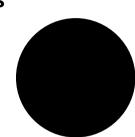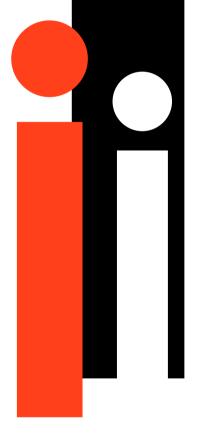# Maternity Leave in the Context of Couples:

The impact of both partners' characteristics and employment experiences on mothers' re-entry into the labour market

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Non-technical Summary

The maternity leave duration of German mothers is, on average, among the longest in Europe. Despite mothers' increasing labour force participation and father's increasing involvement in childcare activities, once a child is born the majority of German couples fall back from an egalitarian division of labour to a more traditional arrangement. Numerous authors have investigated this subject in order to find out how women's characteristics, combined with family policies and children's characteristics, influence re-entry to work. However, these studies have been limited by their one-sided concentration on the female partner.

In answer to these shortcomings, this paper investigates how both partners' resources and employment experiences impact the decision to re-enter full-time and part-time employment for mothers after birth-related employment interruptions.

The first part of this analysis looks at partners' resources and characteristics, both individually and combined. The results show that mothers' financial motives to return mainly affect her re-entry into part-time work. Re-entry into full-time work is more strongly determined by non-monetary factors such as work orientation, which could only be captured indirectly in this analysis. The father's resources delay the mother's re-entry into full-time work but show no effects on her return into part-time work. In contrast, for mothers earning more than their partners, their greater financial resources lead to faster re-entry into full-time employment. I interpret these findings as evidence that couples mainly assess the re-entry decision on the basis of economic considerations.

The second part examines how occupational uncertainties in each partner's career affect the mother's re-entry decision. Mother's previous occupational uncertainties reduce her likelihood of returning to work, while uncertainties in the father's careers have the opposite effect and increase the mother's chances of returning. More detailed analyses show that if the father experiences short-term unemployment the mother is more likely to return as an 'added-worker'. Long-term unemployment increases the chances of re-entry into full-time, but not part-time, employment. This indicates that mothers undertake the family provider role if the unemployment of their partner threatens the economic basis of the family.

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Abstract

This research focuses on re-entry for mothers after maternity leave. The empirical analysis focuses on the first twenty-two years of post-reunification Germany, using proportional hazards models. Results show that the re-entry into part-time employment is primarily affected by the mother's own resources and former career, the return to full-time work is more linked to the partner's resources. This behaviour is especially prevalent in families where the mother has a higher earning potential than the father, a group having the highest re-entry chances for mothers, especially into full-time employment. The results concerning experiences of unemployment for the male partner show that mothers try to compensate uncertainties with increased labour force participation.

Keywords: maternal employment, added-worker effect, proportional hazard, Germany

JEL codes: D13, J22, J64

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1. Introduction

One of the major trends in most western societies in the 20th century was the increase in women's labour force participation. Germany, once considered the prototype of a traditional welfare state, has been moving gradually toward a 'male breadwinner with a second earner', where one partner works full-time and the other partner part-time. These changes are reshaping the relationship between men and women regarding their traditional roles in the work and family sphere.

Key factors contributing to this transformation are improved career opportunity markets for women, who are supported by the facilitation of part-time employment and the availability of child care facilities. These are accompanied by changing gender attitudes toward women's roles within families. Beside these changes in social conditions, the increasing work-orientation of women and the decreasing gap between men's and women's economic resources, in connection with the educational expansion, also provide important contributions (Lück 2006; Fortin 2005). Moreover, men's position within the household changed. Following reunification, Germany was affected by slow economic growth and high unemployment (until the 2005 labour market reforms). The growing job insecurity and the increase in low-wage jobs have in many cases necessitated two incomes to make ends meet. The number of couples involving women with a higher income than their partners has gradually increased. Consequently, couples where both partners pursue a career have become more and more the norm while the male partner is no longer automatically viewed as the families' breadwinner. These factors have had an impact beyond women and their employment behaviour. Men are confronted with expectations besides their traditional role, becoming more involved in their children's lives and taking on new tasks (UN 2011).

However, despite these significant changes, the traditional division of labour appears surprisingly persistent across time (Künzler and Walter 1999; Grunow, Schulz, and Blossfeld 2007). The birth of a child constitutes a critical turning point in couples' lives, especially in terms of gender. When a child is born the majority of couples adopt a traditional division of labour, which extends mostly over the period of the maternity leave interruption. The behaviour of new parents in Germany, however, is in contradiction with previously described trends. After a child is born couples have to make strategic decisions with regard to their family life and work to achieve congruence between their own preferences and the structural resources and barriers they face (Moen and Wethington 1992). This study tries to get a deeper insight into the interaction between both partners' employment and the family life in order to understand what determines the decision to remain in or leave the traditional arrangement for women.

The research examines maternity leave duration and re-entry after a birth-related interruption of their employment career for mothers in Germany. More specifically it looks at mechanisms that account for mothers' re-entry into full- and part-time employment. Therefore I specifically focus on the impact of each partner's characteristics on the mother's re-entry decision. In understanding young parents, work arrangements are most effectively viewed within a family context.

The empirical analysis focuses on the first twenty-two years of post-reunification Germany, using data from the German Socio-Economic Panel Study (SOEP). This long-term approach allows mother's employment behaviour to be studied in the context of varying resource endowment of both partners and across a range of different family policy reforms. Since characteristics and employment histories of partners are subject to change over time, I analyse the re-entry after maternity leave using event-history models. More precisely,

proportional hazards models are applied to estimate the re-entries of 2881 mothers in partnerships following a birth related employment interruption.

This study expands the knowledge of potential influences on re-entry after birth related employment interruptions by addressing three specific research questions: How are mothers' re-entries after employment interruptions affected by each partners' characteristics and employment experiences? What is the impact of each partner's perceived uncertainties and unemployment experiences on mother's employment re-entry? Is there a difference between re-entries into full-time and part-time employment?

The next section reviews relevant theories and presents resulting research hypotheses. This is followed by an overview of previous research and the most important empirical results concerning maternity leave. In the fourth section, the data, covariates, and method used in the empirical analyses are described. The results of the empirical analyses are discussed in the fifth section. Finally I summarize the principal findings of the analyses.

