Gender Specific Effects of Unemployment on Family Formation – Evidence from a Cross National View[1]

Christian Schmitt

Socio-Economic Panel Study (SOEP)

DIW Berlin

Abstract

Fertility rates remain low among most western European countries. With a rising female labour market participation on one hand and the need to form an economic fundament prior to family formation on the other, the transition to parenthood currently takes place at a later stage in life-course than it did a few decades ago. The question is, what impact does the rising prevalence of precarious employment careers have on generative behaviour The aim of this paper is to answer this question by looking at unemployment cycles and their impact on the family formation behaviour of men and women.

At this purpose we observe a sample of four European countries, representing different welfare regimes – the UK, Germany, France and Finland. On the micro-level we incorporate different measures of unemployment in the model, with focus on the duration of the unemployment episodes. Furthermore information on the partner in form of income and educational attainment will be included in the analysis.

Applying a piecewise-constant exponential model, we find different effects of unemployment on the transition to first-parenthood across the four countries. In the case of France we can observe only minor effects, whereas in Finland the effect proves to be negative for men and positive for women In the UK and Germany however, we discover a distinct influence of unemployment on family formation, which is in case of the UK in contradiction to the theoretical assumptions of the New Home Economics by showing a positive effect for long-term unemployed men.

Keywords: Family formation, fertility, unemployment, cross-national comparison

---

1) INTRODUCTION

The aim of this paper is firstly to account for gender specific different effects of unemployment on family formation and secondly to investigate cross-national differences in the effects of unemployment on the transition to parenthood

In most western European countries fertility rates remain at a below-replacement level. The potential causes can be traced back to an increasing female labour market participation (Blossfeld 1991, 1995), potential economic deprivation of young families (Beaujot & Liu 2002, D'Ambrosio & Gradin 2003, Finch & Bradshaw 2003, Jenkins, Schluter & Wagner 2003) and an increase in precarious employment careers (Kreyenfeld 2000, Kurz, Steinhage & Golsch 2001, Tölke & Diewald 2003).

These potential causes for the low fertility levels show two predominant patterns: First an increase in educational attainment, especially of women, has led to an increase in the costs of opportunity of parenthood for better educated women (Becker 1993). The status positions obtained in the educational system need to be transferred into save labour market positions within a certain time frame. Otherwise the investment into individual education might become obsolete. Secondly the formation of a family requires a certain amount of economic resources. The acquisition of these resources is - again – linked to labour market participation[2].

Figure 1: Total fertility rate (TRF) in EU countries 2001
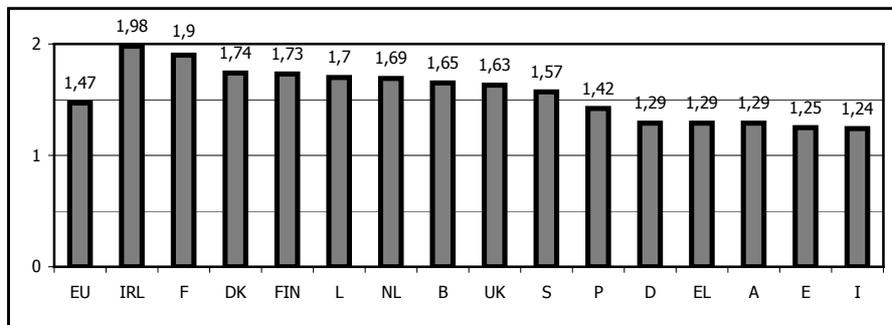
Source: European Communities 2003.

But these cohesions do not affect both genders in a similar way: Though of the strong trend towards an increasing labour market participation of women, the division of labour in the household still remains rather traditional as far as childbearing and –rearing is concerned (Notz, 1994, Blossfeld 1995, Noonan 2001). The high

---

2 Furthermore the influence of different family policy settings has been pointed out (DiPrete et al. 2003, Neyer 2003). These regulations mainly affect financial support and the ability to combine work and family. Hence they can be assigned to the second of the displayed causes, namely acquisition of economic resources and labour market participation.

levels of working women in Western Europe conceal that most of the women only manage to combine motherhood with a part time employment – if at all (see Fthenakis et al. 2002, Trzcinski & Holst 2003 for Germany). One result of this squeeze between work and family is a sequential instead of a parallel combination of occupational career and motherhood (Lauterbach 1994: 71ff, Dornseiff & Sackmann 2003). Additionally, the male breadwinner principle still seems to be well in place (Tölke & Diewald 2003). This means that for men an economic backing - which in most cases goes hand in hand with a reliable occupational perspective - is a prerequisite for fatherhood (Kurz et al. 2001). The named effects result in a postponing of parenthood to an ever later stage in the life course. This delay is at least in part responsible for rising levels of childlessness in recent cohorts (Klein 2003, Schmitt 2004).

The question that stands is: What influence do precarious employment careers and especially periods of unemployment show under the illustrated conditions? As far as insecurities in the individual occupational history are concerned, the effect on the transition to parenthood has been analysed profoundly. Kurz et al. (2001) point out that (temporary) positions of insecurity (a fixed term contract e.g.) matter most for men who show a lower transition rate to parenthood as a result. For women the authors find an effect in the opposite direction: Positions of insecurity seem to promote the transition to motherhood. These findings are well in line with those of Tölke and Diewald (2003) who observe this transition for men being negatively associated with bad start into the occupational career or with fixed term contracts. Furthermore Oppenheimer and Lewin argue that for men "a lengthy and difficult career development process [...] tends to delay marriage" (1999: 193, see also Tölke 2004). *Gary Becker's* view of rational decisions on the household level (1981) states that bleak labour market prospects or even unemployment should have a different effect on family formation if either the male or the female are affected. To further investigate a possible connection between unemployment and family formation the focus of analysis remains on two major research questions: Firstly, do unemployed persons have a significantly different chance of entering parenthood than persons with continuous employment careers and secondly, is there a gender-specific difference in the effect of unemployment on the transition to parenthood.

2) BACKGROUND AND THEORETICAL CONCEPTS

Unemployment can be seen as a very drastic experience of labour market related insecurity. It stands to reason to assume that the experience of a period of unemployment will therefore show similar effects as the forms of occupational insecurity mentioned above. However the imminent financial effect and the depreciation of human capital especially with an increasing length of the unemployment spell might produce different results as far as the transition to parenthood is concerned.

2.1 Unemployment and transition to parenthood – research findings

There are several studies, which on the micro level focus their analysis on the relation between labour market performance and family formation. Most of them consider unemployment as a covariate with focus on a special population. Liefbroer and Corjin (1999) find in an analysis of Dutch and Flemish young adults that non-employment hampers family formation for Flemish men but promotes the rate of entry into parenthood for women significantly.

  So far most of the investigations, dealing with empirical evidence of unemployment effects refer to Scandinavian countries. Hoem (2000), who considers the transition to first motherhood in Sweden from 1986 to 1997, focuses on the effects of unemployment and educational participation. While the author identifies particularly low birth rates for students, no distinct effects of unemployment become visible. Andersson (2000) however points out that a positive effect between unemployment and first birth risk is existent, at least for Swedish women between 20 and 30. For the case of Finland, Vikat (2004) displays similar results of a weak correlation between unemployment and individual fertility, especially for women below 30. In a study, examining the fertility consequences of unemployment, Kravdal (2002) utilizes a very large sample of Norwegian register data for both men and women. In this study the transition to second and higher order births is described as being diminished by unemployment episodes, whereas a weak positive effect exists for the transition to first motherhood could be found. For men, a distinct negative effect of unemployment is identified for all fertility transitions. Kravdal also controls for the duration of unemployment. The set of further covariates however is limited in this study, also excluding wages[3]. This is not unproblematic as this renders controlling for the financial consequences of unemployment impossible, while all the above mentioned studies for the Nordish countries stress the positive correlation between income and fertility, for both genders.

   In case of Germany, Kurz et al. (2001) find the above mentioned gender specific opposite effects of unemployment on family formation with positive effects for women. Tölke and Diewald (2003) recognize a negative impact for men in a study, focusing on the transition to fatherhood. Kreyenfeld (2000, 2001) distinguishes between in East and West Germany and by duration of the unemployment episode. She outlines a strong positive impact of long-tem unemployment as well as of lower educational attainment on first birth risk. For men however Kreyenfeld doesn't recognise any sizeable effects. In a further analysis, examining the first birth risks of the 1971 East German birth cohort, Huinink and Kreyenfeld (2004) come to the similar conclusion of a distinct positive effect of female unemployment on fertility decisions.

   Most of the presented studies are limited to female fertility transitions. Furthermore it remains unclear – except for the studies of Kreyenfeld (2000, 2001) and Huinink and Kreyenfeld (2004) if a direct link between an assumed time of conception, respectively the assumed time of decision for parenthood and the status of be-

---

3 This is also the case for several other studies mentioned in this chapter.

ing unemployment is considered in the empirical modelling. If the unemployment episode was completed *before* the decision for parenthood was met, these epsiodes may still have an effect on the fertility decision. Most studies dealing with this topic however point out a negative impact of these precarious employment histories on family formation for both men (see Tölke & Diewald 2003, e.g.) and women (see (see Kurz et al. 2001, e.g.) This means that in studies, solely utilising annual information, at least the effect for women might well be underestimated[4].

2.2 Theoretical concepts

To capture the gender specific effects of unemployment on the transition to parenthood in a theoretical framework several approaches have been made. Zimmerman and DeNew (1990) argue from a neoclassical perspective that female unemployment would reduce the costs of opportunity of parenthood and would therefore increase the probability for a rational decision towards family formation. Friedman, Hechter and Kanazawa (1994) come to the same conclusion but emphasize that women have to met a decision between labour market attainment and the career as a homemaker. In a discouraging employment-situation women would therefore make a choice for motherhood, taking into account not only the momentary situation but also their bleak future perspectives on the labour market. For the analytic coverage of the relation between unemployment and family formation Happel, Hill and Low (1984) specify a theoretical model, which also considers the effect of the duration of unemployment. According to this model the decision for a birth occurs when the negative impact of the duration of the woman's unemployment offsets the amount of her accumulated human capital.

All of these theoretical concepts refer directly or indirectly to the New Home Economics (Becker 1981). In this framework fertility decisions are understood as a function of the cost of children (determined by time and income constraints) and the demand for children (conceptualized as relation between quality and quantity of children). According to the works of Becker, the utility to be maximised is found on the household and not on the individual level. This maximisation requires an optimal allocation of time spend for market work and for household production of commodities. Furthermore an efficient division of labour between household and market work includes a specialisation with one of the partners focusing on the occupational career and the other on the role of a homemaker. This would result in either the man or the woman specialising in household work if one of them becomes unemployed or has bleak labour market prospects. But in Becker's theoretical framework the role of the homemaker normally falls to the woman, in part because of "biological differences" (Becker 1993: 30) and because of lower human capital

---

4 The backdating of the time of birth to the time of the fertility decision may still be a
    rough approximation and may even be wrong in several cases. However if also the duration of unemployment is considered, this misspecifcation is limited to a misspecification
    of the duration effect, except for very short periods of unemployment. For a discussion
    of the assumption of fertility decisions being based on rational planing see chapter 2.3.

investments of women, as compared to men (and the resulting man's comparative advantage in attaining market income). But these arguments for a gender specific effect are problematic. While the point of biologically determined gender roles has earned much critic, the argument of lower human capital investments of women has become obsolete, as far as younger cohorts are concerned. However in an extension to his own theory Becker points out that in a case of negative assortative mating (1993: 114ff.), this means if one partner produces high and the other low human capital investments (and thus has a high or low expectancy of market income), a prerequisite for maximising the household utility would be that the one with lower investments specialises in household work – independently of gender.

In this framework unemployment can be seen as an exogenous effect which directly reduces the cost of time that can be spent for production of household commodities (childcare, e.g.) and indirectly reduces the attainable market income by diminishing human capital with increasing length of the unemployment spell. As childbearing always requires am – at least – temporary absence from the labour market for the woman gender specific differing effects of unemployment on fertility decisions should be expected: In a case where the woman is able to earn rather high market wages and the man faces a depreciation of his human capital in the form of an unemployment episode, a family formation is not a appropriate – as it would be vice versa – as this would mean an interruption of the woman's employment career and further reduce household income.

