

# DOES IT PAY TO BE A WOMAN?

## LABOUR MARKET EFFECTS OF MATERNITY-RELATED JOB PROTECTION AND REPLACEMENT INCOMES

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### Abstract

It is often considered to be unwise to hire a woman in childbearing age for a highly demanding job because of the pregnancy risk. Women in childbearing age are potentially covered by maternity-related welfare politics, which consist of both job protection laws and a replacement income entitlement. While the effect of maternity leave legislation on mother's labour market outcomes has been extensively analysed, the employers' reaction to these potential costs is less well-understood. This paper tries to fill this gap by analysing the labour market effects of maternity-related job protection and replacement income measures without restricting the analysis to mothers. I exploit exogenous discrete changes in German maternity leave legislation, which constitute a quasi-experimental setting, to use a difference-in-differences approach for identification. An extension in the job protection and pay period lowers the probability of finding employment by around 3% for women without a university degree. Women with a university degree are mainly affected when the pay and job protection period are very long. Only the combination of both measures worsens the labour market position of women in childbearing age. I do not find that women have to accept a wage penalty, so employers mainly react with restrictive hiring.

**Keywords:** maternity leave legislation, gender pay gap, education, hiring decision, unemployment

**JEL-Codes:** J64, J23, J16, J31, K31

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# 1 Introduction

Maternity leave legislation has long been considered one of the achievements of modern safety protection regulations. Without doubt, maternity pay and job protection shortly after giving birth are beneficial for the recovery of the mother. It is, however, not as clear whether the increasing extension of both pay and protection, which is promoted by policy makers in many countries, brings about solely beneficial effects. After all, generous pay and generous job protection rules also provide incentives to leave the labour market on a replacement income. This does not only imply costs for both the employer and the government, but also for the mother, who might find labour market re-entry more difficult after a long absence. Even more so, the mere possibility of having a child and taking leave hampers the labour market prospects of women in childbearing age. In contrast to previous research, this paper focuses on the latter aspect.

Recent research on labour market effects of maternity leave legislation has mainly focused on the labour supply of mothers (e. g. Spiess and Wrohlich 2006; Dearing et al. 2007; Schoenberg and Ludsteck, 2007).<sup>1</sup> Job protection laws and the policy of providing a replacement income do, however, not only affect labour supply, but also labour demand for the group affected by the respective law. Maternity leave legislation is an example of a job protection law in combination with a replacement income policy, which affects the labour demand for a particular group: female employees. To an employer who decides about hiring a new employee, every woman is a potential mother.

The employer has to take into account expected future costs in case the employee takes leave following the birth of a child. Maternity leave legislation normally ensures a replacement income for the new mother, but also guarantees job protection for the period of leave in most countries. This increases lay-off costs. Besides the pecuniary costs of maternity pay,<sup>2</sup> the employer may have to incur additional implicit costs. These include a lower productivity after the employee returns, because her human capital has depreciated (Datta Gupta and Smith 2000; Goerlich and de Grip 2007), or the additional training that has to be invested in a substitute employee (Ruhm 1998; Ondrich et al. 2002). This can be enhanced by the uncertainty about when the absent employee will return and whether she will return at all (Waldfogel 1998).<sup>3</sup>

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<sup>1</sup>Ruhm (1998) is an exception to this.

<sup>2</sup>In Germany, the employer has to pay part of maternity benefits, which a mother receives for the 2 months following the birth of a child, and which she may receive during the six weeks before childbirth. Maternity benefits are related to the woman's salary. This is similar to employers' contribution to sick pay.

<sup>3</sup>The period of actual leave-taking strongly depends on the length of the statutory job protection period, refer e. g. to Ondrich et al. (1996), Gottschall and Bird (2003), and Berger and Waldfogel (2004).