2. Relevant theories for the re-entry into labour market after childbirth

In order to examine the employment behaviour of one family member it is necessary to consider the family context this person is embedded in. It can be assumed that couples choose different strategies for organizing the division of labour in everyday life (egalitarian or traditional) against the background of institutional settings and each partner's resources. Several theories link the labour market behaviour of both partners within the household that can be applied to the re-entry after maternity leave. For my research question the basic unitary theory of the household and bargaining theories appear as particularly useful.

2.1 The unitary theory of the household

The unitary theory of the household (Becker 1991) assumes that the members of a partnership will attempt to jointly maximise household utility by acting efficiently. All resources – such as time, income and competencies of all members – are pooled. The members of the household must find the best combination of time allocation between market and non-market work with a shared household income (Becker 1993, p.31). Through cooperative specialisation with their counterpart, one partner is guaranteed a continuous employment career and thus maximises income for the household. In addition, this partner may benefit by transferring household and child-care responsibilities. Based on the comparative advantages and abilities, the household members decide who is focussing on domestic tasks and who will focus on gainful employment. In the perfect case the partners have complementary endowments. The higher the resources of both partners are, the higher the opportunity costs of the person staying at home.

According to Becker, the sexual division of labour and non-labour work is less based on biological sex-differences than on various investments in education and training that accumulate over the life course. This argument of Becker has more historical than current validity. Housework and child care remain primary tasks for women, despite the improved career opportunities that have come with substantially catching up and overtaking men for educational achievements. Beside these shortcomings the economic theory of the family provides relevant hypotheses for this analysis as it has to be explained why most couples still adopt a traditional division of labour after the first child is born.

Becker's view, that partners specialise because it is the most efficient strategy, has often been criticized. One main objection is that specialisation of one partner in labour work combined with the full exit of the other partner makes the family particularly vulnerable to unforeseen

events such as illness or unemployment. The loss of the family income can hardly be absorbed (Oppenheimer 1997, p.447).

Unemployment is of particular relevance in this study, since the influence of the male partner and his resources constitute a key aspect. An unemployment episode can be defined as a state having a lack of resources, which fundamentally affects the division of labour between the partners. Besides a variety of factors among men that are expected to influence their partners' return decisions, including the resources of education and income, this study focuses most strongly on the impact of perceived uncertainties and unemployment experiences.

When the unitary theory of the household assumes a joint household utility, it considers the unemployment of the person who is specialized in market work, a problem of the whole household. The members of the household must endeavour to solve this problem jointly. Models of family utility maximization suggest that reduced family income due to the earnings losses of one family member may be offset by increases in the labour supply of others. This is referred to as the "added worker effect" and has been the topic of numerous studies (Dex et al. 1995; McGinnity 2002; Stephens 2001; Heckman and Macurdy 1980). Despite the varying definitions of a "true" added worker effect (i.a. Lundberg 1985, p.13; Stephens 2001), the decision of a premature return into the labour market may be understood as an added worker effect, when it is as a response to unemployment experiences of the partner.

However, not all unemployment phases can be treated the same way. For instance, on the one hand long-term unemployment is not just linked with financial deprivation; it also increases the chance of future job losses. The unitary theory of the household assumes that the decision of which partner focuses on gainful employment is not significantly gender-specific pre-structured. Based on the costs that arise from the unemployment of the partner who was

specialized in gainful work, the specialisation can even be reversed if this increases the household utility.

On the other hand unemployment may be only temporarily or unaccompanied by substantial earning losses and thus does not necessitate that mothers actually change their employment behaviour. It can be assumed that the search cost for women, especially if we consider that they have at least one child and interrupt their careers for a considerable time, would exceed the gain of income. By consequence, it is rather unlikely that women return earlier if the unemployment of the partner persists only for a short time.

The presence of credit constraints is also important for employment phases that occur more frequently or regularly. It can be expected that a job loss will be less threatening when the family has access to financial resources. Borrowing or saving money can bridge the time of financial bottlenecks. Then again, jobs with high insecurity of employment are especially often connected to the low-wage labour market and permit no coverage for hard times.

Another important point is unemployment compensation. The benefit system in a number of countries makes it more or less favourable for women to take up employment due to the entitlement and extent of state-provided unemployment benefits and the deduction of the wives' wage (McGinnity 2002; Dex et al. 1995). The added worker effect is weakened by unemployment insurance, which guarantees a continued payment of wage in case of unemployment for a specific period of time. Germany has an unemployment compensation scheme that is for most workers restricted to one year. After twelve months the amount of compensatory payment falls distinctly (Kloß and Nagl 2013).

The theoretical assumptions presented above lead to the following hypotheses:

1. The larger the human capital endowments, which approximate the earning benefits the woman had before the job interruption, the more likely it is that she re-enters the labour market.

2. The larger her endowments the more likely she will enter into a full-time, rather than part-time, employment.

3. A higher income of the employed partner should lead to a delayed re-entry into the labour market.

4. Occupational uncertainties in the career of the family provider should increase the probability that women re-enter the labour market earlier. Occupational uncertainties herein are depicted as the duration of unemployment episodes of the male partner before and during maternity leave, and his concerns regarding the loss of employment.

5. If the uncertainties in the working life of the partner persist, a permanent increase in the involvement in labour work should be expected, especially if the family is not financially secured.

6. Additionally it can be hypothesised that women return more likely to full-time, rather than into part-time employment if their partners are unemployed for a longer period of time.

2.2 Bargaining Theories

Bargaining theories (Ott 1992; Lundberg and Pollak 1996) reject the assumption that household members intend to maximise a joint household utility. Family decisions are instead seen as outcomes of bargaining processes between household members who pursue their own utility (Beblo 2001).

Bargaining theories usually assume that labour work is preferred in contrast to household work, which is considered as unpleasant and less valuable. The basic premise of this model is that the division of labour is an outcome of recurring negotiations between the spouses. The individual with higher earnings has more resources to strike a deal in his or her best interests and will therefore do less housework than the partner. This mechanism influences all short-term and recurring household decisions.

The model gains significant importance in cases of one-time and non-reversible decisions. The transition to parenthood is such a decision and is usually associated with a long-term power loss for women (Ott 1995). Despite their initial resources, after the birth of a child mothers have to give up a large portion of their bargaining power. The devalued housework remains, primarily for women, an area of responsibility and hinders mother's entry to the labour market. To minimise losses mothers should be interested in entering the labour market as soon as possible. The human capital endowment of the partners before the job interruption determines their bargaining power and affects the chance of returning to work as well as the number of hours worked.