One major point of critic on Becker's theory, which remains, is its focus on the maximisation of the *household* utility (Ott 1998: 73), without taking into account individual notions or an unbalanced power situation in relationships. The latter might enable one of the partners to improve his position on cost of the other (Bielby & Bielby 1992: 1244), no matter if this increases or reduces the household utility. Exchange theoretical frameworks (Blau 1967, Homans 1967) and bargaining models (Ott 1989, Sen 1990, Beblo 2001) consider the *interaction* between both partners, who are understood as actors in a cooperative game. In this perspective cooperation will only occur if *both* partners can expect an individual maximum reward from this behaviour (Homans 1968: 110). Therefore we would expect a rather traditional division of labour in a household, in which men have a relatively high bargaining power (which can be comprehended as amount of human capital accumulated) as compared to the woman. Women with high educational attainment on the other side would try to prevent a discontinuity of their labour market participation due to motherhood, as this would decrease her income capacity and results in further costs of opportunity due to forgone income during childcare (Ott 1995). Yet a forced interruption of the employment career in the case of an unemployment episode might reduce the costs of opportunity decisively. Again this would not apply in the case of male unemployment, as the cost of childbearing would still burden the women who – being in an advantageous bargaining position – might reject this. The decisive difference to the view of the new home economics is that a mere reduction in the costs of opportunity for childbearing – as in the case of unemployment – might be insufficient to decide in favour of a family formation. For the last two decades we can observe an increasing female labour force, which displays shorter interruptions of the occupational career due to motherhood (Brose 2003).

This observation is inconsistent with the assumption of a specialisation between *either* household *or* market work and consistent with the major role that is ascribed to *individual* human capital investments in bargaining models.

2.3 Rational decisions and biographical planning

All of these illustrations of potential paths to family formation imply to be based on a rational decision making processes. This however is not an unproblematic assumption (see Burkart 1994, Kühn 2001). But if the occurrence of a birth is just a random event – in the sense of not necessarily having been planned – it wouldn't make any sense to model an effect of unemployment on family formation. In fact it stands to reason that an unquantified number of births occur unplanned. But aside from theoretical considerations there is empirical evidence that a significant number of births are result of a decision making process: The widespread introduction of effective contraceptives by the end of the 60ies followed by a decline in fertility rates supports this assumption, just like the close relation between labour market participation and the postponing of parenthood (Chen & Morgan 1991, Blossfeld 1995). In a study utilizing qualitative and quantitative data on family formation and occupational attainment, Schaeper and Kühn (2000: 142) come to the conclusion that a major proportion of family formation processes can be understood as a result of a "rational choice".

But aside from imminent rational decisions, Schaeper and Kühn also find evidence for the relevance of biographical planning. So it is not only the immediate situation, which matters, but also the notion, how different spheres like occupational career and family should be interconnected during the life-course and with which *timing* of events like childbirth e.g. (Rupp 1996). Furthermore every decision with a biographical context, met during the life course, also influences the basis for future decisions (O'Rand 1996). Applied to a theoretical framework of rational decisions this means that the value of certain spheres like parenthood and career development does not only vary across individuals but may also change during the life-course. Hence the utility, which the individual assigns to these spheres is dynamic, not static. So an initial disposition to have a child might change over time: Continuous career development processes may lead to a point, at which also a longer period of unemployment cannot reduce the costs of opportunity sufficiently to realise the notion of parenthood. On the other side the wish to have a child could become that dominant that even a minor occupational insecurity is sufficient for the transition to parenthood. Hence an ideal modelling of the path to family formation also has to consider the individual appreciation of different spheres and the stability of this appreciation over time.

3) FROM MICRO TO MACRO PERSPECTIVE – THE CROSS NATIONAL VIEW

The theoretical assumptions displayed, underline the thesis that there's a gender specific effect of unemployment on family formation. Aside from the contextual factors, mentioned so far, which play a role in this relation, social structure and especially social policy settings are of major importance. If empirical evidence for our thesis can be found, it still stands to question if the causal effect is universal. Different social policy settings – in our case unemployment- and family related benefits – may produce different outcomes. To establish the generality of possible findings, a cross national frame of analysis is necessary. As Melvin L. Kohn puts it: "...cross national research is valuable, even indispensable [...] In no other way can we be certain that what we believe to be social-structural regularities are not merely particularities, the product of some limited set of historical or cultural or poltical circumstances" (1987: 77).

3.1 A welfare state typology as frame of the analysis

The sample of countries to be analysed should preferably cover a broad range of social policy settings. For the cross national analysis Esping-Andersen's differentiation of welfare regimes (1990, 1999) into three principal types will be used as frame of reference. Esping-Andersen views the basic principle of the welfare state in the bolstering of risks (among others class risks, life-course risks and intergenerational risks) and the compensation of family and market failures (1999: 36). The different types of welfare regimes however produce different approaches in generating solidarity and in managing these risks:

The *liberal welfare regime* prevails among the Anglo-Saxon countries. Market sovereignty and encouragement are the prominent characteristic of this type. It is based on a narrow definition on who is eligible for social support, covering only severe risks. Long-term benefits are excluded and the repertoire of social transfers is small, which in some cases like the US excludes national health care or maternity benefits or reduces these transfers to a minimum.

The *social democratic regime* aims – in contrast to the liberal regime – at the minimisation of market dependency and the de-commodification of welfare (Esping-Andersen 1999). The geographic incidence of this type is basically synonymous to the Nordic states, especially Scandinavia. It's features include the compensation of risks by pooling. Entitlement is rather attached to citizenship than to an employment relationship (Palme 1990). Aside from extended health care services, catering to family needs, childcare and care for the aged is a primary objective of this welfare regime.

The *conservative welfare state*, also described as the Continental European type, shows strong corporatist traits. It shares the notion with the social democratic regime, that protection, aside from market mechanisms is required, yet eligibility is most often limited to extensive prerequisites. Attribution to the conservative regime

has been much criticised as referring to a residual that sums up all non-liberal and non-social democratic regimes (Manow 2002). Yet the predominance of familial-sim under this regime is a mutuality that is shared by all conservative welfare regimes and which is of special importance for our topic. The "male-breadwinner bias of social protection" (Esping-Andersen 1999: 83) promotes a traditional family model, in which the family is at the same time care-giver and unit of eligibility. Paradoxically in this type of regimes, the more pronounced the familialsim the less generous are the family benefits. This is especially true in the case of daycare and results in the difficulties of combining labour force participation and motherhood.

Germany and France are two examples of conservative welfare states. But they differ drastically in terms of family benefits, which enable mothers to work. The public child-care coverage is distinctively higher in France. This is probably one of the reasons, why France produces a fertility rate that comes close to replacement level. Due to these differences in fertility and family policy, Germany as well as France will both be included in the empirical analysis as they display tow different examples of the conservative welfare regime. The United Kingdom will serve as unit of analysis for a liberal setting and Finland[5] will represent the social democratic type of states.

Table 1: Institutional variation of welfare regimes

	Germany	UK	France	Finland
Labour market				
Regulated	✓		✓	✓
Deregulated		✓		
Welfare state				
Employment based support	✓		✓	
Citizenship based support				✓
General low support		✓		
Extensive family services			✓	✓
Traditional family services	✓	✓		
Role of state				
Non-interventionist		✓		
Regulatory	✓			✓
Public ownership			✓	
Continental conservative welfare state	✓		✓	
Liberal market state		✓		
Scandinavian social democratic welfare s.				✓

Source: Mayer (2001) for Germany, UK and France.

3.2   Unemployment and fertility in Germany, the UK, France and Finland

The countries selected for a cross national comparison will now be observed in detail. This observation will consider features of the social support system with regard to employment, unemployment and family benefits, especially maternity leave regualtions. First of all, prominent features of the social structure, which are relevant to the topic of research, will be discussed briefly.

Unemployment rates in 1995 were distinctively higher than those on 2001 – independently of gender. The only exception here are German men, for which the unemployment rate rose slightly. Noticeable are the very high unemployment rates in Finland in 1995. This is due to a deep recession, the country experienced in the 1990s. As a result unemployment rates shot up from a mere 5 percent to over 16 percent in 1997 (Ollikainen & Lahtonen 2003). In most of the selected countries gender specific unemployment rates rest at a balanced level in 2001. The exception here is France where female unemployment rates are much higher than male unemployment rates (nearly 150% of the male rate). This difference in unemployment patterns in France can be traced back to the end of the sixties. Having one or two children increases the probability of unemployment even more and this though of a comparatively extensive daycare system in France.
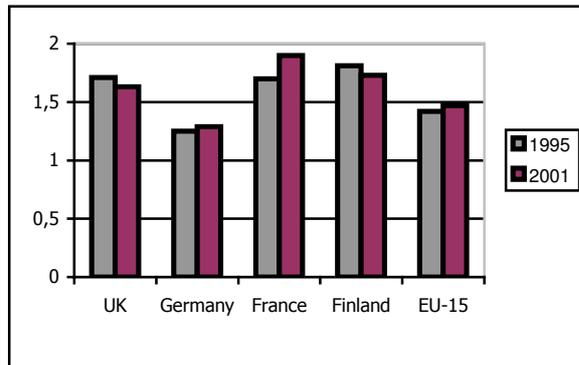
Figure 2:   Gender specific unemployment rates in 1995 and 2001
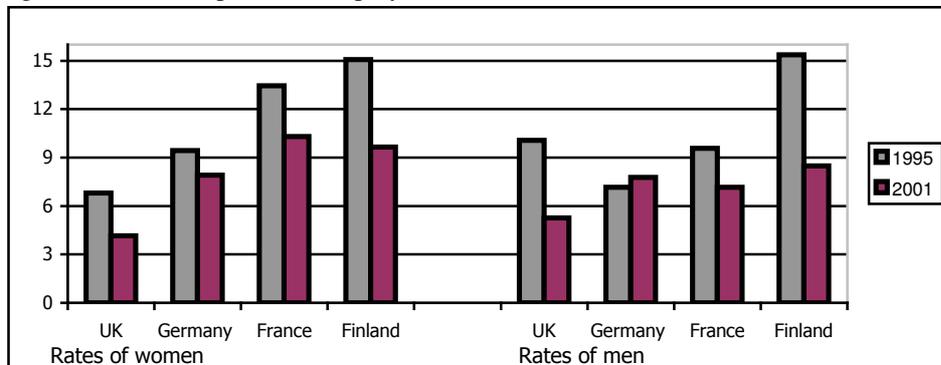
Note: Values apply to percentage of male/female unemployed as proportion of male/female labour force.

Source: OECD 2004.

Figure 3: Total fertility rates (TFR) in 1995 and 2001

Source: OECD 2004.

A view on the total fertility rate (TFR) produces no decisive changes between 1995 and 2001. France shows the greatest differences with a fertility rate of 1,7 in 1995 - which was an exceptional low rate for this country - and almost reaching the replacement level with a TFR of 1,9 in 2001. Germany has by far the lowest TFR in the quartet and lies also distinctively below the EU-15 average. Special attention should be pointed to the fact that the two countries with the most decisive reduction of unemployment between 1995 and 2001, Finland and the UK, face also a cutback in fertility. France however has a slight reduction of unemployment, which is opposed by a decrease in TFR. The German values remain mostly stagnant although there has been a temporary increase in unemployment rates after 1995. While the view on UK and France support the presented theoretical assumptions of a connection between unemployment and fertility on the macro level, the results from France are contradictory. The displayed data however only draws a rough sketch. Several other factors, especially the different institutional settings in the examined countries need to be considered.

3.3 Social policy settings

The social policy settings within the compared countries manifest different historical legacies. The resulting country-specific policies stress different forms of solidarity as well as different institutions what makes a comparison difficult (in detail Neyer 2003). The most important regulations for our topic include unemployment benefits and a wide range of family related benefits[6].

In the field of family policies two major pathways can be identified: On one side certain countries promote regulations, which are making it easier to combine work

---

6 Another instrument is an employment policy that encourages female labour force participation in the public sector like in the case of Finland. These policies will not be discussed in detail here (see Esping-Andersen 1999, Gornick & Jacobs 1998).

and family. They do so by encouraging flexible working hours, establishing an extensive day- and infant care system. We can find these conditions in Finland and in part in France. On the other side there are family policies, which financially encourage women, to leave the labour force. This includes generous child benefits, wages for housework and generous maternity leave arrangements with no commitment to return to work. In our sample such regulations can be found in Germany. In case of unemployment such settings produce different and sometimes contradictory results, which will be addressed later on.

