender roles, which in some societies lead to conflicts between the occupational and domestic duties assigned to women.

To better understand the role of institutions that structure male and female employment patterns and thereby affect family formation, I compare fertility choices in Germany (East and West) and the United Kingdom. These two countries provide a meaningful basis for comparison because, while they share traditional expectations of female caregivers, the UK has a lower level of welfare state protection and a more deregulated labour market than Germany. Thus, relative to Germany, the institutional features of the UK system tend to encourage female labour market engagement. Although this means that British women face particularly high hurdles in adapting to the competing demands of market and family roles, the total fertility rate in the UK clearly exceeds that of Germany (Figure 1). Against this backdrop, I aim to examine the micro-level mechanisms that explain fertility choices in the context of labour market participation in East and West Germany and the UK.

**Figure 1: Total fertility rates in Germany and the UK, 1985-2009**

Source: OECD Family Database – Fertility Indicators (OECD 2011a). Online database.

Note: Values before 1990 based on East and West Germany

Distinguishing country- and gender-specific effects, my analysis focuses on two aspects of the relationship between labour market integration and fertility decisions: first, I address the question of how the timing of the first birth is affected by the duration of active labour market participation under the assumption of increasing labour market integration over time; and, second, I investigate whether differences in the first-birth risk depend on being firmly established in the labour market, or on being exposed to occupational uncertainties. In other words, I consider the extent to which the fertility decisions of individuals who are strongly integrated into the labour market (defined as having a stable full-time job and/or high income) differ from those of individuals who are poorly integrated (defined as having discontinuous and/or precarious employment patterns).<sup>2</sup>

For the cross-national comparison of male and female fertility behaviour, I use microdata from the British Household Panel Study (BHPS) and the German Socio-Economic Panel (SOEP). The window of observation extends from 1991 to 2007. This makes it possible to link fertility choices to work patterns and supplementary biographical data covering more than a decade.

<sup>2</sup> A discussion of what constitutes successful labour market integration—as opposed to occupational uncertainty—is found in Section 2, and in more detail in section 3 (p. 266ff.).

The following section (2) discusses relevant features of the welfare regime and the institutional orientation predominant in each country. This will help to establish the comparative framework and highlight how different institutional incentives and disincentives shape the relationship between labour market integration and fertility choices. Section 2 concludes by formulating a set of hypotheses that are deduced from the comparative framework. Section 3 specifies the event history model of transitions to the first birth and provides relevant information on the sample selection using BHPS and SOEP data. Based on these methodological foundations, Section 4 presents the descriptive findings, and Section 5 discusses the multivariate results.

As stated above, this article examines how occupational stability or uncertainty affects fertility choices, and thus assumes that a high level of labour market integration, defined as holding a permanent full-time job, provides a sound economic basis for family formation. At the same time, however, having a high degree of labour market integration with a well-paid job also increases the shadow price of having a child, whereas having a discontinuous career or a job loss may decrease this shadow price. The inverse relationship between occupational stability and the opportunity costs of parenthood is fundamentally mediated by a country's labour market structure, which differs between men and women to the extent that the welfare state encourages either more egalitarian gender roles or a female caregiver model. This consideration of the role of the welfare state substantiates the comparative perspective of this study.

## **2. Cross-national framework and institutional orientation in Germany and the UK, 1991–2007**

The following discussion of key characteristics of the German and the British welfare states is based on the underlying assumption that a significant proportion of transitions to parenthood are the consequences of rational choices in interaction with biographical planning processes. From a micro-theoretical perspective, family formation can thus be seen as a major life course goal, satisfying higher-order needs for social approval and (physical) well-being. From the perspective of social production function theory, family formation and the pursuit of a career both provide intermediate means of attaining these higher-order goals (Lindenberg 1990). However, family formation and the pursuit of a career are interchangeable only to a limited extent, since participation in gainful employment is required to maintain a livelihood, whereas parenthood offers a universal, non-substitutable source of gratification (Nauck 2007). On the other hand, many parents-to-be consider having a stable job to be a prerequisite for family formation, and believe that non-standard and discontinuous employment patterns would undermine the economic foundations for a future family.

Against this micro-theoretical backdrop, the orientation of the welfare state plays a key role in determining how occupational stability or uncertainty affects individual childbearing decisions. A highly deregulated labour market, like that of the UK, reduces job stability and signals a higher degree of occupational uncertainty (McGinnity 2004). The more generous German welfare state may reduce some of these uncertainties through its comprehensive system of social protection. However, a highly regulated labour market accentuates the divide between labour market insiders and outsiders (Hall and Soskice 2001). These factors and other differences in welfare state orientation, such as the degree to which traditional gender roles are reproduced, make cross-national comparison a useful analytical tool for investigating the mechanisms underlying the relationship between labour market integration and family formation.

## **2.1 Labour market integration and uncertainty in the cross-national framework**

The British and German welfare states exhibit key differences in the opportunity structures that determine how the individual labour market situation affects fertility decisions. In the context of these structures, occupational uncertainties and discontinuous employment patterns tend to hamper the process of labour market integration. A high level of labour market integration can be defined as holding a stable job - usually a permanent, full-time job with pay and position providing a close fit to the individual's type and level of skill endowments (see section 3 for a discussion of the operationalisation of this indicator). It has been argued that a stable job is generally a prerequisite for family formation (Andersson 2000, Kreyenfeld 2010). Importantly, this idea of integration into the labour force through a "standard" full-time job is a primarily male occupational model, and women frequently deviate from this pattern, as demonstrated by the high prevalence of part-time employment among women in Germany and the UK. The implications for the modified male breadwinner model prevalent in both societies associate *male* part-time employment with reduced earnings capacity. And, while many studies have focused on how fertility transitions affect the labour supply of mothers who tend to reduce their working hours (Blackwell 2001, Zollinger-Giele and Holst 2004, Gregg et al. 2007), little evidence is available on whether female part-time employment delays or expedites family formation (by either reducing financial backing or providing more time for childcare).

In this context, a simultaneous combination of (part-time) work and family formation may be a viable strategy for reconciling parenthood with career aspirations, particularly as occupational choices are sensitive to delays, and the failure to take advantage of career opportunities when they arise often limits future job options. However, starting a family while educational investments have not been fully



consolidated into a position of corresponding status (which may be signalled by part-time employment, fixed-term contracts, or unemployment) is likely to lead to a depreciation of human capital investments. Starting a family in an environment of occupational uncertainty makes it even more difficult to convert educational investments into a stable and rewarding job. For this reason, as well as in order to minimise the risk of becoming financially dependent on a male breadwinner, women who have invested a great deal in their education are likely to seek to attain a *stable* labour market position prior to family formation (Brewster and Rindfuss 2000).

Accordingly, Kreyenfeld (2010) has found that, while unemployment generally fosters the transition to motherhood among German women due to the lower opportunity costs associated with having a child when unemployed, this is not the case for women with a university degree. In a similar study, Ekert-Jaffé et al. (2002) found that more highly educated women in the UK also tend to focus on their career, thus delaying fertility choices. These findings correspond with the results of a study by Meron and Widmer (2002), who showed that French women have a *lower* propensity to have a child if they are unemployed. Compared to British women, French women seem to have more in common with their male counterparts, for whom unemployment or fixed-term employment generally translate into economic uncertainty, thereby delaying family formation (Kravdal 2002, Tölke and Diewald 2003, Kurz et al. 2005).

## **2.2 Welfare state support and caregiver models in Germany and the United Kingdom**

Since parenthood involves a long-term commitment, job stability plays a key role in ensuring that the future family has a sustainable economic foundation. Generous benefit systems may reduce the need to establish a strong position on the labour market, thus enabling individuals to start a family even when they face occupational hardships. The German welfare state provides generous levels of social support and protection from risk. It encourages informal, private solidarity through public policies that support and privilege the nuclear family. Family policies, and especially tax structures, reflect the legacy of the female homemaker/male breadwinner model, particularly in West Germany (Mätzke and Ostner 2010). Moreover, a broad range of transfers depend on the recipient's current or previous labour market status (Esping-Andersen 1999), which prevents female caregivers from accessing key resources of social support, and increases their dependence on a (male) breadwinner. Hence, the German institutional context, despite offering a high degree of protection, exposes women in particular to the

risks of economic and social dependence<sup>3</sup> (DiPrete 2002). This results in an ambivalent situation for women, with some institutional incentives encouraging continuous labour market participation (in order to maintain transfer eligibility and economic autonomy), and other incentives and social norms strongly encouraging compliance with female caregiver roles. In contrast, the UK provides a lower level of social support, protecting families from only the most severe risks and hardships. This low level of welfare state involvement also means, however, that the British welfare regime is less likely than the German system to reproduce a gender-based division of labour. Moreover, unlike the German system of joint taxation, the UK's individual-based tax system does not discourage married women from working. This battery of incentives and restricted support promotes a dual-earner family model, particularly among couples in low-paying jobs and precarious employment who need a second income to provide for a family. These factors may cause couples to delay or avoid starting a family.