A principal component of these theories is negotiation between the partners. Therefore the likelihood of re-entry and amount of participation will not depend solely upon individual resource endowments, also important are mother's resources relative to those of their partners. This is of particular interest when considerable changes in the bargaining power occur. From a dynamic point of view, a change in the external circumstances, such as the unemployment of the family provider, leads to a structural shift in the power balance within the couple and it has to renegotiate. Insecurities, especially if they persist, will lower the relative power of the male partner dramatically. Consequently, the gain of bargaining power increases the female partner's chances for re-entry. Because bargaining power is strongly bound to employment, the job loss represents a particularly strong loss of power. Both

conditions – the father's former unemployment experiences and persistent unemployment – will increase the mother's chances to return into the labour market and decrease the father's power within the partnership.

In cases of unemployment the unitary model of joint decision making and the resource bargaining theory take two completely different behavioural mechanisms as a starting point to explain the response to the changing demands of families. While the unitary model predicts that a compensation mechanism becomes operative in which the family tries to replace the missing income of the unemployed person with an intensified labour participation of another family member (the added worker effect), the resource bargaining model predicts a substitution mechanism.

These considerations suggest the following hypotheses:

1. The longer the maternity leave, the higher the probability of re-entry to part-time employment, rather than full-time employment.
2. Only women with relatively high bargaining power in comparison to their partners can return to full-time employment, because they can impose more housework on him.
3. Long unemployment durations of the male partner increase the chances that women re-enter the labour market. A re-entry into full-time employment is especially likely because of the dramatic power loss of the male partner. This effect is enhanced by persistent unemployment.

3. Previous Research

Women's return to work after childbirth has been the focus of an enormous number of studies. These have revealed that the timing and employment status of mothers' return to work following childbearing is related to a wide range of variables, including institutional settings, family structure, and women's own resources (i.a. Drasch 2011; 2012; Grunow and Aisenbrey 2011; Lauer and Weber 2004; Ziefle 2009). My research contributes to this literature by focussing on the importance of the resources of the partner for mothers' employment decisions as well as the interaction between both partners' resources.

That the partner plays a substantial role for mothers' return to the labour market is evident in the fact that even controlling for the relationship status alone shows highly significant results (Kreyenfeld and Geisler 2006; Drasch 2011; Drasch 2012; Drobnič, Blossfeld, and Rohwer 1999). In Drasch's (2011) analysis, for example, single mothers are 2.5 times more likely to return to the labour market than married mothers.

Other studies give a better insight, by including specific characteristics such as income, occupational status or education of the partner. One of the most important covariates is the income of the partner, as it is the key explanatory factor for re-entry according to economic theories. However, because this information is not always available, educational level, educational homogeneity, and occupational position are often used to operationalize income potential (Kreyenfeld and Geisler 2006; Drasch 2011). Several studies find that women with higher educational levels than their husbands are more likely to return to the labour market. Conversely, the higher the occupational level of husbands the lower the likelihood of their wives re-entering full-time and part-time employment (Konietzka and Kreyenfeld 2010; Joshi and Hinde 1993). Other studies, however, examine the income of the partner directly. Lauer and Weber (2003), Weber (2004) as well as Ziefle (2009), found that women reduce working

hours as a response to a rise in husband's earnings. Ziefle's results are of particular interest, because she also includes his employment versus non-employment, occupational position and educational level in years. Only income and his employment show significant effects on re-entry, which are negative. Explanations for these effects are in accordance with economic predictions. The higher income of the partner makes it less necessary for mothers to support the household with additional earnings and enables them to concentrate on their family responsibilities.

The only study so far that explicitly considered the impact of the partner's employment career and its characteristics is a cross-national comparative project by Blossfeld, Drobnič and Rohwer (2001). The focus and approach of this study is most similar to my analysis, but concerns transitions between different employment states for the period from 1983 to 1991. This study captures income only indirectly by including each partner's education and occupational status. However, in general the results show that the higher the husband's resources, the more likely their wives are to leave the labour market and stay out of it – even if they have relatively abundant resources themselves. Interestingly, a husband's high occupational status has a negative effect on his wife's entry into part-time and full-time employment, while his education fosters her part-time employment. An explanation for these effects might be that more highly educated husbands recognize that employment might be important for women and that being employed part-time does not threaten the husband's identity as family provider. The mother's own resources only show significant positive effects for the entry into part-time work.

Of particular interest in my study are not only the resources a partner has, but also the lack of financial resources caused by unemployment experiences. As stated before, a premature return into the labour market of mothers in maternity leave could be understood as an added worker effect. The relationship between men's unemployment and their partner's labour

market participation is well studied. But while some studies discover an added worker effect (Lundberg 1985; Stephens 2001; Kohara 2010; Gong 2011), other studies cannot find any effect (e.g. Maloney 1991; Giannelli and Micklewright 1995). The effect seems to depend strongly on institutional settings and is thus somehow country specific. Studies that find the "reverse" added worker effect in Britain see as one reason supplementary social benefits for spouses (Davies, Elias, and Penn 1992; McGinnity 2002; McKee and Bell 1985). The income of a married woman would be deducted from her husband's benefits and could lead ultimately to a reduction of household income. This situation makes it less likely for married women to take up employment.

The majority of early studies did not distinguish between long term and recent job losses, which lead to dissimilar behaviours in families. It is necessary to look into whether the partner is currently employment and to distinguish between long- and short-term unemployment to understand mothers' employment decisions. Another limitation of previous studies on the added worker effect is the focus solely on married couples. The same mechanisms could also work if cohabiting couples are included, as is done in this study. Until now the added worker effect was applied only to women's increases of labour supply in general, not solely for mothers in maternity leave. This study provides new evidence on this relationship.

4. Data and Method

For empirical analyses I examine twenty-one years of the German Socio-Economic Panel Study (SOEP, for details see Wagner, Frick, and Schupp 2007). The SOEP is a panel study that has operated since 1984 in the Federal Republic of Germany (and since 1990 for the unified German state). This study focuses on family-related employment interruptions of

women in East and West Germany after reunification from 1990 to 2011. Since the respondents were asked about their employment histories from January till December of the calendar year prior to the year the individual was interviewed (regardless of the interview month), the time period of analysis encompasses January 1989 till December 2010.