Figure 4:   Family related cash benefits in Euro after housing and service
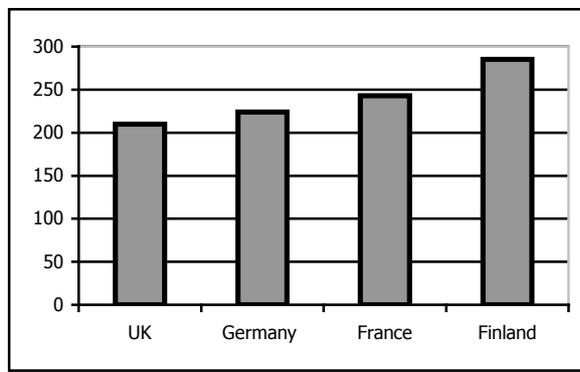
Source: Bradshaw & Finch (2002).

The amount of spendings on family related benefits differs decisively among the observed countries. Finland displays the most generous system of family support with a clear aim of enabling the combination of family and work. This is in part also true for France. Germany, which also spends large amounts on family support, still follows a policy, which favours the male breadwinner-principle. (Pfau-Effinger 1996: 479). This package of financial and childcare support tends to detract women from the labour market and establishes strong dependencies from the male. So in case of a previous unemployment episode and a subsequent transition to parenthood, one situation of dependency is followed by another. Thus it can be concluded that the decision to perform the transition to motherhood strongly depends on the future labour market perspectives, which are linked to the duration if the unemployment spell.

The maternity and childrearing leave regulations among the observed countries underline this picture of the German family policy cultivating a traditional division of labour. Only France and Finland actively include the father into the parental leave regulations by offering a paid paternity leave. Germany has the most generous parental leave benefits, under which the time off work can be shared among the partners. This resembles Finland and France, which however offer much lower rates of financial transfer. In the UK there are no transfers at all for parental leave. Germany therefore produces a rather strong incentive for at least one of the partners to stay away from the labour market. The take-up of parental leave in practice however is almost limited to mothers and only a marginal proportion of the fathers

takes up part of the leave. In France and even more in Finland the proportion is distinctively higher, but still decisively below the proportion of women taking up parental leave. In Germany, and Finland also unemployed persons are eligible for maternity leave payments (respectively a payment by health insurance in Germany). The childrearing leave transfers also address unemployed parents in Germany, Finland and France as they are delivered as (in Germany a means tested) flat rate. In France however the comparatively high parental leave payments only apply for the 2nd and further children, fostering the trend towards two children-families.

Table 2:   Parental leave regulations

	Duration of leave		Percentage of net wage replacement		Parental/childrearing leave
	maternity	paternity	maternity	paternity	
UK	18 weeks	none	90 [(1)]		13 weeks, unpaid
D	14 weeks	none	100		3 years with moderate flat rate for 2 years (~300€, means tested)
F	16 weeks, 26 weeks with 3rd child	3 days, (2 weeks since 2002)	100	100	3 years with unpaid, high flat rate for 2 years for the 2nd child or further children (2)
Fin	17,5 weeks	1 to 3 weeks	~65	~65	26 weeks, flat rate, childrearing leave up to the childs 3rd birthday with reduced flat rate

(1) 90 percent for or 6 weeks, then low flat rate.
(2) 1995 extension of parental leave regulations.

Sources: Kamerman 2000, MISSOC 2002.

Just like the parental leave, the child allowance benefits in France only apply to children after the first. Aside from this we again find the highest benefits in Germany and France, with the UK showing the smallest family transfers in this section, with even decreasing allowance for additional children. Among the observed countries, also unemployed parents are entitled for most of the family related transfers except for the UK in the case of case maternity leave. Considering the financial burdens of rearing a child we can assume that there is a slight negative incentive for a couple of one or even two unemployed persons. In the case of the UK this disincentive can even be considered grave. However the vital variable when trying to combine occupational career and parenthood is available time, which is needed for childcare as well as for market work. Gornick, Meyers and Ross (1996) point to a close relation between labour supply of infant mothers and the availability of childcare. The authors highlight the Scandinavian nations as well as France to provide conditions in favour of employed mothers – in opposition to the Anglo-Saxon nations.

Table 3: Child allowance in 2000

	Child allowance	
	Entitlement	Benefits
UK	1st chlid	100€ for the 1st, 67 for 2nd and additional children.
Germany	1st child	138€ each, increase for the 3rd and 4th child
France	2nd child	105€ for the 2nd child, increase up to the 6th child
Finland	1st child	90€ for the 1st, increase up to the 5th child

Source: MISSOC 2000.

In our sample Finland has by far the most elaborate system of external care for infants and young children with a high level of coverage. This complies to the Scandinavian model of subsidizing family services to enable the combination of work and family. With a lower level of coverage than Finland, the childcare system in France is also able to disburden parents in this regard (Neyer 2003). The UK follows the principle of encouraging diversity and dynamics on a widely privatised care system (Mahon 2002: 354). Although there's some financial support with regard to childcare in the UK, the costs of childcare for working parents remain among the highest in the EU (Bradshaw & Finch 2002). Nevertheless the amount of female labour force participation in the UK (45,0%) rests only marginally below the levels in France (45,1%) and Finland (47,6%, OECD 2001b). Just like in the UK, German parents face increased costs of external childcare combined with a low level of coverage, which is at least true for the West of Germany. This is compatible with the view of the German family policy, discouraging female occupation, which lay at 43,2% in 2000 (OECD 2001b).

The lack of an extensive child- and daycare system does probably contribute to a connection between unemployment and parenthood. In an environment where parents are not able to combine work and childcare without cutbacks, a condition with bleak labour market prospects poses a special incentive for parenthood as the time spent for childcare poses a comparatively cheap resource in this case. This is further aggravated by the fact that especially in France and even more in Germany and the UK, infant care is supplied mainly by intra-familial networks (Büchel & Spieß 2002). Those networks however are likely to be torn a apart by a labour market situation, demanding high levels of geographic mobility (Hank et al. 2004).

If it comes to unemployment benefits it is again Finland, which displays the most generous regulations of entitlement. Here also persons under special training conditions are entitled to insurance, whereas in Finland and France the benefits include family supplements. In France seasonal unemployment and voluntary unemployment are excluded from insurance benefits. While the amount of unemployment insurance is rather low in the UK this is also the only country in the quartet without unemployment *assistance*. Unemployment assistance in the Finland, France and Germany offers reduced payments compared to the amount of insurance benefits. Out of the displayed countries Germany and Finland are the ones, which increase the amount of unemployment payments with dependent children in the family

(MISSOC 2002). These transfers represent significant[7] payments in both cases and might well encourage the transition to parenthood. The lack of unemployment assistance in the UK however, could be a disincentive in the decision for a child. The British *income support* (the system guaranteeing minimum resources) follows the short duration of unemployment insurance payments of only 6 months, reducing household income decisively. In case of income support, the partners income will also be considered. It can be assumed that this exerts a strong pressure to re-enter the labour market as quickly as possible. For long-term unemployed who already receive income support however, it still stands the reason that the amount of available income will diminish the probability of deciding to have a child.

Table 4: Unemployment benefit regulations in 2002

	Unemployment benefit duration in months		Entitlement conditions: Insured months within period:	Amount in percentage of previous earnings	
	Insurance (1)	Assistance		children	no children
UK	6	none	none	74€ flat rate	
Germany	6-32	unlimited	12 within 36	67 of net	60 of net
France	4-60	unlimited	4 within 8	57,4	57,4
Finland	23	unlimited	10 within 24	20 to 42 + high flat rate (2)	

(1) The duration of unemployment insurance may vary according to the duration of the employment record (contribution period), the age and the family situation of the beneficiary.

(2) Finish unemployment benefits are calculated from a flat rate of ~20€/day + 42% of daily wage or ~50€/day + 20% of daily wage in case of higher incomes. Additional child related benefits apply.

Source: Carone et al. 2003, MISSOC 2002.

4)   DATA AND METHODS

4.1   The European Community Household Panel

Basis of the empirical analysis will be the European Community Household Panel (ECHP). This longitudinal data set, providing representative data on the EU population was collected from 1994 to 2001. Its advantage rest in the ex ante harmonisation of the data and the availability for all EU-member-states (Günther 2003). Hence the ECHP poses a unique base for cross national research with comparable national information across the EU. The sample of countries, which will be considered for empirical analysis consists of the UK, Germany, France and Finland. The data considered for Germany and the UK is based on cloned data from national

---

7 Seven percent of previous net income in the case of Germany and 4€ to 18€/day with 1 to 3 children in the case of Finland (MISSOC 2002).

panels, namely the British Household Panel Study (BHPS) and the German Socio-Economic Panel (SOEP) what results virtually in an ex post harmonisation of the ECHP in these cases. This harmonisation however is strictly oriented on the ECHP questionnaire and data-structure, providing comparability in almost all areas. For the selected countries all eight waves of the ECHP are available except for Finland[8], which has been taking part in the ECHP since 1996.

4.2 Description of data and population of analysis

To investigate a possible gender specific effect of unemployment on *family formation*, we consider solely the transition to first-parenthood. One of the main predictors of second and further births is the timing of the first birth. Most parents show a tendency to place first and second birth into a rather narrow time frame what results in the increased probability of childbirth if a very young child already lives with the parents (Kreyenfeld 2002, Kreyenfeld & Huinink 2003). In this context many mothers show a different labour supply behaviour, if they already have a young child and stay away from the labour market for a longer duration. To minimise such influences of family structure on the research topic we observe only the first birth. The identification of parent-child relations in the ECHP is somewhat difficult. There's no information on children who have left the household (or in case one of the parents changes the household, leaving the child behind with the partner), what results in an underestimation of the number of children of men and women. When considering if a person is already mother or father or not, we also take step-, adopted- or foster children into account, as the existence of these children also influences the probability and the timing of further births. Furthermore the number of adult household members will be integrated into the model. Adult household members, other than the partner might serve as informal networks, which are capable of reducing the strain of childcare (Hank et al. 2004) and might thus reduce the costs of opportunity of having children. On the other side larger household formations may indicate living arrangements apart from the partner dyad as centre of parenthood.

The individual centred variables include the net personal income, which is of major relevance for the ability to support a family as well as the logarithmised income to account for marginal effects. Furthermore the educational attainment will be considered. In the ECHP this level is displayed in form of the ISCED[9] classification. This indicator is derived from the level of formal as well as from the level of vocational education. Unfortunately a differentiation between formal and vocational education, which will most probably provide different kinds of information, is not possible on basis of the ECHP as this data is not included. The same is true

---

8 From the Scandinavian countries Norway as a possible candidate for the empirical examination was excluded as not being member of the EU and therefore not taking part in he ECHP. Sweden was excluded for not providing longitudinal data, Denmark for reasons of availability of certain items and small number of cases in general.

9 „International Standard Classification of Education", for details see OECD (2001).

for information that indicates biographical planning. Above it was pointed out that this planning might be of relevance in a rational decision making process, when the transition to parenthood is considered. But information, from which such a biographical planning might be derived from (like the appreciation of parenthood or self-realisation, e.g.) is not collected with the ECHP.

A further group of variables to be considered, regard the labour market participation.[10] We will control for the fact if a person has ever been part of the labour force during the last year to take into account, persons who are still in education or other persons who are excluded from the labour force. Special attention will be paid to different measures of unemployment, which will be tested with reference to labour market participation. To account for precarious employment situations, we observe if the individual experienced any unemployment episodes of long term unemployment within the last five years. As different effects of unemployment on childbirth will be investigated, variables, which represent different concepts in measuring unemployment will be verified.

It was pointed out before that the *duration* of an unemployment spell might play a decisive role in the decision for or against family formation. Hence this duration of the unemployment spell will be included in the multivariate model. This information is derived from the ECHP calendar of activities, which is built on a monthly base. As the information within the calendar of activities is subject to self ascription it is not necessarily congruent with the ILO-concept of unemployment. To account for this and because some of the calendar-based data is limited for Germany and France[11], information on unemployment from the personal questionnaire will also be verified as an alternative. Furthermore the self ascribed information of unemployment from the calendar of activities is supplemented with information on periods of inactivity or housework for persons who were previously in employment. These persons can be defined as unemployed as they basically belong to the labour force. Descriptive and multivariate tests of this modus operandi have been conducted without the indication of any bias.