Meanwhile, the childcare supply in the UK follows the principle of encouraging diversity through a largely privatised system (Mahon 2002: 354). Accordingly, private childcare in the UK ranks among the most costly in the EU (Bradshaw and Finch 2002), rendering it unaffordable for couples in low-paying jobs. The National Childcare Strategy introduced by the new Labour government in 1997 resulted in a slight increase in the supply of public childcare, but did not substantially improve the situation for working mothers (Smith 2003). Moreover, in 1999, under pressure to comply with EU legislation, the UK extended parental protections from a very short period to (unpaid) parental leave of 13 weeks with basic re-instatement rights (OECD 2010a). This limited support places a severe burden on parents in the UK, but particularly on British mothers, who encounter normative expectations that they fulfil the prime caregiver role that are similar to those faced by their German counterparts (Crompton and Lyonette 2006). As in most European countries, the use of childcare leave by men in the UK remained below 2% during the time of observation (as in Germany; see Haas 2003). However, paid paternity leave around childbirth, introduced in the UK in 2003, offers at least a small incentive for fathers to share childcare responsibilities, which suggests that there have been cautious attempts to depart from traditional gender role models. Meanwhile, Germany still lacks a similar form of paid paternity leave (European Commission 2011).

In contrast to the UK, Germany provides generous child-related benefits and generous maternity leave arrangements. Importantly, until 2007, these arrangements tended to reduce the female labour supply by guaranteeing re-instatement rights for as

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<sup>3</sup> East German women still appear to be affected by the GDR's persistent legacy of encouraging female employment (Hašková and Klenner 2010), which is reflected in their higher overall employment rates and a lower rates of part-time employment. The greater economic autonomy of East German women, however, is counterbalanced by the greater threat of occupational uncertainties and the higher unemployment risk they continue to face more than 20 years after reunification.

long as three years after childbirth (including two years of paid maternity leave, though some jobs, such as short-term and freelance work, were not covered by this rule; Ondrich et al. 1999). As fathers in both countries rarely use even a portion of the available leave, childcare remains primarily a maternal task. This trend is intensified by the limited supply of publicly subsidised childcare institutions, particularly in West Germany, which makes it difficult for women to combine working and childrearing. There is, however, a greater availability of childcare facilities in East Germany—a lingering reflection of the ideal of the working mother that was prevalent in the GDR. Since 2000, politicians have promised repeatedly to extend the availability of childcare, but the supply has remained virtually unchanged. This confluence of factors—the limited childcare supply, generous benefits and parental leave policies, and a tax structure favouring single-earner families (Apps and Rees 2005)—have led German mothers to retreat from the labour market. When combined with a persistent pay gap between men and women, this system promotes dependence on a male breadwinner. A slight departure from this model occurred with the 2007 parental leave reform, when *Elterngeld* was introduced. This benefit, which replaces up to two-thirds of the income of parents who take parental leave, was designed to encourage mothers to participate in the labour market and fathers to take a portion of the paid parental leave. Because this reform was introduced after our period of observation (1991–2007), it does not affect our view of the incentive structure in German family policy regulations.

Comparing Germany and the UK, one might conclude that Germany's generous reinstatement rights and leave regulations promote family formation by protecting parents from occupational demands. Yet, in practice, prolonged parental leave frequently entails a depreciation of skill endowments, and thus undermines labour market integration. As a consequence, this institutional orientation consigns women to caregiver roles, and fails to take into account women's career aspirations, thus aggravating conflicts between work and family, particularly for women who have invested a great deal in their education (McDonald and Meyers 2009). Women face a similar conflict in the UK, where a culture of traditional gender roles coincides with a social welfare system that provides little welfare state support for mothers (childcare in particular; see Daly and Rake 2003). The German system exacerbates this conflict to an even greater extent, however, reinforcing the male breadwinner model by encouraging women to become homemakers, while ensuring that work/family conflicts for men remain negligible. Accordingly, in Germany, women jeopardise their career aspirations by having children, particularly if they have high skill endowments. In the UK, and even more so in Germany, these women are reluctant to enter motherhood, as the high rates of delayed childbearing and childlessness among highly educated women show (Schmitt 2008a).

### **2.3 Characteristics of the German and British labour markets**

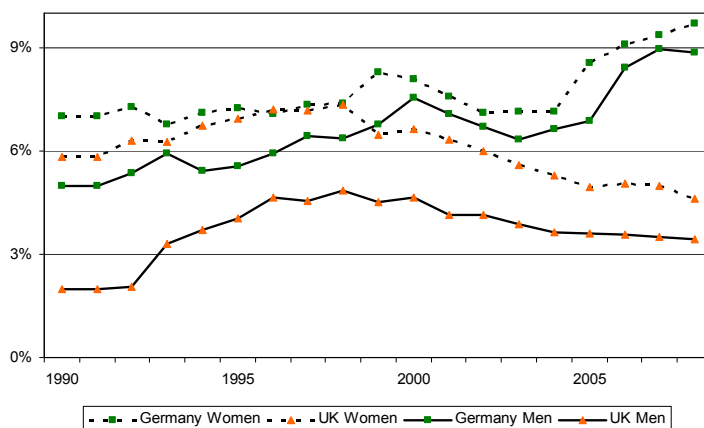
Compared to most other industrialised countries, labour market participation rates are high in both Germany and the UK, especially among women (OECD 2010b). However, many women work only part time. Marginal part-time work in the UK is closely associated with the phenomenon of the working poor, while part-time work in Germany provides job security and wages that significantly bolster women's economic positions (Prince Cooke 2011).

While female part-time work has been common in the UK over the last decades, it has been increasing steadily in West Germany since the 1970s. The slight stagnation in this growth in the early 1990s was due primarily to the large influx of full-time working women from East Germany into the reunified labour market. In addition to the change in the composition of the labour market, the increase in part-time employment since the 1970s has been crucial in increasing female labour market participation. The high share of women in part-time work reflects their economic vulnerability and their difficulties in establishing themselves on the labour market. Finally, the high share of female part-time employment accounts for a large percentage of the gender wage gap in Germany, and for an even larger percentage of the gap in the UK (McGinnity and McManus 2007).

The combination of high female labour market participation on the one hand, and exceptionally high rates of part-time employment on the other, is closely associated with work-family conflicts (Zollinger-Giele and Holst 2004). The association between part-time employment and gender role conflicts is also reflected in the fact that part-time work among men is common only for short phases when entering the labour force or transitioning into retirement.

Fixed-term employment contracts are often responsible for occupational uncertainties, and may reflect a low degree of labour market integration. Moreover, fixed-term jobs are generally subject to weaker employment protections. Accordingly, the share of fixed-term employment is higher among women, who often have discontinuous employment histories due to the competing demands of work and family, and hence face greater difficulties in establishing themselves in a steady job (see Figure 2). Moreover, fixed-term jobs are more prevalent in Germany, where contracts with unlimited duration are subject to extensive legal protections. Because of these protections, employers are more reluctant to offer permanent jobs to new employees unless they have a strong record of professional skills or have attained a certain level of seniority. Essentially, the wage difference between permanent and temporary jobs in Germany is below 10%, while it is much higher in liberal market economies like the UK (Gash and McGinnity 2007). Thus, the main divide between permanent and fixed-term employment in Germany runs along the lines of occupational uncertainties, rather than of income differentials.

**Figure 2: Fixed-term employment in Germany and the UK, 1990-2008**



Source: OECD Employment and Labour Force Statistics (OECD 2010b). Online database.

Differences in employment protection legislation (EPL), as shown in the OECD EPL indicator (scaled from zero to six, with zero representing no employment protection) are seen in the extent of legal protection a) in regular employment, b) in temporary employment, and c) from collective dismissals. Importantly, the UK, with an overall EPL score of 1.1, had a much lower level of protection in 2003 (OECD 2004). With respect to temporary work, however, the German labour market reforms that culminated in the introduction of “Agenda 2010” in 2003 greatly weakened employment protections for temporary workers, reducing the EPL indicator from 3.8 in the early 1990s to 1.8 in 2003 (OECD 2011c). This development also reflects increasing difficulties in the transition from education to a first stable job (Mills and Blossfeld 2005). This means that the relatively unprotected group of fixed-term workers, in which women and young people are overrepresented, became even more vulnerable to occupational uncertainties in the late 1990s and since.

While temporary jobs are already associated with slight (Germany) to severe (UK) wage penalties, unemployment is accompanied by a decisive decline in income, with the severity depending on the generosity of the unemployment benefits. The UK provides much lower unemployment insurance benefits than Germany (£50- £83/week), in line with its orientation towards a flexible labour market with strong work incentives. In contrast to Germany, the UK does not provide unemployment assistance after the eligibility for unemployment insurance benefits expires. The amount of welfare aid (income support or jobseeker’s allowance post-1996) is reduced substantially after six

months, and is subject to strict means-testing. Unemployment benefits in Germany provide 60% income replacement (67% for parents), and are available for six to 32 months (depending on contribution duration; European Commission 2006, 2011). The benefit levels and eligibility duration remained stable overall throughout the period of observation, 1991-2007.