4.1 Sample selection and dependent variables

The duration of interruptions due to maternity leave is constructed as the total number of months spent out of the labour force. Mothers in maternity leave are defined as those who report caring responsibilities as their primary day-to-day activity and who have no paid employment following childbirth. If the first maternity leave interruption is followed by another maternity leave episode, these two sequences are aggregated into one leave episode. Since this study focuses on the non-employment spell ending with re-entry into the work force, multiples of non-employment statuses such as unemployment or housekeeping have also been merged into one extended maternity leave episode. Returners are women who have gone to full-time work or part-time work after having a baby. Minor employment[1] and part-time employment are combined into one category. Spells of education, training activities or military service are excluded from consideration (these occur only rarely as an exit state).

The sample is restricted to maternity leave episodes of married and unmarried mothers in heterosexual relationships, in order to identify the impact of the male partner and his characteristics on the return to full-time or part-time employment. I restrict my analyses to women who remained in a single union throughout the maternity leave spell.[2] Maternity leave episodes that started before the observation period are left censored and not included in the sample.

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[1] Minor employment is employment below a certain income threshold with reduced social security contributions (tax-free), known as "Mini-Jobs" or "400-Euro jobs" in Germany.
[2] The analysis cannot be generalized for all women returning to work, because the re-entry behaviour of single mothers differs significantly from that of mothers in relationships.

The final sample of this analysis comprises 3688 maternity leave episodes of 2881 mothers. In the sample there are mothers with up to four births. One of the main difficulties with multiple failure time data or repeated events is that failure times are correlated within clusters (subjects), thus violating the independence of failure times assumption required in traditional survival analysis.

An alternative method, the frailty model method makes use of all available data while accounting for the lack of independence of the failure times. However, it requires two separate episodes. In Germany, most women do not return to work between the births of two children. Unfortunately, the number of mothers with complete information on multiple separate maternity leave episodes that could be treated as repeated events is too small. With regard to these data limitations this study does not consider frailty models further.

Another appropriate approach is to choose one episode and conduct separate analyses for each event (Allison 1984, p.51). Therefore, I analyse only one maternity leave episode for each mother and control for the number of previous maternity leave episodes.[3] If more than one complete maternity leave episode is available only the first episode within the survey period is used.

4.2 Covariates

The models contain a variety of covariates at both the family level and the individual level that control for men and women separately as well as relations between both partners. All models include each partner's education, each partner's concerns about the economic situation and each partner's income.

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[3] To control for different processes in the decision to return to work after first and further births, I also estimate separate models for first and further maternity leave episodes. If more than one separate episode is available during the observation period the two first episodes of the mother are used for this analysis. The effects of this separate analysis for the first and the second child show only minor differences and therefore will not be discussed in this paper. The results and a discussion of the results are available from the author on request.

According to bargaining theories the decision to return after maternity leave is the outcome of a negotiation process between the partners with differing bargaining power within the household. To capture the power distribution, information is also included about which partner earned more before the maternity leave. This is distinguished between: 'woman earned more than the man' and 'the man earned more or similar'.

Partners' income is hourly wage in logarithmic form. It is adjusted by the consumer price index.

Another central issue is uncertainties in professional life, captured here by the cumulative duration of all unemployment episodes in the life course. The unemployment experience is distinguished for women between: never, less than 12 months and 12 month or more unemployed. For men, beside total duration, the unemployment experience is also differentiated between episodes that were completed before maternity leave started and episodes which are within or spanning maternity leave. Only unemployment episodes of at least three months are used.[4]

Based on previous research results, the models contain a number of important control variables (Table 3, Appendix). To minimise bias caused by the possibility that couples adapt their behaviour in anticipation of parenthood, variables declared as before maternity leave are used from the survey year before birth.

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[4] Dummies were also tested representing the number of unemployment episodes of men (never, once, twice and three times or more) which showed similar results, but they were no longer significant after controlling for unemployment duration and not included.

Short-term unemployment does not reflect uncertainties that are relevant for this study, because they have fewer negative financial or career consequences and are more likely to be transitional stages, being either between two jobs or between the education system and first employment.

4.3 Method

In order to analyse how mothers' employment interruptions are affected by both partners' characteristics and non-employment experiences, a proportional hazard model (Cox 1972) seems to be the most appropriate model to estimate re-entry probabilities into full-time and part-time employment. While most parametric models make strong assumptions about the shape of the hazard function (thereby the overall shape has to be imposed in advance), in the Cox model the baseline hazard does not have to be specified. The Cox model assumes that the covariates multiplicatively shift the baseline hazard function and the shape is the same for all individuals. The hazard rate of one individual is a multiplicative replica of another's individual hazard rate (Cleves et al. 2008). The likelihood function proposed by Cox is a partial likelihood estimation and is factored into two parts. One factor with information about the coefficients of the explanatory variables is treated like an ordinary likelihood function, the other part with information about the covariates and the baseline hazard is simply discarded. Thus the first factor depends only on the order in which an event occurs and not the exact time of occurrence (Allison 1984, p.34).

The transition out of the current state can be an exit to one or several different destination states. In this analysis the transitions into an alternate state can exit into full-time or part-time employment and are thus competing risks. The overall hazard function for exit to any destination is simply the sum of the destination-specific hazard rates (Allison 1984, p.46). Jenkins (2005, p.92) states that "each destination-specific hazard rate can be thought of as the hazard rate that would apply were transitions to all other destinations not possible." The hazard rates are 'latent' rather than observed in cases of competing risks (Jenkins 2005, p.91)

Because the overall model likelihood is the sum of the likelihood values of all models, the partial likelihood estimation can be done separately for full-time and part-time. Individuals

are at risk as long as the other event has not occurred prior to the event of interest. Exits into another state (e.g. part-time) than the examined one (e.g. full-time) are considered as right censored and excluded after experiencing the competing transition. It is assumed that the risks of exit into the two states are independent (Jenkins 2008, p. 92).[5]

5. Results

The following section is divided into two main subsections. The first part examines which variables have an effect on mothers' chances of entering the labour market after childbirth. Therefore I look at covariates that have already been shown to provide important contributions in different studies and complement them with more particular information of the male partner and relations between both partners. The second part will concentrate on occupational uncertainties in both partners' careers and attempt to identify an 'added worker effect'.