An important element of the empirical model is the supplementation of individual data with partner data. The decision for or against a child is in almost all cases being made by both partners (Thomson & Hoem 1998). Thus the resources and situation of both partners have to be taken into account when calculating the probability for the transition to parenthood (Klein 2003). Furthermore the resources of the partner, especially income and education can be grasped as bargaining power when important decisions have to be made. The integrated partner-variables include income, education, type of relationship and age as important predictor of a couples fertility. This part of the analysis excludes all persons, not living together with a partner in the same household. This means also that the transition to lone-

---

10 ILO-labour force indicator cannot be used in the analysis, as the corresponding information on Germany and the UK is seriously limited.

11 Regrettably this retrospective information is limited in the case of Germany and France: For Germany, only episodes, reported to the Federal Employment Office are included. For France, the calendar data is incomplete in some cases (for details see Eurostat 2003: 300).

parenthood will be blinded out. Although the prevalence of this population still remains decisively lower than the number of parents living in consensual unions and especially marriages, this group faces special occupational and financial hazards. A separate model, which also integrates persons, who are not living in a consensual union will be estimated. From this model all partner data will be excluded. The focus on the population at risk requires to exclude persons who are widely inhibited from the childbirth due to age. The observed cohorts include 1955 to 1983, virtually setting an age limit at 45 years as the last births in the ECHP were recorded in 2001. Although we can find a postponing in the timing of births throughout all Western societies (Chen & Morgan 1991, Blossfeld 1995), the transition to parenthood beyond the age of 45 is very rare, which is true for both genders (see figure 5). As the delay in the timing of births also includes a catching up at higher ages – especially for the higher educated – age has to be an integral part of the model.

Figure 5:   Transition to first-parenthood in France, Finland, Germany and the
             Unitded Kingdom by gender – Kaplan-Meier survival estimates
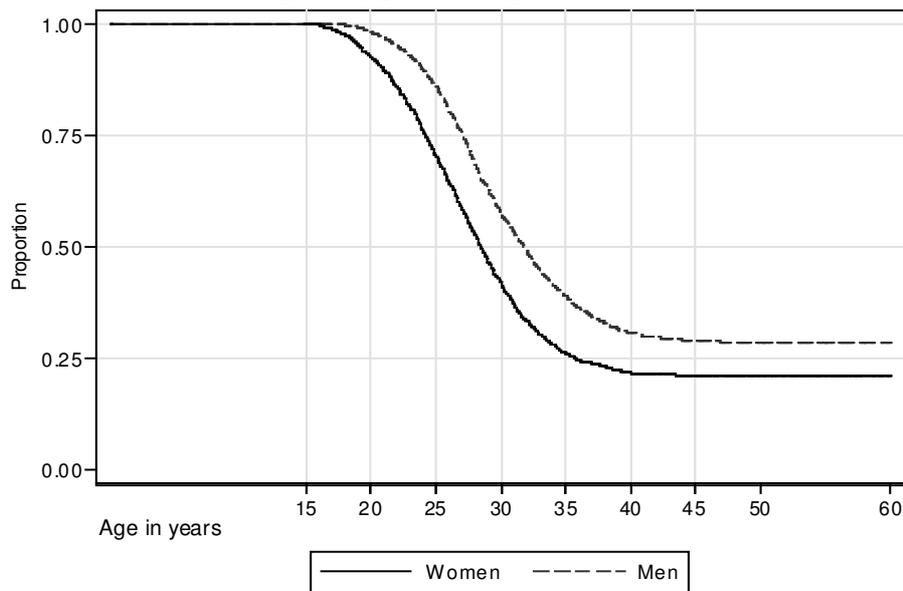
Source: ECHP 1994 to 2001, own calculations   *n = 27.325*

4.3 Longitudinal design of the multivariate analysis

The central event of the analysis is the occurrence of a birth. In almost all cases the month of birth is available. As we assume a rational decision to be the basis of this event (what should be true for at least some of the births) a rough time frame for this decision can be derived. The point of decision is set 10 months prior to birth to account for a causal effect. Although it stands to reason that the decision making

process may start much sooner, we still catch most of the relevant information as we consider the *duration* of the unemployment spell. The duration effect of the unemployment episode on the fertility decision however will be underestimated in such cases as a consequence, while very short unemployment spells may be lost in seldom cases.

The time axis is constituted by the age of the respondent in months. Process time starts with January of the 16th year since respondents birth (month 193); Time under observation starts with entry into the panel which usually is at age 16 or at a later age for new subsamples of the ECHP or if persons move into a panel household. The time under observations ends 10 months prior to the occurrence of the first birth or at exit from the panel in which case the spell is regarded as censored. Considered are all respondents who have not yet performed the transition to first birth within the birth cohorts 1955 to 1983.

We include time invariant variables (like gender or country of origin, e.g.) as well as time variant variables (like educational attainment or income, e.g.) For most of the time varying variables only annual information is available (the central measure of unemployment will still be based on monthly information). The status of the time varying variables will be calculated with respect to the month of the interview to minimise any bias incorporated by improper status ascription.

The multivariate analyses are based on event history methods. As the hazard rate of the transition to first birth is not constant over time, we assume piecewise constant hazards at different age segments as an approximation, by applying a piecewise constant exponential function. The time spans are defined with reference to the model of the hazard ratio (see Figure 6)[12]. The multivariate analyses are conducted using an exponential hazard module in STATA with piecewise constant extension (Sorensen 1999).

The empirical analysis is organised to account for the effect of different measures of unemployment. For each of the selected countries, France, Finland, Germany and the United Kingdom a separate model will be estimated with a further differentiation by gender, to be able to outline country specific, as well as gender specific effects. Model I examines to mere effect of the status of being unemployed or not at t_0 on the transition to first parenthood in t_1 (no covariates included). Model II also excludes covariates but the duration of a possible unemployment episode in t_0 is considered, with differentiation between short-term (less than six months of continuous unemployment), mid-term (six up to twelve months of continuous unemployment) and long-term unemployment (more than twelve months of continuous unemployment). This measure of duration is also applied to all other models. Model III implements a set of covariates. Furthermore unemployment duration is conceptualised as part of the employment status, aside from full time and part time employment and education. Moreover Model IV integrates information on the part-

---

12 Time spans for piecewise estimations defined as 0 to 252 months [21years] (effectively 192 to 252 months as only adult respondents with 16 years of age or older are considered), 253 to 312 months [26 years], 313 to 396 months [33 years], 397 to 456 months [38 years], 457 months or older (effectively limited to 45 years as only cohorts from 1955 to 1983 are considered).

ner. In Model V the partner model is estimated without a gender differentiation. The gender specific effect is investigated by calculation of interaction terms between gender and employment status (including duration of unemployment).

Figure 5:   Hazard rate of the transition to first-parenthood in France, Finland, Germany and the Unitded Kingdom by gender

Source: ECHP 1994 to 2001, own calculations   n = 27.325

5)   RESULTS OF THE MULTIVARIATE ANALYSIS

The multivariate analysis of the effect of unemployment on family formation indicates variations across gender and national context. The gender specific differences however do not hold for all the countries. The results of the piecewise-constant model show unexpected similarities among men and women in the of the UK.

The first model incorporates solely the information of unemployment prior to the time of conception. In this setting we find a line of positive effects for the first birth risk of women and a negative correlation for the risk of men in all four countries, except for British men, where we cannot observe any sizeable effects. All effects are significant at least on a 95% level.

When differentiating by the *duration* of an unemployment episode the variation across countries and across gender increases: For French and Finish men we find an increasing strength of the positive impact with extended duration of the unemployment episode. For German men we can only observed a moderate effect of short

term unemployment whereas for men in Great Britain again no effect on the transition to fatherhood is displayed. Among the women only in the case of France the duration effect is limited: Here only short term unemployment shows any signs of correlation. For Germany, Finland and the UK we find highly significant effects for short-, mid- (here not in the case of Finland) and long-term unemployment with exceptional strong effects in the UK.

The model specifications considering the full set of covariates however render less distinct effects of unemployment on family formation. While we find a clear negative impact of educational participation on transition to parenthood in France, the effect of unemployment on first birth risk becomes negligible. Only being short term unemployed (less than six months) displays a minor effect. When taking into consideration the partners education, income and age, we even find a weak negative impact for women in mid term unemployment (six up to twelve month) in this country. Across the observed European countries, France is the only one that generates any negative effect of unemployment on family formation for women. If these particularities in France are results of characteristics of the French social structure and social policy or merely artefacts of the French ECHP data[13] remains unclear. Finally the observed effects are rather weak and display only low levels of significance.

Distinguishing more precisely by the duration of the unemployment episode, antecedent to the decision for family formation we find that either short- or long-term unemployment reveals the most distinct effects for women as well as for men. These circumstances however can be conceptualised under a completely different background:

In the first case of short-term unemployment, the difficulty of combining occupational and family role results in high costs of opportunity for women. Hence it is not surprising to find the fastest diffusion into parenthood with distinct positive effects of short-term unemployment on women's fertility decisions in countries in which the social policy settings hamper the combination of work and family, Germany and the UK. Though rather extensive, the German family policy fosters the woman's retreat from the labour market, thus increasing opportunity costs of parenthood while family related expenditures in the UK are generally rather limited. Another parallel between Germany and the UK is the low level of coverage and availability and the high costs of infant- and childcare, which might be responsible in generating such a close link between unemployment and family formation especially for women. But obviously social policy settings are not the sole influential factor. Surprisingly we also find a distinct positive impact of short-term unemployment among Finish women, in a country where family work conflicts tend to be the weakest in the sample.

---

13 Due to the limited data quality of the French ECHP calendar data, unemployment spell might appear interrupted although they are actually continuous (see Eurostat 2003: 300). This might lead to a misjudgement of the effect of the duration of unemployment as longer unemployment spells are underestimated. Hence the results for France require further inspection in future research.

In the second case of long-term unemployment, an element of discouragement might be the driving force. In part for German, but especially among British women we find a continuos diffusion into the transition to parenthood under the impact of unemployment, with a marginal reduction of the effect by duration of the episode. The effects however remain highly significant. Further investigation with respect to different subpopulations, - educational attainment groups, e.g. - might proof to be fruitful in examining, if different groups perform the transition to parenthood under the impact of a certain unemployment duration. More precisely: at which times may a reduction in opportunity costs or an labour market related discouragement be the driving force in fertility decisions. Unfortunately such analysis are restricted by the ECHP data, mostly due to the lack of birth-biographical information and thus the limitation of recording only transitions to first birth during the time of observation, 1994 to 2001 are task for future research.

After controlling for covariates we cannot identify any sizeable effects of unemployment in France and among German men. In Finland we find a decisive negative impact of short- and even more of long-term unemployment on the male side. This might point to the prevalence of a male-breadwinner principle in this country but what contradicts this theory is that no effects of male income on transition to fatherhood are observable in this country. However we do find an income effect for Finish women what is well in line with the results of Vikat (2004). In the light of the support of family formation of Finish social policy, it remains unclear, what causes this strong reluctance to enter fatherhood after a close link to the labour market has been broken, as this is unprecedented among all men in the other observed countries. In the case of the UK an unexpected positive effect of long-term unemployment on transition to first parenthood is found men, which resembles the strength of effect of long-term unemployed women in this country. A link to the relation between unemployment and family formation might be found in the impact of unemployment insurance: In the UK, women only experience an increased risk in the transition to motherhood in the case of mid- and long-term unemployment. The initial unemployment insurance payments in the UK are ceased after 6 months[14], followed by merely limited social assistance benefits. Perhaps a labour market reintegration is being anticipated, as long as the unemployment insurance regulations offer a link to the labour market. After a longer duration of labour market absence, discouragement might set in, boosting the decision for family formation. This assumption of a connection between unemployment benefit payments and family formation however requires further investigation.

Aside from the element of discouragement in the case of long-term unemployment and the reduced opportunity costs in the case of shorter unemployment episodes, the reduction in disposable household income is the most drastic occurrence. Hence we control for income and the income of the partner. An imminent income

---

14 Although the models displayed in the appendix include solely net personal income, different estimations, based on the equivalence weighted, post government household income have been conducted, the account for transfer payments, especially the reception of unemployment related benefits. (for details in composition of the OECD-equivalence-weighted scale see Faik 1997).

effect can only be reported for French and Finish women as well as for both genders in Germany: Persons with higher incomes and *also* with higher income of the partner show a higher first birth risk. As German family policy encourages a traditional division of labour, we find a strong positive effect of income of the woman's partner as an indication of the continued dominance of the notion of a male-breadwinner. This effect does also apply to the partners income of German *men,* which is surprising, as we would expect women with higher income to be more strongly integrated into the labour market and thus with a lower affinity for family formation. One cause for the observed effect might be that German couples estimate the financial constraints of family formation to be severe and therefore focus on the foundation of an economic basis prior to family formation.