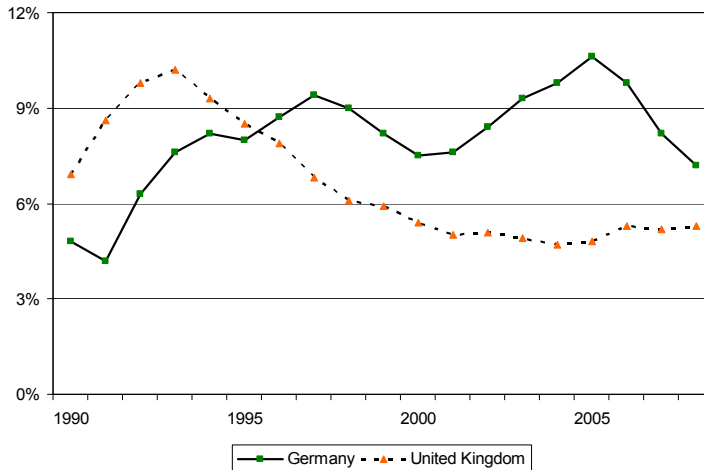
However, in Germany, the Agenda 2010 reforms introduced a welfare-to-work programme in 2003, which culminated in the limitation of benefit eligibility duration and more restricted access to subsequent unemployment assistance. In the UK, a similar series of programmes aimed at providing focused support for a target group was introduced under the “New Deal” in 1996/1997. However, the reforms introduced in the 1996 Jobseeker’s Allowance (JSA) led to only minor adjustments in benefit levels and eligibility rules. This system remained widely unchanged until 2000/2001, when JSA eligibility was further restricted for couples, and activation programmes for the long-term unemployed were initiated. A more flexible New Deal activation programme was introduced in 2008-2010, but this is after the period of observation of this study (Smith 2003, European Commission 2011). In theory, the British system provides strong incentives to re-enter the labour market quickly. For childless couples facing occupational uncertainties, this probably serves as a disincentive to start a family.

Nevertheless, the comparison of unemployment rates in Germany and the UK shows that the overall risk of job loss has been much lower in the UK since the second half of the 1990s, when the British economy entered a period of rapid growth. Over the same period, by contrast, unemployment in Germany was relatively high (see Figure 3). At the same time, the risk of welfare dependency in Germany increased substantially, with almost 50% of all unemployment being long-term. This was also a consequence of the fact that a growing percentage of German workers had obsolete vocational qualifications, and therefore became increasingly vulnerable to the risk of job loss and the threat of long-term unemployment (Mills and Blossfeld 2003, Kurz et al. 2006). Although government retraining schemes and institutional incentives to invest in employee training used to be key elements of German welfare policies aimed at creating a skilled workforce (Hall and Soskice 2001), labour market deregulation and increasing global competition took a toll beginning in the mid-1990s. In the UK, by contrast, the threat of becoming long-term unemployed was and still is mitigated by a high turnover rate, which makes exits out of employment, as well as re-entries into the labour market, more common (McGinnity 2004: 121)<sup>4</sup>.

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<sup>4</sup> British unemployment rates should be taken with a grain of salt: particularly female unemployment, which in fact falls short of male rates (clearly distinguishing the UK from most European countries, see OECD 2007), suffers from underreporting due a limited benefit eligibility due to means testing on partner earnings.

**Figure 3: Unemployment rates in Germany and the UK, 1990-2008**



Source: OECD Employment and Labour Force Statistics (OECD 2011b), Online database

## 2.4 Hypotheses

### a) Uncertainty versus stability

The above discussion emphasised that individuals in the UK face a lower level of social protection against occupational uncertainties. In this context, family formation appears to be more likely when an individual holds a stable and well-paid job. Although a comprehensive social security system reduces the risk of occupational uncertainties in Germany, the country's more rigid employment regulation produces outcomes similar to those seen in the UK. This is because, in Germany, the risk of being unable to gain a secure foothold in one's profession (i.e., of becoming fully integrated into the labour market) is higher: employment protection makes employers reluctant to offer permanent jobs, and job loss entails the risk of long-term unemployment due to the insider-outsider divide. In such a context, individuals are likely to postpone family formation until they feel sufficiently integrated into the labour market by having a permanent, full-time job, or until severe risks of unemployment have been contained.

## **b) Employment uncertainty and available time**

Precarious employment patterns, characterised by long spells of part-time work, fixed-term employment, and unemployment are likely to erode the economic foundations for a future family. However, some of these types of occupational uncertainties also increase the amount of time available to spend on childcare. Hence, the question of whether one should accelerate or postpone parenthood when unemployed or only employed part-time is likely to depend both on the country's benefit structure and on gender-specific caregiver and breadwinner expectations. In this context, strong labour market integration among men, in the form of permanent full-time employment, should increase the propensity to start a family, since this would conform to the male breadwinner norms that are embedded in both German and British culture. In contrast, women should profit from the increased time available if they have lost a job or entered part-time employment. It can be hypothesised that women employed part-time in Germany should show a higher propensity toward family formation, since the extensive legal protections of part-time work in Germany include generous re-instatement rights, and because these types of jobs are, on average, better paid than in the UK. Moreover, when they are unemployed, German workers receive more generous and less restrictive unemployment benefits than British workers. The threat of long-term unemployment and permanent economic dependence—either on government benefits or on a male breadwinner—should curb this positive fertility effect in Germany, whereas the greater flexibility of the British labour market means that a woman runs a lower risk of lasting labour market exclusion if she is unemployed, making childbearing during phases of unemployment a more attractive choice in the UK than in Germany.

## **c) Educational differentials**

More highly educated women are likely to delay family formation when facing occupational uncertainties in order to safeguard their educational investments by securing a rewarding position on the labour market (i.e., by strengthening their labour market integration). Women with lower human capital investments, who face a higher risk of precarious employment or job loss, can be expected to favour family formation over labour market integration. For them, a focus on the homemaker role might be the more rewarding option, as it might diminish contingency across the life course (Friedman et al. 1994). Moreover, the pursuit of social status through parenthood may offer an opportunity to gain social approval when occupational achievements cannot (Tölke and Diewald 2003). This effect should be more salient in Germany, where government incentives still encourage a traditional division of labour, than in the UK, where having a second income remains essential.



#### d) Job stability and continuous employment

Consolidating one's career position through the accumulation of firm- or job-specific human capital, which often increases with the duration of continuous employment, is an indication of strong labour market integration. Thus, the likelihood of starting a family should increase with the duration of continuous employment. The time needed to gain a foothold in one's profession is likely to be shorter in Germany, as the human capital acquired in vocational training is more focused on specific job profiles and aimed at ensuring that a high percentage workers are appropriately trained (Grunow and Mayer 2007). In contrast, job changes are more frequent in the UK due to the less binding employment relations prevalent there (Hall and Soskice 2001).

### 3. Data and methods

#### 3.1 Database and indicators

The data used in the empirical analysis came from the British Household Panel Study (BHPS) and the German Socio-Economic Panel (SOEP).<sup>5</sup> Both studies are representative household surveys based on a longitudinal design, and thus provide an outstanding basis for the empirical analysis of fertility-employment dynamics. The BHPS, which started in 1991, covers over 9,300 households and more than 16,500 individuals, while the SOEP, which started in 1984, offers a database of over 12,600 households and more than 23,800 individuals (as of 2002). Because the surveys are similar in design and rely on a largely similar questionnaire in the relevant areas, they provide a reliable basis for comparison between Germany and the UK.

To investigate how precarious employment and the extent of labour market integration affect *family formation*, I consider the *transition to first birth*<sup>6</sup> (see Table A2 and Table A3). Both the BHPS and the SOEP provide detailed fertility histories of women and men,<sup>7</sup> which can be linked to extensive employment histories. A key focus of the following analysis is the extent of each individual's integration into the labour

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<sup>5</sup> For a description of the SOEP data structure, subsamples, and questionnaires, see [http://www.diw.de/en/diw\\_02.c.222857.en/documents.html](http://www.diw.de/en/diw_02.c.222857.en/documents.html) (see also Wagner, Frick and Schupp 2007). Information on the BHPS is available at <http://www.iser.essex.ac.uk/bhps/documentation> (see also Taylor et al. 2010).

<sup>6</sup> Most parents have subsequent children relatively soon after their first in order to minimize the duration of labour market absence and to reduce burdens associated with parenthood (Frejka and Sardon 2007). This would effectively suppress the impact of key factors that are the focus of this study.

<sup>7</sup> In case of the SOEP, men's birth biographies are available only for respondents who entered the panel in 2000 or later. For transitions to first fatherhood prior to 2000, the fertility history has been reconstructed on the basis of observed household structure. This causes a slight bias if fathers and first-borns no longer co-reside.

market, as well as the extent of the occupational uncertainty and discontinuous employment the person faces. It is assumed that a *stable full-time job with a permanent contract* (reference category) closely corresponds to the paradigm of successful labour market integration. In contrast, occupational uncertainties such as *working part-time*, *holding a fixed-term job*, or *being unemployed* (measured as reported unemployment or subsequent inactivity) are assumed to indicate a deviation from this ideal, although *part-time employment* among women may also act as a coping strategy for reconciling the demands of work and a future family. I have argued above that unemployment can have different effects with respect to fertility decisions (negative impact on economic resources, and positive opportunity cost effects), and that these effects may vary across educational groups. Accordingly, I consider the interaction effects between *educational attainment and unemployment*, as well as between *unemployment and age*, as fertility plans may be subject to the goal of establishing oneself in the labour market prior to family formation (<30), or to having little time left for childbearing (>=30) (see also Andersson 2000, Vikat 2004).