5.1 Contributing factors to mothers' return to work

The first table (Table 1) presents three models for each return state (for the general re-entry, full-time and part-time employment, respectively). The first part (A) of Table 1 consists of control variables which capture the family background, such as the region where the family lives or the age of the children. The results are generally consistent with previous studies and will not be interpreted. A positive effect on the return chances are indicated by values above one, while values below one indicate a negative effect on mother's return to work.

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[5] To avoid unobserved heterogeneity distorting the results it is necessary to control for all risk factors that affect both type of events. Otherwise the results for each type of event are only valid under the observed hazard rates for the other risks and the assumption of independence of irrelevant alternatives is violated.

Table 1: Effects on mothers' transition rate from parental leave to employment as well as full-time and part-time employment - Cox's Proportional Hazard Model

	Re-entry into employment (general)		Re-entry into full-time		Re-entry into part-time	
(A) Family background:	**1**	**2**	**1**	**2**	**1**	**2**
Origin: East/West						
West Germany	0.89	0.89	0.35**	0.34**	1.27	1.26
Women's unemployment rate in German state (Bundesland) continuous	1.00	1.00	0.98	0.98	1.00	1.00
Marital status						
cohabiting	0.98	0.98	1.04	1.03	0.96	0.96
(ref.= married)						
Birth cohort of youngest child						
1996-2000	1.11	1.10	0.81	0.77	1.21*	1.20+
2001-2006	1.53**	1.50**	0.87	0.81	1.80**	1.79**
2007-2011	1.39**	1.34*	0.80	0.70	1.62**	1.60**
(ref.= 1989-1995)						
Number of parental leave						
2	0.88	0.88	0.89	0.87	0.86	0.86
3+	0.74*	0.74*	0.53*	0.54+	0.79+	0.79+
(ref. =1)						
Age – youngest child						
1-3 years	1.14	1.14	0.87	0.87	1.23+	1.24*
3-6 years	2.29**	2.33**	2.19*	2.25**	2.33**	2.35**
6 years +	1.56+	1.58+	1.96	1.99	1.53	1.54
(ref.= -1 year)						
(B) Mother's resources						
Age at beginning of maternity leave In years	1.00	0.99	1.03	1.02	0.99	0.99+
Employment status [1]						
Full-time	1.76**	1.78**	3.11**	3.28**	1.42*	1.43*
Part-time	1.83**	1.86**	0.88	0.94	1.97**	1.98**
(ref.=not employed)						
Satisfaction with previous job[1] High (8-10 of 10)	1.23**	1.23**	1.38*	1.37*	1.20*	1.20*
Education						
No degree	0.56**	0.57**	0.91	0.97	0.47**	0.47**
Vocational degree	0.61**	0.62**	0.50**	0.52**	0.64**	0.65**
(ref.= university degree)						

Table 1 (continued)	Re-entry into employment (general)		Re-entry into full-time		Re-entry into part-time	
	1	2	1	2	1	2
Income [1] hourly income (log.)	1.03[+]	1.02	0.96	0.92[*]	1.06[*]	1.05[*]
Concerns about economic situation of household Very concerned	1.18[+]	1.18[+]	1.07	1.09	1.21[+]	1.22[+]
(C) Father's resources						
Education						
No degree	1.31[+]	1.29[+]	1.63	1.55	1.22	1.22
Vocational degree (ref.= university degree)	1.20[+]	1.20[*]	1.62[**]	1.55[**]	1.09	1.09
Income						
Hourly income (log.)	0.96[*]	0.99	0.88[**]	0.96	1.00	1.01
Concerns about economic situation of HH Very concerned	0.93	0.92	1.00	0.97	0.91	0.90
Interaction: Income man [*] marital status (cohabiting)	1.08[*]	1.08[+]	1.09[+]	1.09	1.09	1.09
Relations between partners						
Relation: hourly income men and women[1] (Woman earned more before maternity leave than man now)	-	1.30[**]	-	2.05[**]	-	1.11
Partnerships:	1509	1509	1509	1509	1509	1509
Events:	1072	1072	253	253	819	819
Log likelihood:	-6785.6	-6782.2	-1612.0	-1604.4	-5107.5	-5107.1

Source: SOEP Waves F to BB (1989-2011), own calculations   *Notes:* +p<0.1 *p<0.05 **p<0.01
[1]before maternity leave

Mothers' resources

The second part (B) of Table 1 shows the effects of mothers' characteristics and their

employment before maternity leave. In line with previous studies on re-entry after maternity

leave (Weber 2004, Drasch 2011, Ziefle 2009), women's employment state before maternity

and education affected their labour market return significantly. More highly educated women are more likely to enter the labour market; this is true for the part-time as well as full-time segments of the labour market. Re-entry hazards also depend strongly on a mother's employment status before childbirth. Involvement in full-time work before the employment interruption increases the likelihood of returning to full-time employment by more than three times, but also increases the return into part-time work by 42 per cent. Involvement in part-time work increases only the likelihood to return to part-time work, but by over 90 per cent. Investments in human capital as well as employment status can both be seen as proxies for work orientation, which is not captured directly in the data, and affect the re-entry in the expected direction. An additional condition that is linked to work motivation and may affect it, however, is whether the mother was satisfied with her former job. Women who were more satisfied with their former jobs are more likely to return, especially into full-time employment. A mother's age does not explain her return behaviour.

In order to account for financial motivations, women's income and concerns about the economic situation of the household are included. As expected, women with higher incomes before maternity leave are in general more likely to return to work (if we do not control for the relationship between mothers' and fathers' incomes, Table 1, model 1). Of interest, however, are the findings of the separate analyses for part-time and full-time employment. The results for part-time work confirm the predictions of the theories and show that mothers with higher earning potential are more likely to re-enter the labour market. Mothers who earned ten per cent more before maternity leave have a 0.6 per cent higher chance to return into part-time employment. The results for full-time work, however, contradict the hypotheses and show no significant effect or a significant decreased return probability if we control for mothers who earn more than their partners. Also, concerns about the economic situation of the household show only positive influence on re-entry into part-time work and

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raise the likelihood by about 20 per cent. One explanation for this surprising result is that it is most beneficial for mothers with high earning potential to return to the labour market though part-time employment is for most of them the only possibility, as housework and child care remain primary tasks for women. The return into full-time employment seems to depend primarily on factors other that are not financial. The previously discussed results of satisfaction with former job and employment status before maternity leave indicate the importance of intrinsic motives for this employment state.