An additional unemployment related variable is taken into account which measures if long-term unemployment has occurred at any time during the last five years. Studies in this field of precarious employment biographies imply a mainly negative effect of these events on first birth risk (Kurz et al. 2001, Tölke & Diewald 2003). As we control for income, not the latent income effect of such previous event plays a role, but the lack of economic security is expected to be the determining factor. We can only identify any sizeable effects among German men and women (and to very limited extend for British men). Obviously labour market perspectives are judged to be either rather bleak or the reluctance to enter parenthood is driven by a rather strong need for coverage in this country.

6) SUMMARY AND CONCLUSIONS

In this sample of European welfare state regimes, we found distinct effects of unemployment on the transition to family formation for all countries except for France. A clearly gender specific differing impact however only manifests in Finland. While Finland is also the only example among the observed countries that produces any negative impact on family formation for men, in the case of short-term and long-term unemployment, the connection in France appears to be very vague.

The view on the UK and Germany supports the assumption that family formation in these countries is closely related to two major factors: First the provision of a secure economic background, prior to family formation and second the burden of combining familial and occupational roles. These factors obviously play decisive roles when considering parenthood. The prevalence of the male-breadwinner-principle still shows its imprints in these countries. An increased probability for the transition to fatherhood however is found among the *long-term* unemployed in the UK. For this group however, the high availability of allocatable time might encourage a stronger participation in childrearing, thus disburdening the woman and increasing the probability of family formation. After all it is Germany and the UK, which produce the highest costs of opportunity for parenthood with high costs and low levels of childcare availability. Still women perform the transition to parenthood more swiftly in case of unemployment.

Among the observed countries, we find the most striking effect of unemployment on family formation in the case of either *short-term* or *long-term* unemployment. In the case of long-term unemployment, family formation obviously becomes an option, after a close link to the labour market has been broken in terms of discouragement, e.g. When considering the duration of unemployment there is evidence that the reception of unemployment insurance benefits might also play a role. As we control for income, we can exclude a direct effect on the monetary transfers on family formation but the receipt of such unemployment benefits requires job search activities or at least availability for work as a prerequisite in Germany and the UK. If the eligibility becomes void after a certain time, the link to the labour market becomes more fragile, as search activities are no longer compulsory. The probability of the transition to parenthood depends on the duration of unemployment as suggests such a connection.

Gender specific effects appear most prominent in their dependence on the *duration* of unemployment episodes. The results of our analysis show that the effect of unemployment on family formation for men and woman depends on several contextual factors, not considered by the New Home Economics including social policy settings and the increasing tendency of labour force participation of women. For men we could even find unpredicted positive effects of long-term unemployment on family formation in the UK, which might indicate a tendency towards a less traditional division of labour under the pressure of labour market restrictions. Further investigation in this direction might be beneficial.

References

Beaujot, R. & J. Liu (2002): Children, Social Assistance and Outcomes: Cross National Comparisons. Luxembourg Income Study, Working Paper No.304. Syracuse.

Beblo, M. (2001): Bargaining over Time Allocation: Economic Modeling and Econometric Investigation of Time Use within Families, Dissertation, Heidelberg: Springer/Physika.

Becker, G. S. (1981): Altruism in the family and selfishness in the market place. Economica. Vol.48, No.189. 1981, 1-15.

Becker, G.S. (1993): A Treatise on the Family (extended edition). Cambridge: Harvard University Press.

Bielby, W. & D. Bielby (1992): I will follow him: Family ties, gender-role beliefs, and the reluctance to relocate for a better job. American Journal of Sociology. Vol.97, No.5: 1241-1267.

Blau, P. M. (1964): Exchange and power in social life. New York: Wiley and Sons.

Blossfeld, H.-P. & G. Rohwer (1995): Techniques of Event History Modeling. New Approaches to Causal Analysis. NewJersey: Erlbaum.

Blossfeld, H.-P. & G. Rohwer (1995): West Germany. In: Blossfeld, H-P. (ed.) The New Role of Women – Family Formation in Modern Societies. Colorado: Westview Press.

Blossfeld, H.-P. (1991): Der Wandel von Ausbildung und Berufseinstieg bei Frauen. In: Mayer, Karl Ulrich et al. (eds.) Vom Regen in die Traufe: Frauen zwischen Beruf und Familie. Campus: Frankfurt a.M: 1-22.

Blossfeld. H.-P. (1995): Changes in the Process of Family Formation and Womens´s Growing Economic Independence: A Comparison of Nine Countries. In: Blossfeld, H.-P. (ed.) The New Role of Women – Family Formation in Modern Societies. Colorado: Westview Press.

Bradshaw, J. & N. Finch (2002) : A comparison of Child Benefit packages in 22 countries. Department for Work and Pensions (ed.) Research Report No 174.

Brose, H.-G- (2003): Die Subversion der Institution – Über Riesters Rente, lebenslanges Lernen und andere Kleinigkeiten. In Allmendinger, Jutta (ed.) Entstaatlichung und soziale Sicherheit. Verhandlungen des 31. Kongress der Deutschen Gesellschaft für Soziologie in Leipzig: Opladen.

Büchel, F. & K. Spieß (2002): Form der Kinderbetreuung und Arbeitsmarktverhalten von Müttern in West- und Ostdeutschland. Gutachten im Auftrag des Bundesministeriums für Familie, Senioren, Frauen und Jugend. Stuttgart: Kohlhammer.

Büchel, F. & H. Trappe (2001): Die Entwicklung der Einkommensposition kinderreicher Familien in Deutschland. Zeitschrift für Familienforschung, 13, No. 2, 5-28.

Burkart, G. (1994): Die Entscheidung zur Elternschaft. Eine empirische Kritik von Individualisierungs- und Rational-Choice-Theorien. Stuttgard: Enke.

Carone, G. & A. Salomäki & H. Immervoll & D. Paturot (2003): Indicators of unemployment and low-wage traps (marginal effective tax rates on labour). European Commission, Economic Papers.

Chen, R. & S.P. Morgan (1991): Recent Trends in the Timing of First Births in the United States. Demography 28, No. 4, 513-533.

D´Ambrosio, C. & C. Grandin (2003): Income Distribution and Social Exclusion of Children: Evidence From Italy and Spain in the 1990s. In: Journal of comparative family studies, Vol. 34, No. 3, 456-479.

DiPrete, T. & S.P. Morgan & H. Engelhardt & H. Pacalova (2003): Do Cross-National Differences in the Costs of Children Generate Cross-National Differences in Fertility Rates? Population Research and Policy Review (forthcoming).

Dornseiff, J.M. & R. Sackmann (2003): Familien-, Erwerbs- und Fertilitätsdynamiken. In: Bien, W. & J. H. Marbach (2003): Partnerschaft und Familiengründung – Ergebnisse der dritten Welle ds Familien-Survey. Opladen: Leske + Budrich.

Esping-Andersen, G. (1990): The Three words of Welfare Capitalism. Cambridge: Polity Press.

Esping-Andersen, G. (1999): Social Foundations of Postindustrial Economies. Oxford: University Press.

European Communities (ed.) (2003): 50 years of figures on Europe. Luxembourg: Office for Official Publications of the European Communities.

Eurostat (ed.) (2003): ECHP UDB. Description of variables. Data Dictionary, Codebook and Differences between Countries and Waves.

Faik, J. (1997): Institutionelle Äquivalenzskalen als Basis von Verteilungsanalysen. Eine Modifizierung der Sozialhilfe-Skala. In: Becker I. & R. Hauser (eds.) Einkommensverteilung und Armut, Campus: Frankfurt, 13-42.

Finch, N. & J. Bradshaw (2003): Fertility and Supporting the Costs of Children. Paper for conference on recent fertility trends in Northern Europe. Oslo.

Friedmann, D. & M. Hechter & S. Kanazawa (1994): A theory of the value of children. In: Demography. Vol.31, No.3, 375-401.

Fthenakis, W. E. & B. Kalicki & G. Peitz (2002): Paare werden Eltern. Die Ergebnisse der LBS-Familien-Studie. Opladen: Leske & Budrich.

Gornic, J. C. & J. A. Jacobs (1998): Gender, the Welfare State and Public Employment: A Comparative Study of Seven Industrialized Countries. In: American Sociological Review, Vol. 63: 688-710.

Gornic, J. C. & M. K. Meyers & K. E. Ross (1996): Public Policies and the Employment of Mothers: A Cross-National Study. Luxemburg Income Study, Working Paper No. 140.

Greene, W.H. (2003): Econometric Analysis. 5th edition. Upper Saddle River, New York: Prentice Hall.

Günther, R. (2003): Report on compiled information. Chintex Working Paper No. 19, Work-package 1.

Hank, K. & M. Kreyenfeld & K. Spieß (2004): Kinderbetreuung und Fertilität in Deutschland, Zeitschrift für Soziologie 34 No. 3 (forthcoming).

Happel, S. K. & J. K. Hill & S. A. Low (1984): An economic analysis of the timing of childbirth. In: Population Studies. Vol.38, No.2, 299-311.

Hoem, B. (2000): Entry into motherhood in Sweden: the influence of economic factors on the rise and fall in fertility, 1986-1997. Demographic Research [Online-Journal, http://www.demographic-research.org/volumes/vol2/4/2-4.pdf],

Homans, G. C. (1967): Soziales Verhalten als Austausch. (originally from 1958). In: Hartmann, H. (ed.): Moderne amerikanische Soziologie. Stuttgart: Enke, 173-185.

Homans, G. C. (1968): Elementarformen sozialen Verhaltens. (originally: Social behavior. Its elementary forms. 1961). Opladen: Westdeutscher Verlag.

Huinink, J. & M. Kreyenfeld (2004): Family formation in times of social and economic change: An analysis of the 1971 East German cohort. MPIDIR working paper. 2004 No. 13. Rostock: Max-Planck-Institute for Demographic Research.

Jenkins, S. P. & C. Schluter & G. G. Wagner (2003): The Dynamics of Child Poverty: Britain and Germany Compared. In: Journal of comparative family studies, Vol. 34, No. 3, 337-356.

Kamerman, S.B. (2000): Parental leave policies: An essential ingredient in early childhood education and care policies. Social Policy Report No. 14, 3-15.

Klein, T. (2003): Die Geburt von Kindern in paarbezogener Perspektive. Zeitschrift für Soziologie, 32, Heft 6, 506-527.

Kohn, M. L. (1987): Cross-National Research in Sociology. Newbury Park: Sage.

Kravdal, Ö. (2002): The impact of individual and aggregate unemployment on fertility in Norway. [Online-Journal, http://www.demographic-research.org/volumes/vol6/10/]

Kreyenfeld, M. & J. Huinink (2003): Der Übergang zum ersten und zweiten Kind – Ein Vergleich zwischen Familiensurvey und Mikrozensus. In: Bien, W. & J.H. Marbach

(eds.) Partnerschaft und Familiengründung – Ergebnisse der dritten Welle ds Familien-Survey. Opladen: Leske + Budrich, 43-64.

Kreyenfeld, M. (2000): Changes in the timing of first birth in East Germany after re-unification. In: Schmollers Jahrbuch. Berlin: Duncker & Humboldt, 169-186.

Kreyenfeld, M. (2001): Timing of first birth in East Germany after reunification. Vierteljah-reshefte zur Wirtschaftsforschung, 70 No. 1, 74-79.

Kreyenfeld, M. (2002): Time-squeeze, partner effect or self-selection? An investigation into the positive effect of women's education on second birth risks in West Germany. Demographic Research 7 No. 2, 15-48.

Kreyenfeld, M. (2004): Fertility decisions in the FRG and GDR. An analysis with data from the German fertility and family survey. MPIDIR working paper. 2004 No. 8. Rostock: Max-Planck-Institute for Demographic Research.

Kühn, T. (2001): Die Planung der Familiengründung – verschiedene Entwicklungsverläufe in den ersten Berufsjahren. Zeitschrift für Familienforschung, 13, Heft 2, 29-48.

Kurz, K. & N. Steinhage & K. Golsch (2001): Global competition, uncertainty and the tran-sition to adulthood. Globalife Working Paper Series, No. 16, Faculty of Sociology, Uni-versity of Bielefeld.