Aside from these variations in activity status that deviate from the ideal of a permanent full-time job, I consider the *time since labour market entry* (defined as a minimum of six months of part-time or full-time work *after* leaving school or higher education). I do so in order to investigate whether the transition into the labour market initiates a consolidation process that signals “readiness” for parenthood, regardless of occupational success. Additionally, I take into account whether the *initial labour market position*—being appropriate to, above, or below the level of skill endowments—plays a role in signalling a good or bad start to a career (see also Tölke and Diewald 2003). Moreover, I consider *income mobility during the last year* (defined as changes in annual income of at least 10% beyond a €1,000 threshold) as a determinant of career progress that might bolster confidence in the ability to support a future family. An *index of overtime work* in relation to working hours serves to indicate both time constraints and the degree of occupational attachment.

Additional covariates include *net personal income*<sup>8</sup> (indicating job performance and economic backing) and *public transfers*. Whether the person receives public benefits is taken into account, as it is assumed that this describes the economic situation in detail, and that it also signals economic dependence in the case of high transfers. *Educational attainment* is determined by considering the highest level of completed primary or secondary schooling, as well as any tertiary degrees. As an indicator of personal preferences, I include the importance of having children, as well as the

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<sup>8</sup> For the UK, only gross income is available. This leads to an estimate bias as redistribution effects of taxation are ignored. However, redistribution remains limited in the UK, while the principle of individual taxation reduces redistribution between spouses, in contrast to Germany (Apps and Rees 2005).

importance of having a good job, as these indicators might reflect the internalisation of norms, and thus the favoured means of attaining social approval and well-being.

Since childbearing decisions are almost always made by both partners (Thomson and Hoem 1998), I will also consider the partner's resources in a final set of estimates (Model III). These resources include the *partner's income, education, unemployment*, as well as the predominant *work-family arrangement*, indicated by the income relationship between partners, which also signals the relative bargaining power of the partners in decision-making. Except for a control of migration background (*foreign region of origin*), all of the variables have been recorded as time-varying, including changes in educational attainment or marital status (for descriptive statistics on the set of independent variables, see Table A1).

Analyses for Germany rely on the SOEP subsamples A-F, including the overrepresented East German sample (C); while excluding the recent refreshment sample (H) due to its limited duration of observation, as well as the high-income sample (G) and part of the immigrant sample (D), since the latter two did not use a random sampling procedure. Analysis of the BHPS is limited to the 1991 base sample, since further sample additions, such as the ECHP sample (wave 7+), and the Scotland and Wales samples (wave 9+), are missing retrospective information between 1991 and their introduction (Taylor et al. 2010). The multivariate analyses rely on a semi-balanced rolling panel (respondents have to participate in at least two consecutive waves). This longitudinal design and specific selection of the population at risk (childless men and women from specified birth cohorts) inhibit the application of standard cross-sectional or longitudinal weights. However, most of the factors that are subject to design- and longitudinal-weighting procedures are considered as controls in the multivariate models.<sup>9</sup>

### 3.2 Design of the multivariate model

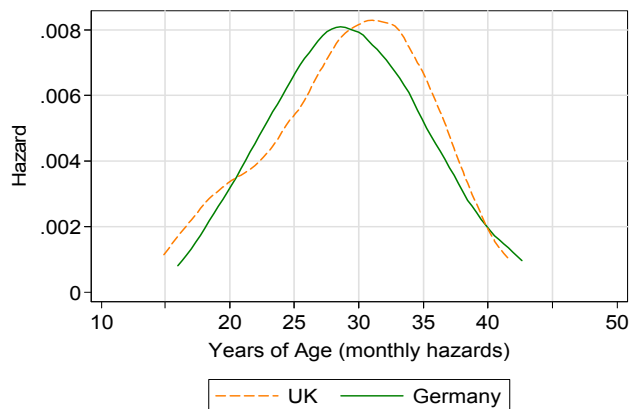
I focus on the *transition to the first birth* in the context of labour market behaviour; or, to be more precise, on the *decision to have the first child*. The focus on the population at risk made it necessary to limit the analysis to individuals who are (still) able to have a first child based on a range of social and biological factors. This excludes persons who are still in their fertile years but who had already become parents before the period of observation (1991–2007). To minimise a left-censoring bias, I focus the multivariate analyses on the cohorts 1965–1982 (effectively limiting the age range to 16–43). This

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<sup>9</sup> This includes the distinction between East and West Germany in case of the SOEP, age, income, activity status, as well as relationship status, which serves as a close proxy for household size among the childless sample population (Kroh and Spieß 2008, see also Vandecasteele and Debels 2007).

constitutes a trade-off between covering most of the fertile life span up to the age of 45 and minimising a left-censoring bias. A bias remains, particularly for the older cohorts (1965–1975), with the 1965 cohort entering the sample in 1991 at age 26. Up to this age, however, the first-birth risk remains comparatively low (see Figure 4).

**Figure 4: Hazard rates of first motherhood in Germany and the UK (Cohorts 1965-1982)**



$n_{DE} = 3.628$ ;  $n_{UK} = 2.047$ ;  $events_{DE} = 1.443$ ;  $events_{UK} = 850$   
 Source: BHPS & GSOEP 1991 to 2008; (author's calculations)

The transition to the first birth as a *dependent variable* is related to parental age. In approximating the time of the *decision* to have a child, I backdate the time of birth by 10 months.<sup>10</sup> Since the forces that drive fertility decisions vary across age groups, I apply an *exponential hazard model* with the extension of *piecewise constant* estimates. In this type of model, the estimates between time intervals are based on the calculation of separate baseline hazards. As I base my analysis on a monthly measure of the dependent variable and central covariates (particularly the fertility histories and the recent employment history), these discrete indicators provide a sufficient approximation of the continuous time scale inherent in the exponential model (Jenkins 2005: 19f.).

I define the risk of transition to first birth at a baseline hazard  $\bar{\theta}$ , which varies by age with steps around the 16<sup>th</sup>, 21<sup>st</sup>, 26<sup>th</sup>, 34<sup>th</sup>, and 39<sup>th</sup> years of life, thus approximating a normal distribution of the hazard of having a first child, as displayed in Figure 4

<sup>10</sup> Evidence of conception probabilities derived from various medical studies suggest that the proportion of couples unable to conceive within two to three cycles is in fact very small, even in the later years of the fertile phase (Bongaarts 1982), which corroborates the reliability of this procedure of backdating.

(reaching a peak at around the 28<sup>th</sup> [German women] to 32<sup>nd</sup> [British women] years of life). The process time is considered in months since the respondent's birth. The time at risk of making a first-birth decision is defined as starting with the 16<sup>th</sup> year of life and ending with the 43<sup>rd</sup> year of life (months 192–516). Regression parameters  $\gamma$  and  $\beta$  refer to the time-variant (z) or the time-invariant (x) set of covariates considered in the analyses. Thus, the hazard rate  $\theta(t)$  for a first-birth decision is defined as follows:

$$\theta(t) = \bar{\theta}_t \exp(\beta' X_t + \gamma' Z_t(t)) \quad (0.1)$$

Where  $t_s$  defines the time intervals with constant baseline hazards:

$$t_{DE} \in (193, 252); (253, 306); (307, 402); (403, 460); (461, 516) \quad (0.2)$$

and  $t_{UK} \in (193, 252); (253, 320); (321, 420); (421, 460); (461, 516) \quad (0.3)$

#### 4. Results of the descriptive analysis

A glance at Figure 4 suggests similar age-specific hazards of first birth among women (cohorts 1965 to 1982) in Germany and the UK. A closer look reveals, however, that the peak of the first-birth risk occurs at a lower age in Germany, and that first-birth hazards in the UK up to the age of 20 exceed the rates in Germany, in line with the commonly reported findings of a high prevalence of teenage motherhood in the UK (Arai 2003, Ermisch and Pevalin 2003). Moreover, Germany shows higher rates of permanent childlessness,<sup>11</sup> which is fully in line with the lower German TFR. The majority of German women make the transition to parenthood within a rather limited time span, between the ages of 20 and 35; whereas in the UK, women tend to delay the transition to motherhood longer. The median age at the transition to first motherhood (fatherhood) is 24.6 (26.8) years in Germany, and 25.8 (28.2) years in the UK. The greater delay in the transition to first parenthood of 2–3 years among fathers is mainly related to the higher average age of men in partnerships, but might also be subject to a certain recall bias among men (Rendall et al. 1999).

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<sup>11</sup> The findings discussed in this section are based on additional Kaplan-Meier estimates of the transition to first parenthood and the age at labour market entry. These estimates can be obtained from the author upon request.