Additionally, according to neoclassical theories the offered wage constitutes an important influence on mothers' decisions to participate and on how many hours they participate in the labour market. These decisions are explainable by the substitution and income effects. Mothers are limited to a specific amount of time per day that they can spend on either market work or non-market work (or leisure). With increasing wages two opposing forces - the substitution and income effects - operate simultaneously and influence the return decisions. The substitution effect arises when mothers substitute more of their non-working time and spend that time working in the labour market to earn additional money. The income effect arises because those who earn more money can afford to work less. The best combination of working time and non-working time, providing the highest amount of utility for a household, strongly depends on other variables such as the amounts of housework and childcare that must be done, taxation, income of the partner, or welfare.

Fathers' resources and the relationship between both partners' resources

Central to this study are the effects of fathers' resources and the relation between each partner's resources (Table 1, C). Education of the male partner was found to have a weak, but positive effect for the re-entry into employment in general. The lower the educational level, the more likely mothers return. Men with high education have more egalitarian views in

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terms of gender roles and mothers employment (Sjöberg 2004) and should therefore support mother's re-entry. This cannot be confirmed with my results. A covariate capturing the measuring relation between both partners' educational levels did not provide significant results and is not included.

More relevant, however, is the partner's income. As predicted by the economic theory of the family as well as by bargaining theories, the increase in men's income has an inhibiting effect and this is especially so for the return into full-time work. Men with larger incomes have more power and can keep their partners from returning. Additionally, it can be assumed that men with large incomes provide financially for their families and thereby reduce mother's financial motivations to return to the labour market. Men's concerns about the economic situation of the household have no significant impact on women's returns.

Bargaining theories assume that the decision to return after maternity leave is the outcome of a negotiation process between the partners with differing bargaining power. The power distribution within the household depends on each individual's achievable income in the labour market, represented here by the relation of the partners' income. With the added relation (Table 1, model 2), the single effect of each partner's income is no longer significant. It appears to be more important which partner has higher income opportunities. Significantly, the return into full-time employment is twice as likely if the woman earned more before the maternity leave than the man does now.

Another important factor is the marital status of the couple, since here differences in the income effects arise. This is captured by an interaction between men's income and marital status.[6] The main effect of men's income is significantly negative after including the interaction with marital status, while the differential effect has a positive effect. The total

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[6] Interactions with marital status and mothers' income, and other covariates were tested, but did not show significant effects and were not included in this analysis.

effect of the interaction between income and marital status indicates that mothers in cohabiting partnerships return up to 0.4 per cent more likely to the labour market if the partner's income increases by ten per cent. Thus the male partner's income reduces the chance of re-entry to the labour market if the couple is married, but appears to encourage mother's re-entry if they are only cohabiting.

The results appear to challenge the idea that cohabiting unions resemble marriages and fathers support their family independent of a legal contract, because all family members live in the same household. On the contrary, mothers in cohabiting unions have less financial security in case of separation, which could encourage them to become financially independent. Another factor is Germany's joint taxation system, including a tax-splitting benefit for married couples only, which leads to differing re-entry incentives for married and un-married mothers. The benefit increases with income differences between the partners. In an analysis by Triebe (2013), which examines how tax advantages affect the work hours of married and cohabiting women, the partner's wage has opposite effects on work hours of both groups. She shows that cohabiting women increase their work hours with increasing wages of the partner, while married women have a decrease in their work hours. However, while tax advantages may explain the reduced likelihood to return for married mothers, it remains open why unmarried mothers seem to be encouraged to return to the labour market with wage increases. An explanation could be that cohabiting women and men have more similar (in this study unconsidered) labour market traits, which facilitate the re-entry for mothers or make it more beneficial. Another important explanation is that cohabiting couples may have more egalitarian views about labour division and do not want to follow the normative structure of the male breadwinner model.

In general the results of the first analysis tie in with those of Blossfeld, Drobnič, and Rohwer (2001) for Germany between 1983 and 1991 regarding the negative effects of only the male

partner's resources for the entry into full-time employment and the positive effect of mother's resources for the entry into part-time employment. The negative effect of the father's resources for the entry into part-time employment, however, cannot be found in my analyses.

5.2 Uncertainties in the work career

I now turn to an examination of the effects of each partner's career uncertainties on mother's re-entry. This includes an examination of models that are similar to those in the previous section, but here I also include unemployment experiences to capture negative career shocks as well as a subjective indicator of job insecurity insecurity.[7] I also include a measure of household savings to capture the possibility of compensation for financial shortages that often accompany longer unemployment experiences. Since the effects of the previously discussed covariates mostly stay the same after including unemployment experiences, I concentrate only on the newly added covariates.

First, we look at mothers' unemployment experiences, which affect the re-entry in the expected direction. The longer a mother was unemployed the less likely she is to return to the labour market after the break. Mothers who were unemployed for up to one year return 17 per cent less likely and mothers who were unemployed for twelve months or more return 24 per cent less likely to the labour market than mothers who had no unemployment experience. As for the previous results on mothers' resources, only the effects for the return into part-time work stay significant in the distinction. As described before, an explanation could be that

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[7] The only effects that change significantly after adding the unemployment experiences for men are the coefficients of men's income and the interactions between his income and marital status. The effects go in the same direction, but lose some strength and significance. It can mostly be explained by the fact that income and unemployment experiences are correlated. This is visible in a robustness check where we calculate the models for couples that never experienced unemployment longer than three month in total. The income of the male partner in cohabiting partnerships increases the chance of mother's return by 82 percent and is significant at the five per cent level.
Unfortunately it was not possible to distinguish in separate analyses, between couples with unemployment experience and without, due to the small number of observations in the first group. The introduction of the interaction between income and marital status does not change the effects of unemployment, which have also more explanatory power. Results of the robustness check are available on request.

mothers' full-time employment is less led by financial than intrinsic motives such as a higher work orientation. Results of several studies which focus on the differences between East and West Germany indicate that, beside the better provision of child care facilities, the considerably higher work orientation of East German women is one of the main reasons for their higher full-time employment rate and the faster re-entry after maternity leave (Drasch 2012; Kreyenfeld and Geisler 2006; Grunow and Müller 2012). This is especially prevalent when we consider that the female unemployment rate is considerably higher in this part of the country.