Lauterbach, W. (1994): Berufsverläufe von Frauen: Erwerbstätigkeit, Unterbrechung und Wiedereintritt. Reihe: Lebensverläufe und gesellschaftlicher Wandel. Frankfurt/Main: Campus

Lerchl A & M. Simoni & E. Nieschlag. (1993): Changes in seasonality of birth rates in Germany from 1951 to 1990. Naturwissenschaften. 80, No. 11, 516-518.

Liefbroer, A. C. & Martine C. (1999): Who, What, Where and When? Specifying the Impact of Educational Attainment and Labour Force Participation on Family Formation. In: European Journal of Population, No. 15, 45-75.

Mahon, R. 2002: Child care: Toward what kid of "social Europe"? In: Social Politics 9/3, 343-379.

Manow, P. (2002): The Good, the Bad, and the Ugly. Sozialstaats-Typologie und die kon-fessionellen Wurzeln des westlichen Wohlfahrtsstaats. In: Kölner Zeitschrift für Soziolo-gie und Sozialpsychologie, 54, 203-225.

Mayer, K. U. (2001): The paradox of global social change and national path dependencies. In: Woodward, Alison & M. Kohli (eds.), Inclusions and Exclusions in European Socie-ties. London and New York: Routledge, 89-110.

MISSOC (2002): Social protection in the Member States of the European Union. Situation on 1 January 2002 and evolution. Luxembourg: European Communities.

MISSOC (2000): Social protection in the Member States of the European Union. Situation on 1 January 2000 and evolution. Luxembourg: European Communities.

Neyer, G. (2003): Family policies and low fertility in Western Europe. MPIDR Working Paper, WP-2003-021.

Noonan, M. C. (2001): The impact of domestic work on men's and women's wages. Journal of Marriage and the Family. Vol.63, No.4. 2001, 1134-1145.

Notz, G. (1994): Frauen zwischen Arbeitsmarkt und Hauswirtschaft. Zum Verhältnis von Berufsorientierung, Kontinuitäten und Brüchen von Berufsverläufen von Frauen in den alten Bundesländern. In: Beckmann, P. & G. Engelbrecht (eds.), Arbeitsmarkt für Frauen 2000 - Ein Schritt vor oder ein Schritt zurück? Nürnberg: Institut für Arbeitsmarkt und Berufsforschung der Bundesanstalt für Arbeit: 229-252.

O`Rand, A. (1996): Linking Social Structures to personal Developement. In: Weymann, A. & W. R. Heinz (eds.), Society and Biography. Weinheim: Deutscher Studienverlag Ver-lag, 67-81.

OECD (2001): Bildung auf einen Blick. OECD-Indikatoren. Paris: OECD.

OECD (2001b): Labour Force Statistics 1980-2000. Paris: OECD.

OECD (2004): Labour Market Statistics. Labour force characteristics from Labour Force Surveys (online available data).
[http://www1.oecd.org/scripts/cde/members/lfsdataauthenticate.asp]

Ollikainen, V. & Lahtonen, J. (2003) Labour Market Flows by Gender in Finland. University of Jyvaskyla School of Business and Economics. Working Paper series. [http://www.cc.jyu.fi/~vmollika/Wp2.pdf].

Oppenheimer, V. K. & A. Lewin (1999): Career Development and Marriage Formation in a Period of Rising Inequality: Who is at Risk? What are their Prospects? In: Booth A. et. al. (eds.), Transitions to Adulthood in a Changing Economy. Westport/London: Praeger, 189-225.

Ott, N. (1989): Familienbildung und familiale Entscheidungsfindung aus verhandlungstheoretischer Sicht. In: Wagner, G. & Ott Notburga & Hoffmann-Nowotny (eds.) Familienbildung und Erwerbstätigkeit im demographischen Wandel. Proceedings der 23. Arbeitstagung der Deutschen Gesellschaft für Bevölkerungswissenschaft. Berlin: Springer, 97-116.

Ott, N. (1995): Fertility and division of work in the family - A game theoretic model of household decisions. In: Kuiper, E. & J. Sap (eds.): Out of the margin. Feminist perspectives on economics. London: Routledge, 80-99.

Ott, N. (1998): Der familienökonomische Ansatz von Gary S. Becker. In: Pies, I. & M. Leschke (eds.) Gary Beckers ökonomischer Imperialismus. Tübingen: Mohr & Siebeck, 63-90.

Palme, J. (1990): Pension Rights in Welfare Capitalism. Stockholm: Swedish Institute for Social Research.

Pfau-Effinger, B. (1996): Analyse internationaler Differenzen in der Erwerbsbeteiligung von Frauen. Theoretischer Rahmen und empirische Ergebnisse. In: Kölner Zeitschrift für Soziologie und Sozialpsychologie, 48 No. 3, 462-492.

Rupp, M. (1996): Zwischen Konkurrenz, Ambivalenz und Präferenz. Familie und Beruf im weiblichen Lebensentwurf. In: Buba, H. P. & N. F. Schneider (eds.), Familie. Zwischen gesellschaftlicher Prägung und individuellem Design. Westdeutscher Verlag, 67-81.

Schaeper, H. & T. Kühn (2000): Zur Rationalität familialer Entscheidungsprozesse am Beispiel des Zusammenhangs zwischen Berufsbiographie und Familiengründung. In: Heinz, W. R. (ed.) Übergänge – Individualisierung, Flexibilisierung und Institutionalisierung des Lebenslaufs. Sonderheft für Sozialisationsforschung und Erziehungssoziologie, 124-145.

Schmitt, C. (2005): Kinderlosigkeit bei Männern – Geschlechtsspezifische Determinanten ausbleibender Elternschaft. In: Tölke, Angelika/ Hank, Karsten (Hg.): Das vernachlässigte Geschlecht in der Familienforschung: Untersuchungen zu Partnerschaft und Elternschaft bei Männern. 4. Sonderheft der Zeitschrift für Familienforschung (forthcoming).

Schultz, T.P. (1994): Marital Status and Fertility in the United States: Welfare and Labour Market Effects. The Journal of Human Resources, 29, No. 2, 637-669.

Sen, A. (1990): Gender and cooperative conflicts. In: Tinker, I. (ed.) Persistent inequalities - Women and development. Oxford, 195-223.

Skirbekk, V. & H.-P. Kohler & A. Fürnkraz-Prskawetz (2003): Completing education and the timing of births and marriage: findings from a birth-month experiment in Sweden. Rostock, MPIDR Working Paper WP-2003-017.

Sorensen, J. B. (1999): STPIECE: Stata module to estimate piecewise-constant hazard rate models. [http://fmwww.bc.edu/repec/bocode/s/stpiece.hlp]

Thomson E. & J.M. Hoem (1998): Couple Childbearing Plans and Births in Sweden. Demography 35, No. 3, 315-322.

Tölke, A. & M. Diewald (2002): Berufsbiographische Unsicherheit und der Übergang zur Elternschaft bei Männern. MPIDR Workung Paper, 011. Rostock.

Tölke, A. & M. Diewald (2003): Insecurities in Employment and Occupational Careers and their Impact on the Transition to Fatherhood in Western Germany. Demographic Re-

search [Online-Journal, http://www.demographic-research.org/volumes/vol9/3/9-3.pdf], 41-67.

Tölke, A. (2004): Die Bedeutung von Herkunftsfamilie, Berufsbiographie und Partnerschaften für den Übergang zur Ehe und Vaterschaft. MPIDR Working Paper, 007. Rostock.

Trzcinski, E. & E. Holst (2003): Hohe Lebenszufriedenheit teilzeitbeschäftigter Mütter. DIW Wochenbericht. Vol. 70, No. 35, 539-545.

Vikat, A. (2004): Women's labor force attachment and childbearing in Finland. MPIDIR working paper. 2004 No. 1. Rostock: Max-Planck-Institute for Demographic Research

Wagner, M. & G. Franzmann (2000): Die Pluralisierung der Lebensformen. In: Zeitschrift für Bevölkerungswissenschaft, 25, No. 1, 151-173.

Zimmermann, K. F. & J. DeNew (1990): Arbeitslosigkeit und Fertilität In: Felderer, B. (ed.): Bevölkerung und Wirtschaft. Berlin, 95-109.

Appendix: Piecewise-Constant Exponential Models on First Birth Risk

Model description:

Model 1: Unemployment, prior to the month of decision for parenthood ($t_{birth} - 10$ months) as covariate. Binary coding of unemployment (0 = no, 1 = yes).

Model 2: Duration of unemployment, prior to the month of decision for parenthood ($t_{birth} - 10$ months) as set of dummy covariates. Binary coding of various durations measured as:
Short-term (less than six months of continuous unemployment);
Mid-term (six up to twelve months of continuous unemployment);
Long-term (more than twelve months of continuous unemployment).

Model 3: Duration of unemployment (short-, mid- and long-term), prior to the month of decision for parenthood ($t_{birth} - 10$ months) as part of the employment status with full-time employment as reference category. Further covariates, all adult respondents.

Model 4: Duration of unemployment (short-, mid- and long-term), prior to the month of decision for parenthood ($t_{birth} - 10$ months) as part of the employment status with full-time employment as reference category. Further covariates, only adult respondents with partner being panel respondent of the panel, covariates on partners status (income, education, age).

Model 5: Duration of unemployment (short-, mid- and long-term), prior to the month of decision for parenthood ($t_{birth} - 10$ months) as part of the employment status with full-time employment as reference category. Further covariates, only adult respondents with partner being panel respondent, covariates on partners status (income, education, age), interaction effects between gender and unemployment, respectively employment status.

Note: Models 1 through 4 are based on separate estimates by gender for each country; model 5 is based on differentiation solely by country.

Table A1: Determinants of first birth risk - piecewise constant model estimates for *France* by gender

	Model I				Model II				Model III				Model IV			
	Men		*Women*		*Men*		*Women*		*Men*		*Women*		*Men*		*Women*	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Baseline age (measured in months)																
16 to 21 years	-8.07	(0.31)***	-6.57	(0.14)***	-8.07	(0.31)***	-6.57	(0.14)***	-9.60	(1.41)***	-6.37	(0.35)***	-11.71	(2.54)***	-8.42	(1.53)***
22 to 26	-5.49	(0.08)***	-5.14	(0.07)***	-5.50	(0.08)***	-5.15	(0.07)***	-9.76	(1.40)***	-6.69	(0.35)***	-12.12	(2.49)***	-8.61	(1.56)***
27 to 33	-4.65	(0.06)***	-4.43	(0.07)***	-4.65	(0.06)***	-4.42	(0.07)***	-9.68	(1.42)***	-6.60	(0.35)***	-12.08	(2.53)***	-8.55	(1.59)***
33 to 38	-5.08	(0.14)***	-5.45	(0.19)***	-5.06	(0.14)***	-5.43	(0.19)***	-9.92	(1.43)***	-7.41	(0.40)***	-12.15	(2.54)***	-9.34	(1.61)***
39 to 45	-6.14	(0.31)***	-6.35	(0.35)***	-6.10	(0.31)***	-6.31	(0.35)***	-11.17	(1.46)***	-8.41	(0.49)***	-12.71	(2.54)***	-10.19	(1.66)***
Unemployed ?																
(1=yes)	-1.09	(0.24)***	0.29	(0.12)**												
Duration of unemployment: *Reference:* Not unemployed																
Short-term ue. (1 - 5 months)					-0.53	(0.28)*	0.58	(0.16)***								
Mid-term ue. (6 – 12 months)					-0.87	(0.45)*	0.04	(0.26)								
Long-term ue. (longer th. 12)					-2.55	(0.71)***	0.04	(0.22)								
Employment Status: *Reference:* Full time employment																
Part-time employment									-0.21	(0.31)	0.12	(0.15)	-0.22	(0.32)	0.08	(0.14)
In education									-0.48	(0.31)	-1.05	(0.20)***	-0.43	(0.33)	-1.05	(0.24)***
Short-term unemployment									0.04	(0.28)	0.31	(0.16)*	-0.31	(0.33)	0.06	(0.19)
Mid-term unemployment									0.05	(0.47)	-0.23	(0.26)	-0.04	(0.50)	-0.63	(0.33)*
Long-term unemployment									-0.56	(0.70)	-0.05	(0.24)	-0.46	(0.70)	-0.15	(0.26)
Long-term ue. at any time during the last 5 years? (1=yes)									-0.25	(0.22)	0.14	(0.15)	-0.10	(0.23)	0.16	(0.16)