Shifting the focus to the entry into the labour market,<sup>12</sup> separate analyses for the 1965 to 1982 cohorts show that this key transition takes place in Germany at a higher age than in the UK. Obviously, the long periods of time spent in education and vocational training in Germany take their toll: the mean age at labour market entry is 20.7 years (with men entering slightly later than women). In the UK, entry usually occurs earlier, at a mean age of approximately 19.2 years. The values for the median labour market entry age diverge even more widely (17.3 in the UK versus 20.0 in Germany). These patterns can be linked to the lengthy programmes of higher education in Germany, which cause a much greater delay in labour market entry than in the UK, particularly among people with tertiary education (see also Haag and Jungblut 2001).

Summarising the above, in Germany, the first step into a career is taken later than in the UK. Yet the transition to the first birth tends to occur at an earlier age in Germany. The lengthy process of educational and vocational training in Germany, combined with what is, on average, an earlier transition to parenthood, can be explained in part by the higher prevalence of first births prior to labour market entry. In Germany, 14.3% (12.8% among men, 15.7% among women) of all first births occur *before* entering into employment, versus 10.3% in the UK (11.4% among men, 9.4% among women). This might be related to a stronger tendency among German women to focus on the homemaker role at the expense of a career. Norms of maternal care, as well as social policy frameworks in Germany, encourage this kind of gender specialisation. In the UK, the greater exposure to economic risk and the high level of commodification tend to prevent women from following such a sole homemaker model.

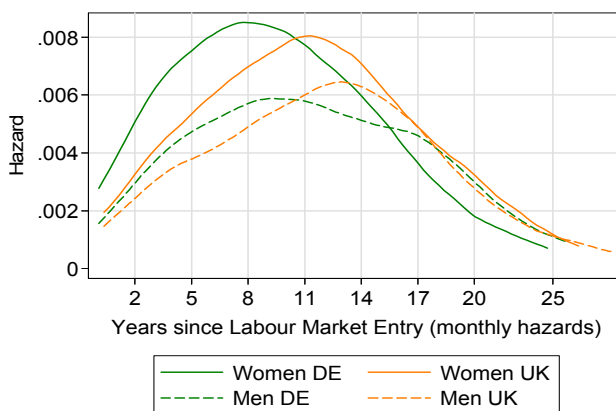
Figure 5 shows the hazard rates of transition to first parenthood among men and women in Germany and the UK who have already entered the labour market. The probability of having a first child increases *very* rapidly after entry into the labour market. This effect is accentuated among women, while the pattern of first-birth risk among men resembles a flattened version of the female patterns. As was noted regarding the median age at first birth, men generally reach the peak in first-birth hazard at a later age than women. However, in relation to births occurring after labour market entry, the discrepancy between men and women in the UK is less striking than among their German counterparts. Focusing on cross-country differences, German women show a rapid increase to high birth hazards in Germany, reaching a peak eight years after labour market entry (UK: 11 years). Obviously, the transition to motherhood in Germany follows labour market entry more closely than in the UK. In the UK, the flatter slope of the hazard and the lower peak reached at a later age reflect a greater variance in ages at first birth in relation to labour market entry. This could be related to

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<sup>12</sup> Defined as at least six months of continuous employment after leaving full-time education (see also Section 3).

the necessity to maintain a dual-earner model, resulting in a stronger reliance on labour market conditions that favour family formation, but that are not necessarily self-chosen.

**Figure 5: First-Birth Hazards after Labour Market Entry (Cohorts 1965-1982)**



$n_{DE} = 7.789$ ;  $n_{UK} = 4.403$ ;  $events_{DE} = 2.536$ ;  $events_{UK} = 1.595$   
Source: BHPS & GSOEP 1991 to 2008; (author's calculations)

## 5. Findings of the multivariate analysis

### 5.1 The transition to parenthood in light of labour market integration

Focusing the discussion of multivariate results on individuals who have not yet entered the labour market, a central finding is a distinct negative impact of enrolment in full-time education on family formation. This relationship holds true for both men and women in Germany and the UK (see Table A2 & Table A3). It is well-documented in the literature (see, e.g., Upchurch et al. 2002, Morgan 2003, and Billari 2008), and corresponds to norms that encourage delayed family formation until a minimum level of economic independence has been achieved. However, among those who have already entered the labour force, the results suggest there are distinct differences between male and female paths into parenthood.

Among men, labour market activities that do not correspond to the standard model of full-time work seem to hamper the **transition to fatherhood in both Germany and the UK**. In both countries, male part-time employment shows a negative impact on first

parenthood decisions (Model I, Table A2 and Table A3). Importantly, among German men, this negative impact of part-time employment vanishes after controlling for income (and public transfers), which in turn exerts a consistently positive impact on family formation in this group. This suggests that, in Germany, it is primarily the direct impact of reduced earnings that undermines the economic basis for starting a family, rather than a signal of reduced breadwinner capabilities, associated with only partial labour market integration in the form of part-time work. Moreover, in a set of basic estimates that focused exclusively on activity status,<sup>13</sup> a slight negative impact of unemployment became apparent for men in both Germany and the UK. The same effect appears in the estimates shown in Model I, but at significance levels below acceptable magnitudes.

However, aside from this quite plausible impact of occupational uncertainties restricting men's economic means to support a family, the findings suggest an exceptional pattern of transition to fatherhood in the UK. In contrast to men in Germany, where a significant income decline delays the transition to parenthood, downward income mobility among British men does *not* limit the likelihood of starting a family, as might be expected based on the arguments presented above. Moreover, a large amount of overtime work—often indicating high career aspirations and thus strong labour market integration—is *negatively* associated with the transition to fatherhood, and does not, as hypothesised, signal strong earner qualities. A similar pattern is seen in British men, who exhibit a negative likelihood of starting a family if they place a high priority on having a successful career (among German men, this indicator is not significant). While such a finding would be plausible for female fertility transitions due to the time conflicts women face in a country like the UK, with its dominant male breadwinner and female caregiver norms, a corresponding finding for male fertility patterns is surprising. In this context, male first-birth transitions in the UK show characteristics that resemble those of women in Germany and the UK, with work and family constituting competing life domains. A third finding corroborates this pattern of male work-family conflicts: after controlling for income and receipt of transfers, the initially negative impact of male unemployment reverts to being *positive* among men in the UK (Model II). That is, in this context, which reflects occupational uncertainty but a larger amount of time available, *increases* the likelihood of starting a family, leaving aside the income decline due to unemployment. This relationship is also significant among German men.

While it should be noted that this positive association between male unemployment and transitions to fatherhood may be a methodological artefact, the findings might also hint at a growing strategy among younger couples to increase male

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<sup>13</sup> Results not displayed. The estimates can be obtained from the author on request.



involvement in childcare.<sup>14</sup> Regardless of the prevalence of traditional gender roles in the two countries and the economic uncertainty associated with unemployment, the reduction in opportunity costs might play the key role in initiating family formation. Additional estimates that provide interaction effects between the level of educational attainment and unemployment show that the positive impact of unemployment is predominant only among men with medium (UK) to lower levels of education (Germany and the UK). This contradicts the above speculation to a certain extent, since it might be expected that more highly educated couples would be among the first to assume non-conventional gender roles. On the other hand, for men with medium to low levels of education, family formation might compensate for the status loss resulting from unemployment by boosting their social standing and self-esteem, while the threat of deteriorating human capital may stop more highly educated men from taking similar steps. Finally, such a departure from traditional gender roles could result not only from agreements between partners to lighten the load on the mother through stronger paternal involvement in childcare, but also from the improved bargaining positions of female earners, who assert their own fertility preferences.

Nevertheless, interpreting these facts to suggest that young families are gradually moving toward a female breadwinner model appears somewhat tenuous in light of the tight and unpredictable British labour market and the entrenched traditionalism of gender roles in Germany. The recent changes in social policies designed to promote paternal care through, for example, the introduction of paid paternity leave in the UK in 2003 or the introduction of the *Elterngeld* in Germany in 2007, came too late to be of relevance in explaining the above findings. Moreover, government policies are unlikely to induce such swift and fundamental shifts in predominant gender roles, especially in strong male breadwinner countries like the UK and Germany. However, the introduction of these policies might reflect slowly but steadily shifting gender roles in these countries. In any case, the notion that male detachment from the labour market encourages the adoption of caregiver duties will require further study before it can be reliably linked to an emergence of non-traditional gender roles affecting family formation.

Shifting the focus to the fertility decisions of **women in the UK**, we can see that close labour market attachment and a demanding occupational position clearly work against the decision to have a child. Placing a high value on holding a good job and evidence of extensive overtime work suggest conflicting work-life preferences, with limited time budgets delaying the transition to parenthood (the positive fertility effect of having a sizable income loss corroborates this argument). However, in contrast to this negative effect of strong labour market attachment, women in the UK show distinct

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<sup>14</sup> In an earlier version of this study, which included older cohorts born after 1955, a similar effect of male unemployment was also identified, but was only found to be significant for the UK (Schmitt 2008b).

patterns of making the transition to parenthood in precarious employment situations. The impact of unemployment provides considerable evidence of this tendency. Unemployed or inactive women<sup>15</sup> are three times more likely to make the transition to parenthood than those who are employed full-time. Women in the UK show a distinct tendency to have a child if their employment status signals reduced opportunity costs of family formation due to the price-of-time effects. This hypothesis is supported by the finding that female part-time employment in the UK is positively associated with family formation as well. Yet it should also be noted that part-time employment—unlike unemployment—might also be the *result* of a woman's deliberate reduction in working hours in order to balance career and motherhood, especially in institutional contexts in which maternity protection and reinstatement rights remain rudimentary.