Table 2: Effects on mothers' transition rate from parental leave to employment as well as full-time and part-time employment - Cox's Proportional Hazard Model

	Re-entry into employment (general)	Re-entry into full-time	Re-entry into part-time
Unemployment experience[1] (woman)			
Less than 12 months unemployed	0.83*	0.84	0.83*
12 months or more unemployed	0.76**	0.81	0.75**
(ref.=never)			
Unemployment experience (man)			
3-6 month, completed before mat leave	1.41**	1.56*	1.38**
3-6 month, spanning mat leave	0.85	0.94	0.84
7-12 months, completed before mat leave	1.61**	1.78+	1.51*
7-12 months, spanning mat leave	0.82	0.90	0.80
13+ months, completed before mat leave	1.38**	2.32**	1.08
13 + months, spanning mat leave	0.97	1.58+	0.73+
(ref.= never)			
Concerns about job security (man)			
Very concerned	0.92	0.99	0.90
(ref.=not/somewhat concerned)			
Financial securities/savings in household			
No securities	0.73*	0.64	0.79
(ref.= securities)			
Partnerships:	1504	1504	1504
Events:	1067	252	815
Log likelihood:	-6722.9	-1584.6	-5061.6

Source: SOEP Waves F to BB (1989-2011), own calculations   *Notes:* +$p<0.1$ *$p<0.05$ **$p<0.01$
[1] before maternity leave

A more diverse impact on mothers' return behaviour reveals the effect of the unemployment experiences of the male partner. As theoretically predicted, occupational uncertainties in the career of the family provider generally increase the likelihood that women return earlier.[8] Mothers do try to compensate uncertainties in their partner's careers with a faster re-entry as 'added workers'.

If we look at the differences between the two return states, we see that mothers re-enter faster into full-time as well as part-time employment if their partner experienced unemployment. The results for the separate analyses should be interpreted in a prudent way since the number of observations in each group is relatively low. If the results are valid, clear differences in the effects for long-term and short-term unemployment become apparent. Mothers with a partner who was unemployed for one year or longer have more than double the chance to return into full-time work, but not into part-time work. This result indicates that mothers who consider his career as highly unstable try to insure the family against negative financial consequences of expected future unemployment. The loss of the family income in the long term can only be compensated by the full salary of another family member.

To test whether mothers actually take over the provider role we have to get a deeper insight into the unemployment experiences of the male partner. The bargaining theories predicted that men's unemployment increases the chances that women re-enter the labour market, but in this case it is explained by the dramatic power loss of the male partner, which accompanies unemployment experiences. The theories predicted that the effect would be enhanced by persistent unemployment and mothers are even able to take over his role. A way to account for this additional prediction is to examine whether the unemployment episodes were

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[8] In a first step (which is not included in this table, but is also recognisable in the more detailed covariate depicted) the duration of unemployment of the male partner was introduced into the models and showed highly significant and positive effects for the re-entry.
A covariate that controlled for the number of unemployment episodes did not show significant effects after including the duration of unemployment and is therefore not considered.

completed before maternity leave started or whether they span maternity leave. Interestingly, in contrast to these hypotheses the return probabilities are lower if the unemployment episode is spanning the maternity leave and not significant. This is a puzzling result. The only exception is long-term unemployment. The re-entry into full-time employment increases if the partner was unemployed for 13 months or longer, independently of whether the episodes were completed before the maternity leave or persists. Although the effect is only significant at the ten per cent level, it indicates that mothers who consider his career as unstable take over the provider role. An important factor behind this result could be unemployment compensation. While the family is financially secured for the first twelve months and there is no financial need to act differently, this amount decreases distinctly after one year for most workers (especially since the labour market reforms in 2005, the so-called "Hartz reforms").

Complementarily to the discussed results is that only past unemployment experiences affect the re-entry. Men's subjective concerns about their job security and future unemployment do not lead to a faster re-entry rate for mothers. These results are similar to those of studies on added-worker effects, which show that women react not in advance, but with a delay when responding to their partners' job loss (Bryan and Longhi 2013; Gong 2011). A significant explanation for this result could be unemployment compensation again. This prevents mothers from responding to uncertainties in their partner's career immediately. This idea is supported by the previously discussed result that mother's concerns about the economic situation have a positive effect on the return into part-time work (Table 1).

To see if mother's re-entry is affected by financial shortages that often accompany longer unemployment experiences, I also control for whether or not the household has savings or other financial securities. Contrary to the expectation that savings would cushion the financial need to return, mothers in a household without savings or other financial securities return at a rate that is 23 per cent less likely. This result may indicate that financial securities represent a

proxy for a specific group of mothers with certain attributes, for instance longer and more successful previous careers. On the one hand this should facilitate the saving of money; on the other hand these mothers should be interested in returning as soon as possible because of high opportunity costs of their career interruptions.

A detailed analysis of interaction effects between financial securities and the duration of unemployment could give further insights in the financial motives to return. Longer unemployment experiences are often accompanied by financial shortages. Unfortunately this analysis is not feasible, because of low observation numbers, and is beyond the scope of this paper.[9]

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[9] An interaction between securities and duration of unemployment is only possible for the re-entry into employment in general, because the observation numbers in the group without securities and unemployment under twelve months are very low. Over fifty per cent of men in this dataset who have no securities experienced long-term unemployment and only about 20 per cent (fifty men) had unemployment experiences between three to twelve months. However, the results of the interaction are similar to the single effect of securities, provide no further clarification and are therefore not included in the table. If the results are valid despite the low number of cases, than mothers with long-term unemployed partner are more likely to return if the household has securities than mothers who have a partner who was never unemployed. If the household has no securities the effects are negative and not significantly different. To understand the mechanisms behind this effect further research with bigger samples is necessary.

6. Discussion and Conclusion

The aim of this study has been to investigate how both partners' resources and employment experiences determine the decision to re-enter full- and part-time employment for mothers after birth related employment interruptions. Most studies do not include male partner's characteristics or focus only on specific factors. The results of this study show that mother's re-entry to the labour market is strongly affected by partner's resources and his previous work career.