Table continued on next page…

Table A1 continued…

	Model I				Model II				Model III				Model IV			
	Men		*Women*		*Men*		*Women*		*Men*		*Women*		*Men*		*Women*	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Country of origin *Reference:* **This country**																
European union									-1.86	(1.05)*	-0.60	(0.60)	-1.46	(1.00)	-0.67	(0.55)
Foreign country outside EU									-0.05	(0.46)	-0.35	(0.39)	0.44	(0.40)	0.20	(0.43)
Household size *Reference*: **2 persons**																
1 persons									-0.24	(0.21)	-0.09	(0.17)				
3 persons or more (dummy for model 4)									-0.38	(0.18)**	-0.58	(0.16)***	-0.33	(0.18)*	-0.45	(0.18)**
Education *Reference*: **Lt. 2nd stage of secondary educ. (ISCED 0-2)**																
2nd stage of secondary educ. (ISCED 3)									-0.06	(0.13)	-0.11	(0.14)	-0.14	(0.13)	-0.10	(0.14)
Third level (ISCED 5-7)									-0.20	(0.13)	0.12	(0.13)	-0.33	(0.13)**	0.05	(0.14)
Individual income (ppp adjusted)																
Total net amount per year									-0.06	(0.09)	0.22	(0.05)***	-0.13	(0.13)	0.18	(0.06)***
Type of relationship *Reference*: **Single**																
Consensual union									4.26	(0.41)***	2.49	(0.20)***				
Married									5.10	(0.42)***	3.34	(0.22)***				
Partnerinformation (Reference categories as above)																
Partners age													0.37	(0.10)***	0.18	(0.09)**
Partners age, squared													-0.0067	(0.0017)***	-0.0027	(0.0013)**
Partners education (ISCED 3)													0.04	(0.15)	-0.04	(0.13)
Partners education (ISCED 5-7)													0.11	(0.14)	-0.17	(0.13)
Partners income (net, year)													0.18	(0.05)***	0.01	(0.06)
n of person months =	117016		100129		117016		100129		117016		100129		29864		32414	
n of subjects / events =	2735 / 489		2422 / 556		2735 / 489		2422 / 556		2735 / 489		2422 / 556		1041 / 448		1099 / 488	
Log pseudolikelihood =	-134.63		-99.13		-129.13		-96.09		352.50		318.64		353.71		382.49	
Wald chi2 =	13001.75		13889.04		12940.24		13884.28		8803.23		10724.25		7806.04		8375.55	

Source: ECHP 1994 to 2001, own calculations.   *Effects are significant on the basis of p < 0.10 (*), p < 0.05 (**) and p < 0.01 (***).*

Table A2: Determinants of first birth risk - piecewise constant model estimates for *Finland* by gender

(note: for effects of further covariates refer to page 2 of this table)

	Model I				Model II				Model III				Model IV			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**		**Men**		**Women**	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Baseline age (measured in months)																
16 to 21 years	-7.14	(0.29)***	-6.42	(0.18)***	-7.14	(0.29)***	-6.43	(0.18)***	-8.05	(0.55)***	-7.82	(0.56)***	-14.05	(2.97)***	-8.77	(2.26)***
22 to 26	-5.77	(0.16)***	-5.42	(0.14)***	-5.78	(0.16)***	-5.42	(0.14)***	-8.09	(0.55)***	-7.66	(0.56)***	-14.60	(3.10)***	-8.65	(2.38)***
27 to 33	-4.82	(0.11)***	-4.72	(0.13)***	-4.82	(0.11)***	-4.72	(0.13)***	-7.65	(0.55)***	-7.63	(0.58)***	-14.38	(3.20)***	-8.45	(2.46)***
33 to 38	-5.28	(0.21)***	-5.49	(0.29)***	-5.28	(0.21)***	-5.48	(0.29)***	-8.09	(0.60)***	-8.40	(0.61)***	-14.46	(3.20)***	-8.90	(2.46)***
39 to 45	-6.25	(0.36)***	-6.69	(0.45)***	-6.25	(0.36)***	-6.69	(0.45)***	-8.95	(0.68)***	-9.81	(0.71)***	-14.39	(3.07)***	-9.60	(2.35)***
Unemployed ?																
(1=yes)	-1.63	(0.59)***	0.75	(0.21)***												
Duration of unemployment: *Reference:* Not unemployed																
Short-term ue. (1 - 5 months)					-1.93	(1.01)*	0.92	(0.25)***								
Mid-term ue. (6 – 12 months)					-0.63	(0.72)	0.13	(0.52)								
Long-term ue. (longer th. 12)					-16.31	(0.18)***	0.85	(0.43)**								
Employment Status: *Reference:* Full time employment																
Part-time employment									-0.08	(0.46)	-0.02	(0.32)	-0.18	(0.52)	0.17	(0.35)
In education									-0.59	(0.32)*	-0.42	(0.25)*	-0.48	(0.33)	-0.44	(0.28)
Short-term unemployment									-1.75	(1.00)*	0.73	(0.26)***	-16.15	(0.19)***	0.69	(0.30)**
Mid-term unemployment									0.09	(0.73)	0.07	(0.52)	0.38	(0.69)	0.32	(0.51)
Long-term unemployment									-17.01	(0.35)***	0.66	(0.49)	-16.11	(0.42)***	0.76	(0.52)
Long-term ue. at any time during the last 5 years? (1=yes)									-0.27	(0.30)	-0.13	(0.29)	-0.51	(0.34)	-0.03	(0.31)

Table continued on next page…

Table A2 continued…

	Model I				Model II				Model III				Model IV			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**		**Men**		**Women**	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Country of origin Reference: This country																
European union									0.88	(0.56)	0.37	(0.58)	1.04	(0.64)	0.55	(0.66)
Foreign country outside EU									0.32	(0.37)	0.82	(0.36)**	0.28	(0.39)	1.01	(0.41)**
Household size Reference: 2 persons																
1 persons									-0.18	(0.28)	0.32	(0.25)				
3 persons or more (dummy for model 4)									-0.08	(0.26)	-0.33	(0.27)	0.25	(0.27)	-0.14	(0.29)
Education Reference: Lt. 2nd stage of secondary educ. (ISCED 0-2)																
2nd stage of secondary educ. (ISCED 3)									-0.01	(0.28)	-0.51	(0.28)*	-0.30	(0.29)	-0.59	(0.30)*
Third level (ISCED 5-7)									-0.23	(0.31)	-0.09	(0.30)	-0.48	(0.33)	-0.32	(0.34)
Individual income (ppp adjusted)																
Total net amount per year									0.02 (0.15)		0.29 (0.14)**		-0.10 (0.15)		0.35 (0.14)**	
Type of relationship Reference: Single																
Consensual union									3.05	(0.41)***	2.70	(0.35)***				
Married									3.37	(0.44)***	3.21	(0.40)***				
Partnerinformation (Reference categories as above)																
Partners age													0.77	(0.22)***	0.29	(0.15)*
Partners age, squared													-0.0139	(0.0038)***	-0.0052	(0.0023)**
Partners education (ISCED 3)													-0.36	(0.35)	-0.32	(0.31)
Partners education (ISCED 5-7)													-0.13	(0.37)	-0.43	(0.35)
Partners income (net, year)													0.14	(0.16)	0.10	(0.09)
n of person months =	51193		43820		51193		43820		51193		43820		16537		17325	
n of subjects / events =	1522 / 171		1302 / 178		1522 / 171		1302 / 178		1522 / 171		1302 / 178		636 / 152		656 / 149	
Log pseudolikelihood =	-93.62		-88.83		-91.92		-87.59		19.05		7.72		65.95		40.76	
Wald chi2 =	4950.87		4935.48		22036.67		4931.81		12709.26		4329.67		28361.06		3250.67	

Source: ECHP 1994 to 2001, own calculations.   *Effects are significant on the basis of p < 0.10 (*), p < 0.05 (**) and p < 0.01 (***).*

Table A3: Determinants of first birth risk - piecewise constant model estimates for **Germany** by gender

(note: for effects of further covariates refer to page 2 of this table)

	Model I Men b	se	Women b	se	Model II Men b	se	Women b	se	Model III Men b	se	Women b	se	Model IV Men b	se	Women b	se
Baseline age (measured in months)																
16 to 21 years	-7.82	(0.29)***	-6.51	(0.14)***	-7.81	(0.29)***	-6.51	(0.14)***	-8.90	(0.42)***	-7.85	(0.33)***	-13.88	(2.12)***	-8.45	(1.75)***
22 to 26	-5.75	(0.10)***	-5.35	(0.08)***	-5.74	(0.10)***	-5.35	(0.08)***	-8.42	(0.36)***	-7.48	(0.31)***	-14.04	(2.15)***	-8.27	(1.80)***
27 to 33	-5.17	(0.07)***	-4.91	(0.07)***	-5.17	(0.07)***	-4.91	(0.07)***	-8.59	(0.38)***	-7.48	(0.32)***	-14.19	(2.21)***	-8.21	(1.84)***
33 to 38	-5.31	(0.13)***	-5.59	(0.20)***	-5.32	(0.13)***	-5.59	(0.20)***	-8.94	(0.39)***	-8.23	(0.38)***	-14.11	(2.20)***	-8.79	(1.84)***
39 to 45	-6.57	(0.32)***	-7.35	(0.59)***	-6.57	(0.32)***	-7.35	(0.59)***	-10.25	(0.49)***	-10.22	(0.69)***	-14.64	(2.13)***	-10.82	(2.12)***
Unemployed ?																
(1=yes)	-0.62	(0.27)**	0.88	(0.14)***												
Duration of unemployment: Reference: Not unemployed																
Short-term ue. (1 - 5 months)					-0.79	(0.45)*	0.68	(0.23)***								
Mid-term ue. (6 – 12 months)					-1.14	(0.71)	1.15	(0.23)***								
Long-term ue. (longer th. 12)					-0.22	(0.39)	0.86	(0.22)***								
Employment Status: Reference: Full time employment																
Part-time employment									-0.68	(0.52)	0.35	(0.22)	-0.71	(0.61)	0.48	(0.24)**
In education									-0.55	(0.37)	-0.56	(0.27)**	-0.13	(0.43)	-0.03	(0.33)
Short-term unemployment									-0.52	(0.45)	0.67	(0.23)***	-0.33	(0.45)	0.46	(0.29)
Mid-term unemployment									-0.75	(0.72)	0.98	(0.24)***	-0.60	(0.72)	0.82	(0.31)***
Long-term unemployment									0.57	(0.39)	0.61	(0.25)**	0.66	(0.40)	0.59	(0.29)**
Long-term ue. at any time during the last 5 years? (1=yes)									-0.39	(0.20)*	-0.43	(0.19)**	-0.41	(0.22)*	-0.76	(0.25)***

Table continued on next page…

Table A3 continued…

	Model I				Model II				Model III				Model IV			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**		**Men**		**Women**	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Region in Germany?																
East Germany									0.01	(0.14)	-0.03	(0.14)	-0.09	(0.16)	-0.02	(0.16)
Household size *Reference*: 2 persons																
1 persons									0.30	(0.20)	0.51	(0.17)***				
3 persons or more (dummy for model 4)									-0.09	(0.18)	-0.08	(0.18)	0.23	(0.19)	-0.02	(0.22)
Education *Reference:* Lt. 2nd stage of secondary educ. (ISCED 0-2)																
2nd stage of secondary educ. (ISCED 3)									-0.16	(0.14)	-0.25	(0.14)*	-0.42	(0.15)***	-0.18	(0.16)
Third level (ISCED 5-7)									-0.18	(0.18)	-0.27	(0.19)	-0.37	(0.19)**	-0.30	(0.22)
Individual income (ppp adjusted)																
Total net amount per year									0.21	(0.09)**	0.32	(0.07)***	0.30	(0.11)***	0.28	(0.07)***
Type of relationship *Reference*: Single																
Consensual union									2.61	(0.25)***	1.56	(0.19)***				
Married									3.48	(0.25)***	2.27	(0.20)***				
Partnerinformation (Reference categories as above)																
Partners age													0.69	(0.16)***	0.20	(0.12)*
Partners age, squared													-0.0132	(0.0028)***	-0.0037	(0.0018)**
Partners education (ISCED 3)													-0.27	(0.16)*	-0.36	(0.16)**
Partners education (ISCED 5-7)													-0.20	(0.22)	-0.26	(0.19)
Partners income (net, year)													0.16	(0.11)	0.16	(0.07)**
n of person months =	120199		96376		120199		96376		120199		96376		34425		35381	
n of subjects / events =	2560 / 393		2161 / 438		2560 / 393		2161 / 438		2560 / 393		2161 / 438		1015 / 341		1032 / 345	
Log pseudolikelihood =	-246.73		-188.49		-245.83		-187.38		54.37		-13.94		145.36		117.49	
Wald chi2 =	11717.16		11708.95		11710.48		11711.42		9294.11		10831.46		7136.60		7158.08	