Two major principles are at work in determining how labour market integration affects family formation for **women in Germany**. First, a below-average performance at the point of entry to the labour market, tends to delay the transition to motherhood among German women, but no so among British women. This is probably because an unpromising job start makes occupational integration a more lengthy and difficult process. At the same time, however, the institutional arrangements in Germany provide strong incentives a) to translate educational investments into stable occupational positions, and b) to ensure that the occupational position allows for a return to the labour market after maternal leave at a level commensurate with the individual's education and experience. This effort to consolidate a career prior to family formation is also reflected in findings indicating that in Germany—unlike in the UK—working with a fixed-term contract tends to delay the transition to motherhood (see Models I & II, Table A2).

This is not only because fixed-term or casual employment are indicators of unstable and precarious employment, but also because temporary jobs often provide only limited eligibility for maternal support. In this context, parental leave provisions, maternity protection, and reinstatement rights offer incentives to attain a minimum level of labour market integration prior to family formation, thus guaranteeing eligibility for these types of support. Importantly, the negative impact of a fixed-term job vanishes after controlling for the presence of a male earner. Finally, among women in Germany—and also among British women, albeit with a weaker level of effect—there is a small amount of evidence that the transition to parenthood is made during times of involuntary labour market exclusion; that is, during periods of unemployment or subsequent inactivity. Interaction effects show that this strategy of exploiting the reduction of opportunity costs during unemployment in order to start a family is

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<sup>15</sup> Note that the restrictive conditions of eligibility for benefits in the UK, which are suspended after a short period of unemployment if another income earner resides in the same household, results in unemployment frequently remaining unreported and thus appearing as economic inactivity.

prevalent only among women with medium to low levels of education. For women with tertiary degrees, extending a period of absence from the labour market by starting a family appears to be an unattractive option, since doing so can lead to a depreciation of their human capital investments through prolonged occupational inactivity.

In contrast to the patterns of coping with precarious employment discussed above, the conflict between the demands of career and family in the traditional German breadwinner regime takes its toll on women with a strong attachment to the labour market. Women who have a heavy workload and high career aspirations, as reflected in their reports that they work a large amount of overtime and place a high value on having a good job, consistently show a significantly lower likelihood of starting a family. Generally, it appears that German women aim to consolidate educational investments in a secure job, which also guarantees eligibility for maternity support and reinstatement rights. However, if their labour market attachment is strong, this clearly hampers family formation. It should be noted that these two principles—swift labour market integration (early in one’s career) as a prerequisite for family formation vs. strong labour market attachment impeding family formation—are predominant in different status groups, with work-family conflicts often acting as a limiting factor in family formation for women with high educational investments and skill endowments.

## **5.2 Key transitions in the education–work–family nexus**

In contexts in which institutional arrangements continue to structure life courses, the status passage of labour market entry might encourage the choice to have a first child based on notions of “proper” timing, linking these status passages. Brückner and Mayer (2005) argued that a close temporal link between important life course transitions tends to dissolve in settings where industrial relations are very flexible. In this sense, labour market entry and the transition to parenthood could be expected to occur at a greater temporal distance in a liberal market economy like the UK, in which self-reliance in protecting against life course risks is encouraged (DiPrete 2002), and in which one would expect to find a wider array of individual coping strategies. In a coordinated market economy, like that of Germany, however, more predictable patterns would be expected. The results do not, however, support this hypothesis, as stable and continuous employment, whether for 12 or 24 months, were not found to have an impact on the decision to have a child, either in Germany or in the UK.<sup>16</sup>

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<sup>16</sup> Different functional forms of this indicator of continuous employment (e.g., linear impact, decreasing marginal utility) did not show any consistently significant impact on the likelihood of starting a family. These indicators have been omitted in the analyses presented in Tables A2 & A3, but can be obtained upon request from the author.

Moreover, British women are generally reluctant to start a family in the early phases of their careers (see Table A3, *time since labour market entry*), which corresponds with the descriptive findings presented in Figure 5. These women show a significantly lower likelihood of starting a family during the first six years after labour market entry, compared to the period 10 or more years after starting the first job. However, this negative correlation between labour market entry and the transition to motherhood vanishes after controlling for income effects and the presence of a second earner. Thus, it appears that, when faced with limited institutional support for family formation, British women tend to reinforce their own labour market position prior to the transition to motherhood. This serves to ensure a future family's financial security and to establish a positive relationship with an employer that will safeguard the woman's return to her job after pregnancy in the absence of institutionally embedded reinstatement rights.

In contrast, German men show an increased likelihood of starting a family between three and six years after labour market entry. This effect, although weak, remains in place after controlling for additional characteristics like income, or support by a partner (see Models II & III, Table A3). The findings for this group are the only—albeit weak—evidence of a pattern indicating that the decision to start a family is temporally linked to the status passage of labour market entry. Nevertheless, these results do not provide convincing evidence that the normative relevance of consistently defined life-course scripts leads to close temporal proximity between labour market entry and family formation, as was hypothesised for Germany.

## 6. Conclusion

This investigation into the effects of labour market integration and occupational uncertainty on the transition to parenthood shows different fertility patterns in Germany and the UK, despite both countries' encouragement of traditional gender roles. Differences in institutional incentives appear to evoke different patterns of how work and fertility choices are intertwined: the German welfare state encourages women to invest in education, while simultaneously fostering their retreat from the labour force (McDonald 2000). Despite this contradictory incentive structure, German women try to establish themselves in the labour market prior to starting a family. This is indicated by German women's low likelihood of starting a family while in a first job that is substantially below their qualifications, or while working under a fixed-term contract. This suggests that, for German women facing employment uncertainties, such as fixed-term employment, their main goal is the acquisition of a permanent working contract that will ensure eligibility for maternity support and reinstatement rights.

Moreover, particularly women with strong labour market attachment—who do a great deal of overtime work and who place a high importance on a successful career—tend to delay family formation. Given the limited time available to them, the strict norms of maternal care prevalent in the society, and the underdeveloped childcare infrastructure, it is difficult for these women to combine work and family. The strong pressure that emerges from the high opportunity costs of motherhood is also reflected in the finding that women with medium to low levels of education are more willing to start a family during periods of unemployment. In contrast to what was hypothesised, the reduced opportunity costs of parenthood during an involuntary labour market absence obviously outweigh the risks of long-term unemployment and prolonged economic dependence.

Furthermore, the hypothesis put forward in Section 2 that a stable job and strong labour market integration among men should tend to favour family formation found little support in the case of Germany, and virtually none with respect to the UK. In Germany, the institutionally encouraged male breadwinner/female homemaker model nevertheless still exerts a profound influence on how German men and women reconcile the transition to parenthood with career aspirations. This is also corroborated by the finding that—although the completion of education remains a precondition for family formation among men *and* women—part-time employment and the resulting income reduction have a negative impact on *male* fertility only. Yet it appears that weak labour market integration and occupational uncertainties impede the transition to fatherhood in Germany only because they reduce income, thus undermining the man's capacity to provide financially for a family.

The relationship between occupational context and family formation in the UK differs from that in Germany. In the UK, the promotion of a flexible labour market and limited protection from life course risks result in less stable employment patterns and higher exposure to economic uncertainties. This encourages couples to bolster their economic position by pursuing a dual-earner model. Hence, British women often combine motherhood and career simultaneously. They do so by starting a family while working part-time or by making this transition during phases of involuntary labour market exclusion. In accordance to what was hypothesised, a positive fertility effect during female unemployment appears to be related to the decrease in the opportunity costs of motherhood, regardless of the threat unemployment poses to occupational establishment. Interestingly, this positive relationship between unemployment and fertility is much stronger among British than among German women. This suggests that the generous unemployment benefits in Germany are less important for fertility decisions than the lower threat of long-term unemployment associated with the more flexible labour market in the UK.

Some results suggest that even couples in which the man is unemployed tend to use this increase in the amount of time available to men to start a family. Perhaps the high opportunity costs of parenthood in the UK encourage a deviation from the traditional division of labour in family duties, with men taking on a greater share of childcare responsibilities during joblessness, thus reducing the burden on the female earner, which might be favourable for family formation. This focus on a primary parent role among men may serve to compensate for the decline in social esteem resulting from job loss, especially in a society that imposes rigid norms of participation in paid work. Some findings point to similar behaviour among German men regarding family formation during phases of unemployment. For both countries, this might hint at a trend towards increasing acceptance of more egalitarian gender roles in younger cohorts. Yet this issue of a reversal in traditional gender roles in the case of male labour market detachment requires further investigation in future research, and remains speculative for the present time.