The first part of the empirical analyses examined how the mother's resources affect the re-entry decision. It was hypothesized that the more resources and the larger the amount of earning benefits that the woman had before job interruption, the higher the likelihood that she re-enters the labour market, especially into full-time work. While the expected effects were confirmed for the re-entry into part-time work, surprisingly, former income and concerns about the economic situation of the household failed to show a significant impact on the re-entry into full-time. One explanation is that full-time employment more strongly depends on non-monetary factors such as cultural concepts of women's and mothers' roles and intrinsic work orientation. For women with a high work orientation, work has a particular value and is seen more as a source of fulfilment and an independent lifestyle (BFSFJ 2010). While I could not test directly for these effects in this analysis, they are partly captured by satisfaction with the former job, which reflects an intrinsic motive for a mother to work.

The results also indicate that many mothers, even with higher potential earnings, tend to choose part-time instead of full-time employment. In addition to differing work orientation, a principal explanation for this effect is that housework and child care remain primary tasks for women and impede a return into full-time employment, despite their improved career

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opportunities. A return to the labour market is often only possible if employment can be combined with family responsibilities.

As predicted by the unitary theory of the household and bargaining theories men's financial resources have a negative effect on the likelihood of mothers' return to employment, primarily for the return into full-time work. On the one hand, men with larger resources have more power within the family and thus less housework and childcare responsibilities. On the other hand, men with larger incomes financially provide for their families and thus reduce the mother's financial motivation to return to the labour market.

That the effect of the father's income does not necessarily lead to behaviour in the predicted direction is for instance visible in the surprising result of an interaction between marital status and the fathers' income. While the income of husbands reduces the likelihood to return to the labour market, the income of unmarried fathers has the opposite effect. This result can partly be explained by the German joint taxation system, which provides a tax-splitting benefit for married couples, thus reducing the incentives for married mothers to return. It also remains unclear which role is played by the higher work orientation and more egalitarian gender role attitudes of cohabiting women in comparison to married women.

Of special interest are the added relations between partner's incomes. Mothers from families where the woman has a higher earning potential than the man have an increased chance to return into employment, especially into full-time employment. This result coincides with the hypothesis of the bargaining theories that only women with relatively high bargaining power in comparison to their partners can return to full-time employment. From an economic point of view it is more beneficial when these mothers return due to higher opportunity costs of staying at home.

The second part of this analysis examined how occupational uncertainties in each partner's career affect the re-entries of mothers. The unitary theory of the household, as with bargaining theories, predicted that occupational uncertainties in the father's employment careers raise the probability for mothers to return to the labour market, especially if they persist and with increasing duration. On the other hand uncertainties in mother's employment careers should decrease her probability to return. These basic hypotheses are confirmed in the results.

The results for the distinction between whether his unemployment episodes were completed before maternity leave and whether they span maternity leave are surprising. Unemployment, during the maternity leave episode, decreases the chance of mother's return, irrespectively of the duration of the unemployment episode. An explanation could be that normative expectations prevent mothers from taking over the provider role in order not to undermine the position of the man in the household and his identity as the family provider (West and Zimmerman 1987).

However, a completely different picture emerges if the unemployment experience exceeds twelve months. Long-term unemployment induces only the re-entry into full-time employment (independent of whether the unemployment still persists). This is simply explained by the fact that only a full income can compensate the income losses of the family provider in the long run. Furthermore, unemployment is not only connected to income losses. Former unemployment experiences also affect the prospects of future employment stability negatively. The mother's employment thus provides an important hedge against his increased unemployment risk.

Summing up, the results of this study demonstrate that young parents' work arrangements are most effectively viewed within a family context. The main findings of this study are that

couples generally assess the re-entry decision on the basis of economic considerations. The re-entry into full- and part-time employment for mothers after a birth-related employment interruption is to a large extent determined by both partners' economic resources. However, the results also reveal that other factors, such as different responsibility for housework and childcare or differences in intrinsic work orientations, have a decisive influence. Unfortunately, these influences are not directly observable, but they are indirectly visible in the result that many mothers prefer the re-entry into part-time instead of full-time work. Nevertheless, the results show that under specific conditions economic resources play the main role for the re-entry decisions. This is especially prevalent in situations where mother's resources exceed these of the male partner, in which partners switch the culturally permitted roles and mothers undertake the provider role.

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Appendix

Table 3: Descriptive Statistics

Variables	Mean / %	Std.dev
Origin:		
East	18	
West	82	
Women's unemployment rate in German state (Bundesland)	10.0	4.3
Marital staus		
Married	86	
cohabiting	14	
Number of maternity leave		
1	61	
2	27	
2+	11	
Birth cohort of youngest child		
1989-1995	47	
1996-2000	25	
2001-2007	21	
2008-2011	7	
Age – youngest child		
-1 year	35	
1-3 years	41	
3-6 years	15	
6 years +	9	
Women:		
Age at beginning of maternity leave (years)	28	5.0
Employment status [1]		
Not employed	54	
Full-time	20	
Part-time	26	
Satisfaction with previous job[2]		
Low (0-7)	37	
High (8-10)	63	
Education		
No degree	9	
Vocational degree	74	
university degree	17	
hourly gross income (log.)	7.8	8.0
Unemployment experience[1]		
never	55	
Less than 12 months unemployed	25	
12 months or more unemployed	20	
Concerns about economic situation of household		
Very concerned	20	
Not/somewhat concerned	80	

Variables (Table 3 continued)	Mean / %	Std.dev
Men:		
Education		
No degree	7	
Vocational degree	68	
university degree	26	
Hourly gross income (log.)	14.9	13.3
Unemployment experience		
never	57	
3-6 month before mat leave	9	
3-6 month spanning mat leave	7	
7-12 months before mat leave	3	
7-12 months spanning mat leave	4	
13+ months before mat leave	6	
13 + months spanning mat leave	13	
Concerns about job security		
Very concerned	12	
Not/somewhat concerned	88	
Concerns about economic situation of household	19	
Very concerned	81	
Not/somewhat concerned		
Relation income man & woman[1]		
Men earns now as much as woman earned	1	
before maternity leave	84	
Woman earned less before than man now	15	
Man earns less now than woman before		
maternity leave		

Source: SOEP Waves F to BB (1989-2011), own calculations
[1] before maternity leave