Source: ECHP 1994 to 2001, own calculations.   *Effects are significant on the basis of p < 0.10 (*), p < 0.05 (**) and p < 0.01 (***).*

Table A4: Determinants of first birth risk - piecewise constant model estimates for **United Kingdom** by gender

(note: for effects of further covariates refer to page 2 of this table)

	Model I				Model II				Model III				Model IV			
	Men		*Women*		*Men*		*Women*		*Men*		*Women*		*Men*		*Women*	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Baseline age (measured in months)																
16 to 21 years	-6.91	(0.20)***	-5.94	(0.11)***	-6.91	(0.20)***	-5.95	(0.11)***	-8.12	(0.46)***	-5.59	(0.30)***	-5.56	(1.05)***	-8.42	(1.51)***
22 to 26	-5.97	(0.13)***	-5.58	(0.10)***	-5.97	(0.13)***	-5.59	(0.10)***	-8.86	(0.48)***	-6.31	(0.32)***	-6.28	(1.10)***	-8.98	(1.53)***
27 to 33	-5.02	(0.08)***	-5.02	(0.08)***	-5.02	(0.08)***	-5.01	(0.08)***	-8.77	(0.49)***	-6.26	(0.32)***	-5.88	(1.12)***	-8.79	(1.55)***
33 to 38	-5.18	(0.13)***	-5.32	(0.15)***	-5.18	(0.13)***	-5.31	(0.15)***	-8.97	(0.50)***	-6.54	(0.35)***	-5.82	(1.14)***	-8.73	(1.55)***
39 to 45	-5.79	(0.22)***	-6.73	(0.34)***	-5.79	(0.22)***	-6.67	(0.34)***	-9.72	(0.55)***	-8.14	(0.45)***	-6.22	(1.15)***	-9.94	(1.48)***
Unemployed ?																
(1=yes)	0.04	(0.21)	1.54	(0.13)***												
Duration of unemployment: *Reference:* Not unemployed																
Short-term ue. (1 - 5 months)					0.06	(0.34)	1.79	(0.16)***								
Mid-term ue. (6 – 12 months)					-0.27	(0.51)	1.40	(0.25)***								
Long-term ue. (longer th. 12)					0.15	(0.30)	1.12	(0.26)***								
Employment Status: *Reference:* Full time employment																
Part-time employment									-0.80	(0.60)	-0.24	(0.25)	-0.75	(0.60)	0.03	(0.26)
In education									-1.04	(0.62)*	-1.11	(0.32)***	-0.60	(0.59)	-0.82	(0.40)**
Short-term unemployment									0.38	(0.34)	1.60	(0.19)***	0.42	(0.35)	1.70	(0.22)***
Mid-term unemployment									0.09	(0.49)	1.19	(0.28)***	-0.12	(0.58)	1.28	(0.31)***
Long-term unemployment									0.82	(0.28)***	0.93	(0.27)***	0.79	(0.30)***	0.91	(0.32)***
Long-term ue. at any time during the last 5 years? (1=yes)									0.35	(0.21)*	0.02	(0.26)	0.19	(0.20)	-0.21	(0.29)

Table continued on next page…

Table A4 continued…

	Model I				Model II				Model III				Model IV			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**		**Men**		**Women**	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Country of origin _Reference:_ This country																
European union									1.46	(0.72)**	2.04	(0.25)***	2.02	(0.73)***	1.42	(0.20)***
Foreign country outside EU									0.76	(0.71)	-14.99	(0.65)***	0.31	(0.84)	-13.76	(1.01)***
Household size _Reference_: 2 persons																
1 persons									0.23	(0.26)	-0.43	(0.28)				
3 persons or more (dummy for model 4)									0.05	(0.16)	-0.32	(0.15)**	-0.04	(0.17)	-0.16	(0.18)
Education _Reference:_ Lt. 2nd stage of secondary educ. (ISCED 0-2)																
2nd stage of secondary educ. (ISCED 3)									-0.49	(0.20)**	-0.38	(0.18)**	-0.48	(0.21)**	-0.28	(0.21)
Third level (ISCED 5-7)									-0.26	(0.14)*	-0.10	(0.12)	-0.16	(0.15)	-0.04	(0.15)
Individual income /10000 units (ppp adjusted)																
Total net amount per year									-0.12	(0.14)	-0.18	(0.12)	-0.11	(0.13)	-0.05	(0.11)
Type of relationship _Reference_: Single																
Consensual union									3.90	(0.40)***	1.58	(0.19)***				
Married									4.96	(0.42)***	2.54	(0.21)***				
Partnerinformation (Reference categories as above)																
Partners age													0.15	(0.07)**	0.31	(0.09)***
Partners age, squared													-0.003	(0.0011)***	-0.0049	(0.0015)***
Partners education (ISCED 3)													-0.45	(0.23)**	-0.45	(0.23)**
Partners education (ISCED 5-7)													-0.09	(0.16)	-0.09	(0.16)
Partners income (net, year) /10000 units													-0.10	(0.13)	-0.06	(0.11)
n of person months =	95155		83956		95155		83956		95155		83956		34928		35975	
n of subjects / events =	2134 / 352		1940 / 415		2134 / 352		1940 / 415		2134 / 352		1940 / 415		973 / 324		962 / 336	
Log pseudolikelihood =	-195.00		-145.06		-194.71		-141.76		85.28		54.87		95.82		126.25	
Wald chi2 =	10483.00		11143.16		10481.48		11165.01		7701.62		11094.91		7007.94		1247.61	

Source: ECHP 1994 to 2001, own calculations.   _Effects are significant on the basis of p < 0.10 (*), p < 0.05 (**) and p < 0.01 (***)._

Table A5: Determinants of first birth risk – piecewise constant model estimates by country – gender specific differences of unemployment duration

(note: for effects of further covariates refer to page 2 of this table)

Model V	France b	France se	Finland b	Finland se	Germany b	Germany se	United Kingdom b	United Kingdom se
Baseline age (measured in months)								
16 to 21 years	-7.00	(0.95)***	-10.77	(1.72)***	-9.36	(1.29)***	-6.44	(0.84)***
22 to 26	-7.20	(0.96)***	-10.92	(1.79)***	-9.18	(1.32)***	-6.99	(0.86)***
27 to 33	-7.12	(0.98)***	-10.64	(1.85)***	-9.18	(1.34)***	-6.69	(0.87)***
33 to 38	-7.54	(0.99)***	-10.92	(1.85)***	-9.38	(1.34)***	-6.66	(0.88)***
39 to 45	-8.32	(0.98)***	-11.24	(1.75)***	-10.39	(1.31)***	-7.35	(0.87)***
Interaction terms: Employment Status*Gender(female=1)								
Main effect: Employment Status *Reference:* Full time emp.								
Part-time employment	-0.27	(0.30)	-0.15	(0.51)	-0.70	(0.60)	-0.75	(0.59)
In education	-0.65	(0.31)**	-0.44	(0.31)	-0.25	(0.39)	-0.64	(0.58)
Short-term unemployment	-0.43	(0.34)	-16.36	(0.11)***	-0.29	(0.45)	0.47	(0.35)
Mid-term unemployment	-0.21	(0.50)	0.31	(0.71)	-0.58	(0.72)	-0.10	(0.58)
Long-term unemployment	-0.90	(0.72)	-16.48	(0.36)***	0.67	(0.39)*	0.83	(0.29)***
Main effect: Gender (female = 1)								
Female = 1	-0.06	(0.08)	-0.10	(0.16)	-0.05	(0.09)	-0.04	(0.09)
Interaction effects:								
Part-time employment*female	0.40	(0.33)	0.26	(0.61)	1.22	(0.65)*	0.77	(0.64)
Education*female	-0.36	(0.37)	-0.04	(0.38)	0.25	(0.48)	-0.20	(0.69)
Short-term unemployment*female	0.56	(0.38)	17.03	(0.30)***	0.73	(0.53)	1.22	(0.39)***
Mid-term unemployment*female	-0.29	(0.60)	-0.01	(0.87)	1.36	(0.77)*	1.41	(0.64)**
Long-term unemployment*female	0.88	(0.76)	17.42	(0.50)***	-0.10	(0.47)	-0.05	(0.39)
Long-term unemployed. at any time during the last 5 years?								
(1=yes)	0.06	(0.13)	-0.28	(0.22)	-0.55	(0.16)***	0.05	(0.17)

Table A5 continued…

	Model V							
	France		*Finland*		*Germany*		*United Kingdom*	
	b	se	b	se	b	se	b	se
Country of origin *Reference:* **This country**								
European union	-0.99	(0.48)**	0.91	(0.49)*	-	-	1.76	(0.42)***
Foreign country outside EU	0.28	(0.31)	0.57	(0.29)**	-	-	-0.09	(0.84)
Region in Germany?								
East Germany					-0.08	(0.11)		
Household size								
3 persons or more in Household?	-0.42	(0.13)***	0.11	(0.19)	0.12	(0.14)	-0.12	(0.12)
Education *Reference:* **Lt. 2nd stage of secondary educ. (ISCED 0-2)**								
2nd stage of secondary educ. (ISCED 3)	-0.12	(0.10)	-0.43	(0.20)**	-0.29	(0.11)***	-0.39	(0.14)***
Third level (ISCED 5-7)	-0.11	(0.09)	-0.42	(0.23)*	-0.33	(0.14)**	-0.10	(0.10)
Individual income /10000 units (ppp adjusted)								
Total net amount per year	0.09	(0.05)*	0.06	(0.09)	0.28	(0.06)***	-0.07	(0.08)
Partnerinformation (Reference categories as above)								
Partners age	0.21	(0.06)***	0.48	(0.12)***	0.29	(0.09)***	0.19	(0.05)***
Partners age, squared	-0.0034	(0.001)***	-0.0085	(0.002)***	-0.0055	(0.0015)***	-0.0034	(0.0008)***
Partners education (ISCED 3)	0.00	(0.10)	-0.30	(0.23)	-0.32	(0.11)***	-0.38	(0.16)**
Partners education (ISCED 5-7)	-0.01	(0.09)	-0.22	(0.25)	-0.23	(0.14)	-0.06	(0.11)
Partners income (net, year) /10000 units	0.10	(0.04)**	0.13	(0.08)*	0.21	(0.05)***	-0.05	(0.07)
n of person months =	62278		33862		69806		70903	
n of subjects / events =	2140 / 936		1292 / 301		2047 / 686		1935/ 660	
Log pseudolikelihood =	708.98		97.79		247.03		210.62	
Wald chi2 =	16309.28		162393.33		14347.63		14052.76	

Source: ECHP 1994 to 2001, own calculations.   *Effects are significant on the basis of p < 0.10 (*), p < 0.05 (**) and p < 0.01 (***).*

Notes for tables A1 to A5:

(1) Method: piecewise constant exponential model.
(2) Estimates clustered on personal identificator (pid) for robust standard errors.
(3) Dependent variable set at t-10 months from time of birth.
(4) Process time measured in months since persons birth.
(5) Time spans for piecewise estimations defined as 0 to 252 months (effectively 192 to 252 months as only adult respondents with 16 years of age or older are considered), 253 to 312 months, 313 to 396 months, 397 to 456 months, 457 months or older (effectively limited to 45 years as only cohorts from 1955 to 1983 are considered.
(6) Estimated but not displayed variables include ln(income), ln(partners income), dummy for year of observation, flag variable for missing educational attainment.
(7) All dummy variables coded '0/1' with 1 when true.
(8) No ECHP data for wave 1 and 2 in Finland.
(9) Variable "country of origin" excluded for Germany due to lack of observations with foreign origin
(10) Variable East/West included for Germany, to account for region specific effects.
(11) Net income adjusted for purchasing power parity across Europe. Income calculated per 10000 units.