To conclude, the results indicate that the most distinct differences between Germany and the UK appear to be in the way women shape the transition to parenthood in the context of labour market participation. While there is some evidence that women in Germany tend to first pursue labour market integration and to focus on family formation afterwards, women in the UK show strong tendencies to match the transition to motherhood with occupational phases that provide increased time for parenting, such as part-time work or unemployment. The limited maternity support and benefit provision in the UK obviously encourage women to avoid voluntary and lasting career interruptions caused by childbearing.

However, for women with strong labour market integration and high human capital, the differing orientations of the German and British social systems lead to similar conflicts in reconciling career aspirations with family life, resulting in a reluctance to have a first child. While female participation in education and the labour market has gone from being an exception to being the rule, the institutional frameworks of both countries have still not adapted accordingly. Where the German welfare state continues to encourage single-earner families with a female homemaker and the UK generally neglects financial support or care provision for young families, the two regimes are very similar in placing the burdens of creating a modicum of security for family formation primarily upon female shoulders. This leads to a prolonged or indefinite delay of parenthood, often resulting in permanent childlessness, particularly among women with high skill investments who are highly capable of competing on the labour market and aim to do so.

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## Appendix

### (A) Descriptive statistics

**Table A1: Sample of respondents – selected descriptive statistics**

Descriptive statistics (all values in percent)	Germany		United Kingdom	
	♂	♀	♂	♀
<b>Birth cohorts</b>				
1965-1970	30.3	23.4	27.1	25.3
1971-1976	36.3	37.0	39.8	36.9
1977-1982	33.4	39.6	33.1	37.7
<b>Age groups</b>				
16-21	25.8	30.8	28.4	31.4
22-26	26.2	28.1	26.1	27.7
27-33	27.2	22.7	25.2	22.7
34-38	6.3	4.7	5.2	3.9
39-43	1.8	1.4	1.9	1.3
<b>Partnership status</b>				
Single/Living Apart Together	65.2	54.8	65.1	56.7
Consensual Union	19.4	25.8	20.3	25.1
Married	9.8	14.3	14.6	18.2
<b>Educational attainment</b>				
University Degree	11.3	12.3	25.4	28.3
A Level	20.7	23.7	40.0	42.9
O Level	31.8	36.9	23.2	21.9
Complimentary Schooling	29.3	19.3	6.0	4.7
<b>Activity status</b>				
Full-Time & Permanent Contract	43.4	40.8	62.5	59.2
Part-Time Employed	1.8	4.3	1.6	5.4
Fixed Term Contract (Full- or Part-Time)	8.5	9.4	6.5	6.8
Self-Employed	3.8	1.7	5.3	2.3
In Education/Apprenticeship	29.7	32.5	13.0	16.4
Unemployed	8.2	8.3	7.9	5.1
Retired/Other	4.3	1.7	2.7	4.3
Partner Unemployed or Inactive?	13.4	6.2	5.6	3.3

Table A1: (Continued)

Descriptive Statistics (all values in percent)	Germany		United Kingdom	
	♂	♀	♂	♀
<b>Income mobility</b>				
<b>(10% annual change beyond 1000€threshold; Gap to 100%: no significant income / Missing)</b>				
Downwardly Mobile	16.5	13.3	9.4	8.4
No Change	31.2	33.8	40.4	43.1
Upwardly Mobile	12.9	10.9	18.2	16.5
<b>Fit: Educational attainment &amp; occupational status at labour market entry</b>				
<b>(Gap to 100%: Still in educ. / missing)</b>				
Below Edu. Level/Weak Performance	14.0	15.2	10.0	7.3
Appropriate for Edu./Average Performance	54.4	51.9	43.2	43.3
Above Edu. Level/Good Performance	22.4	11.6	4.5	3.8
<b>Time since labour market entry (Gap to 100%: Still in education / missing)</b>				
1-3Years	19.1	21.0	19.3	21.2
4-6 Years	17.6	17.7	22.3	24.0
6-10 Years	18.1	16.4	23.9	24.7
> 10 Years	9.9	8.1	12.6	12.2
<b>Work-family priorities / preferences</b>				
Importance of having children - Low	33.2	26.7	17.9	18.5
Importance of having children - Average	25.3	25.3	32.6	29.8
Importance of having children - High	11.2	16.8	26.1	35.6
Importance of good job - Low	7.6	8.9	1.0	1.3
Importance of good job - Average	36.8	39.1	23.0	24.0
Importance of good job - High	29.0	24.6	52.8	58.7
<b>Relative income (persons with partner only)</b>				
Similar Level	24.6	27.3	36.7	38.4
Traditional (♂ 1/3 above ♀)	42.6	37.1	43.8	36.2
Fem. Main Earner (♀ 1/3 > ♂)	14.7	24.2	14.0	20.5
Both not working	11.7	11.7	5.6	4.9
n of person-months	317.238	253.542	184.901	154.926
n of cases	4.161	3.628	2.366	2.047
n of births (backdated) 1991- 2007	1.193	1.443	745	850
n of cases / events Partner (Model III)	2.137/ 996	2.280/1.148	1.354/ 668	1.350/ 729

Source: GSOEP & BHPS 1991 to 2008; (author's calculations).

Notes: (1) Relative frequencies based on person-months, unweighted data; all values in percent

(2) Gap to 100% related to missing values unless specified differently

(3) Partner related information (e.g., partner's unemployment or relative income) is based on a reduced sample population (excluding persons without partner information; see also Tables A2 & A3, Model III).

**(B) Multivariate statistics****Table A2: Determinants of first birth decisions in Germany - piecewise constant estimates. Cohorts 1965 – 1982 during 1991 – 2007**

	Model I (Base)		Model II (+Controls)		Model III (+Partner)	
	♂	♀	♂	♀	♂	♀
	Haz	Haz	Haz	Haz	Haz	Haz
<b>Baseline age</b> (Measured in Months)						
16 to 21 Years	0.0012***	0.0030***	0.0005***	0.0012***	0.0044***	0.0047***
22 to 25 ½ Years	0.0032***	0.0039***	0.0007***	0.0012***	0.0040***	0.0040***
26 to 33 ½ Years	0.0053***	0.0052***	0.0007***	0.0013***	0.0039***	0.0041***
34 to 38 Years	0.0046***	0.0046***	0.0006***	0.0010***	0.0029***	0.0031***
39 to 43 Years	0.0029***	0.0025***	0.0003***	0.0005***	0.0016***	0.0013***
<b>Activity status</b> (Reference: Full-time Employed w. Permanent Contract)						
Fixed-Term Contract	0.93	0.77***	1.07	0.84*	1.03	0.92
Part-Time Employed	0.49**	1.04	0.77	0.92	0.81	0.94
In Education/Apprenticeship	0.56***	0.31***	0.98	0.45***	1.00	0.57***
Unemployed <sup>see note 4)</sup>	0.85	1.33***	1.39***	1.25**	1.34	1.32**
Unemployed & Third-Level Degree <sup>a)</sup>			1.52	1.01	1.63	1.11
Unemployed & A / O Level Degree <sup>a)</sup>			1.20	1.28**	1.07	1.30*
Unemployed & Comprehensive Schooling or Below <sup>a)</sup>			1.46**	1.42**	1.25	1.59**
Unemployed & Age < 30 <sup>b)</sup>			1.49***	1.43***	1.48*	1.56***
Unemployed & Age >=30 <sup>b)</sup>			1.28	0.72	1.56*	0.75
<b>Partner's employment status</b>						
Partner Unemployed/Inactive					1.01	0.98
<b>Overtime index</b> (0-1 with 0 = No Overtime to 1 = Significant Overtime Work)						
Overtime/Working Hours	1.16	0.18***	0.68	0.15***	0.56	0.23**
<b>Performance at labour market entry/first job</b> (Reference: Average Performance)						
Bad Performance / 1 <sup>st</sup> Job Below Educational Qualifications	0.93	0.77***	1.03	0.81**	1.00	0.78**
Good Performance/ 1 <sup>st</sup> Job Above Educat. Qualifications	0.81*	0.87	0.86	0.88	0.84	0.92
<b>Time since labour market entry</b> (Reference: > 120 Months)						
Up to 36 Months	0.88	0.97	1.02	1.13	1.02	1.13
37 – 72 Months	1.12	1.03	1.17*	1.07	1.19*	1.07
73 – 120 Months	0.96	1.05	1.02	1.06	1.06	1.03
East Germany	1.07	1.29***	1.35***	1.52***	1.48***	1.52***

Table A2: (Continued)

	Model I (Base)		Model II (+Controls)		Model III (+Partner)	
	♂	♀	♂	♀	♂	♀
	Haz	Haz	Haz	Haz	Haz	Haz
<b>Biographical planning – Importance of having:</b> ( <i>Reference: Average Importance</i> )						
Children – Low	0.36***	0.33***	0.42***	0.36***	0.43***	0.29***
Children – High	2.73***	2.50***	2.04***	2.13***	1.94***	2.10***
Good job – Low	0.79*	1.23**	0.87	1.21**	1.00	1.25**
Good job –High	0.97	0.75***	0.97	0.80***	0.94	0.76***
<b>Income</b> (Effects per 100€ / Month)						
Individual Net Labour Earnings			1.009***	1.004	1.009***	1.004
Public Transfers			1.011	1.013**	1.006	1.014***
<b>Income mobility (&gt; 10% during last 12 months)</b> ( <i>Reference: No sizable change</i> )						
Income Gains			1.03	0.81**	0.98	0.76***
Income Losses			0.72***	1.23***	0.69***	1.16*
<b>Educational attainment</b> ( <i>Reference: Comprehensive Schooling or Less</i> )						
Third-Level / University Degree	1.18*	1.23**	1.14	1.15	1.28**	1.16
A-Level Degree	0.75***	0.91	0.82*	0.94	0.89	1.03
O-Level Degree	1.05	1.08	1.15*	1.13	1.16	1.11
<b>Partner information</b> ( <i>Reference A / O Level Education</i> )						
Partner's Education (Third-Level Education)					0.99	1.07
Partner's Education (Lower Secondary or below)					1.06	1.03
Partner's Net Income (Effects per €100 / Month)					1.001	1.007***
<b>Type of relationship</b> ( <i>Reference: Single</i> )						
Consensual Union			7.03***	3.49***	<i>(Reference: Consensual Union)</i>	
Married			14.29***	6.76***	2.06***	1.99***
<b>Relative income</b> ( <i>Reference: even Income Level</i> )						
Traditional (♂ 1/3 above ♀)					1.11	1.05
Fem. Main Earner (♀ 1/3 > ♂)					1.09	1.04
<b>n of person months:</b>	317238	253542	317238	253542	93186	99373
<b>n of subjects / events:</b>	4.161/	3.628/	4.161/	3.628/	2.137/	2.280/
	1.193	1.443	1.193	1.443	996	1.148
<b>Log pseudolikelihood:</b>	-364.16	-13.93	208.23	329.23	567.69	720.14
<b>Wald chi<sup>2</sup></b> (for all: p < 0.0001)	32513.77	34998.49	27644.23	31947.93	18372.73	20129.28

Source: GSOEP 1990 to 2008; (author's calculations).

Notes: (1) Significance levels based on p < 0.10 (\*), p < 0.05 (\*\*), p < 0.01 (\*\*\*).

(2) Estimated ratios apply to monthly hazards. Robust standard errors in parentheses.

(3) Independent variable coded with '1' for birth; all dummy variables coded '0/1' with 1 when true.

(4) Unemployment related interaction effects a) & b) based on separate model estimates (not displayed).



**Table A3: Determinants of first birth risk in the UK - piecewise constant estimates. Cohorts 1962 – 1982 during 1991 – 2007**

	Model I (Base)		Model II (+Controls)		Model III (+Partner)	
	♂	♀	♂	♀	♂	♀
	Haz	Haz	Haz	Haz	Haz	Haz
<b>Baseline age</b> (Measured in Months)						
16 to 21 Years	0.0018***	0.0040***	0.0012***	0.0027***	0.0109***	0.0062***
22 to 26 ½ Years	0.0026***	0.0039***	0.0008***	0.0015***	0.0051***	0.0031***
27 to 35 Years	0.0051***	0.0051***	0.0010***	0.0015***	0.0062***	0.0033***
36 to 38 ½ Years	0.0050***	0.0053***	0.0009***	0.0014***	0.0050***	0.0027***
39 to 43 Years	0.0026***	0.0019***	0.0004***	0.0005***	0.0024***	0.0014***
<b>Activity status</b> (Reference: Full-time Employed w. Permanent Contract)						
Fixed-Term Contract	0.85	1.03	1.06	1.13	0.99	1.43*
Part-Time Employed	0.56*	3.07***	0.56*	2.60***	0.64	2.68***
In Education/Apprenticeship	0.19***	0.38***	0.32***	0.47***	0.70	1.07
Unemployed <sup>see note 4)</sup>	0.91	2.85***	1.45**	2.77***	1.20	2.69***
Unemployed & Third-Level Degree <sup>a)</sup>			0.23	1.60	0.27	1.66
Unemployed & A-/ O-Level Degree <sup>a)</sup>			1.58**	3.04***	1.14	2.80***
Unemployed & Comprehensive Schooling or Below <sup>a)</sup>			1.81*	3.24***	1.91*	3.43***
Unemployed & Age < 30 <sup>b)</sup>			1.46*	3.10***	1.18	2.99***
Unemployed & Age >=30 <sup>b)</sup>			1.31	1.20	1.16	1.39
<b>Partner's employment status</b>						
Partner Unemployed/Inactive					1.94***	1.16
<b>Overtime index</b> (0-1 with 0 = No Overtime)						
Overtime/Working Hours	0.73	0.56	0.49**	0.46*	0.46**	0.49*
<b>Performance at labour market entry / first job</b> (Reference: Average Performance)						
Bad Performance / 1 <sup>st</sup> Job below Educational Qualifications	1.30**	1.43***	0.89	1.27*	0.88	1.24
Good Performance / 1 <sup>st</sup> Job Above Educat. Qualifications	1.40**	1.73***	0.96	1.33**	0.94	1.38**
<b>Time since labour market entry</b> (Reference: > 120 Months)						
Up to 36 Months	1.02	0.62***	1.18	0.81	1.19	0.82
37 – 72 Months	1.03	0.72**	1.13	0.84	1.05	0.82
73 – 120 Months	1.08	0.90	1.12	0.93	1.13	0.93

Table A3: (Continued)

	Model I		Model II		Model III	
	(Base)		(+Controls)		(+Partner)	
	♂	♀	♂	♀	♂	♀
	Haz	Haz	Haz	Haz	Haz	Haz
<b>Biographical planning – importance of having:</b> ( <i>Reference: Average Importance</i> )						
Children –Low	0.26***	0.29***	0.26***	0.32***	0.22***	0.29***
Children –High	4.07***	3.34***	2.89***	2.82***	2.68***	3.05***
Good Job – Low	0.88	1.73**	0.63	1.71**	0.62	1.45
Good Job – High	0.72***	0.62***	0.75***	0.66***	0.76***	0.72***
<b>Income</b> (Effects per €100 / Month)						
Individual Net Labour Earnings			1.005	1.002	1.005	1.002
Public Transfers			1.007**	1.026*	0.996	1.025
<b>Income mobility (&gt; 10% during last 12 months):</b> ( <i>Reference: No sizable change</i> )						
Income Gains			1.12	0.79**	1.11	0.81*
Income Losses			1.19	1.12	1.20	1.13
<b>Educational attainment</b> ( <i>Reference: Comprehensive Schooling or Less</i> )						
Third-Level / University Degree	0.90	0.85	0.77**	0.82*	0.86	0.94
A-Level Degree	0.87	0.86	0.81**	0.80**	0.79**	0.86
O-Level Degree	1.20	1.13	1.34**	1.21	1.31*	1.24
<b>Partner information</b> ( <i>Reference: A / O Level Education</i> )						
Partner's Education (Third-Level Education)					0.81	0.76**
Partner's Education (Lower Secondary or below)					1.15	1.37*
Partner's Net Income (Effects per €100 / Month)					1.001***	1.007*
<b>Type of relationship</b> ( <i>Reference: Single</i> )						
Consensual Union			5.01***	2.84***	<i>(Reference: Consensual Union)</i>	
Married			12.00***	6.99***	2.36***	2.43***
<b>Relative income</b> ( <i>Reference: even Income Level</i> )						
Traditional (♂ 1/3 above ♀)					0.99	0.93
Fem. Main Earner (♀ 1/3 > ♂)					1.11	1.09
<b>n of person months:</b>	184901	154926	184901	154926	64428	67097
<b>n of subjects / events:</b>	2.366/ 745	2.047/ 850	2.366/ 745	2.047/ 850	1.354/ 668	1.350/ 729
<b>Log pseudo likelihood:</b>	-120.86	184.41	138.99	378.07	406.06	590.12
<b>Wald chi<sup>2</sup>:</b> (for all: p < 0.0001)	19353.62	86133.70	17531.63	55245.82	4508.66	43908.06

Source: BHPS 1991 to 2008; (author's calculations).

Notes: (1) Significance levels based on p < 0.10 (\*), p < 0.05 (\*\*), p < 0.01 (\*\*\*).

(2) Estimated ratios apply to monthly hazards. Robust standard errors in parentheses.

(3) Independent variable coded with '1' for birth; all dummy variables coded '0/1' with 1 when true.

(4) Unemployment related interaction effects a) & b) based on separate model estimates (not displayed).

General Notes for the multivariate estimates in Table A2 & Table A3 (pp 288.):

- (1) *Estimates omitted in Tables A2 & A3 include a control for foreign region of origin, flag variables for year of observation, and flag variables for missing values within dummy sets (education, partner's education, preferences, activity status, income mobility, initial labour market performance, time since labour market entry, etc.). In the activity status set, the omitted variables include self-employment and economic inactivity (low n of cases) as well as retirees and persons in civil or military service.*
- (2) *Interaction effects of unemployment and educational attainment (a), as well as of unemployment and age (b), are introduced as alternative indicators to individual unemployment included to the activity status set. Displayed coefficients of these interaction effects are based on separate estimates of Model II & Model III (results not displayed).*