The German example is especially well-suited for analysing the effect of job-protected leave on employment opportunities, as the job-protected leave period of 3 years in Germany is the longest in the world. The law obliges the employer to offer a mother the same or an equivalent job after she returns from maternity leave. This issue is of international relevance. The job protection period related to maternity leave was extended in many other countries recently, such as Canada, Denmark and the UK. It has also been extended in the United States in California. While policy makers often only consider the direct effects on mother and children, second order effects on the labour market position of women in general, which may be of significant magnitude, are ignored. This paper draws attention to these effects and shows that these rules are of particular relevance for women's labour market position. I show that every woman in childbearing age is adversely affected by changes in maternity leave legislation, irrespective of whether she will have a child or not. Maternity leave legislation raises expected costs for the employer if he hires a woman in childbearing age. As a result, every woman in childbearing age has to pay a risk premium.

As the extension of the statutory, job-protected leave period can be considered an exogenous change in lay-off costs, this risk premium can be expected to take either the form of reduced wages or the form of a reduced probability of finding employment or both. The behavioural responses of mothers to changes in maternity leave legislation are well-analysed and should determine an employer's assessment of the costs a potentially pregnant woman would imply for him. First, increases of maternity benefits and maternity pay<sup>4</sup> can foster mothers' labour market attachment and speed up their return to work. The income effect after maternity benefits are discontinued encourages women to seek employment to make up for the loss in income (e. g. Ondrich et al. 1996; Schönberg and Ludsteck 2007). Job protection is also meant to simplify mothers' return to work, but the effects should be rather adverse. Mothers are tempted to stay home for the whole protection period (Gottschall and Bird 2003), which makes the pregnancy of an employee more costly for the employer. Anecdotal evidence suggests that women do return to their jobs, but often accept a job, which is not of equal status as before or are fired for some other reason shortly after returning.

It is, however, not clear, whether the effects of maternity benefits/maternity pay are unambiguously positive. They may help to speed up the return to work if the income effect is strong. But these payments also act as a form of replacement income, which, taken together with job protection, can be a strong incentive to stay at home or even space in another birth. Similarly, an extension in job protection, which is not matched by an increase in the maximum duration of maternity benefits may increase costs for the employer only to some

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<sup>4</sup>While maternity pay is similar to sick pay and almost equivalent to the women's net income, maternity benefits are flat-rate and paid by the government.

extent. After all, the incentives for staying at home are much stronger if one is paid for doing that. It is therefore of major interest to analyse the interplay of both instruments of welfare politics.

Anecdotal evidence from Germany shows that even the Federal Constitutional Court acknowledges the fact that women may face implicit discrimination for being a potential mother. This was related to a decision about how much of the costs related to maternity leave legislation have to be borne by employers, considering that higher costs would foster employers' unwillingness to hire women (Bundesverfassungsgericht 2003).

This paper empirically investigates the impact of maternity-related job protection on women's wages and employment opportunities by looking at discrete changes in German maternity leave legislation. The job protection period was extended several times between 1986 and 1992, while there was a change in the payment period of maternity benefits in 1986, 1990 and 1993. The availability of data for that time span allows to compare the effects of different job protection and pay periods on labour market outcomes. The reforms constitute a quasi-experimental setting, because job protection and pay were mainly extended in order to benefit the child.

Building on this quasi-experimental setting, I use a difference-in-differences approach. Women aged 18-40 constitute the treatment group, while men of the same age serve as a control group, because only 2% of them take leave after the birth of a child (Gottschall and Bird 2003). First results from the analysis of the German Socio-Economic Panel are supplemented by more in-depth analyses using German Microcensus data and German Social Security data on employment histories. The focus of all analyses is on the probability of finding a job among persons who could potentially be parents, i. e. aged 18 – 40, but who did not (yet) have a child. For estimating wages, the sample is restricted to persons who experienced a change in their employment status, as adjustment in wages should mainly show up for new hires.

In particular, I analyse how easily previously unemployed women in the treatment group find employment relative to the control group before and after the respective changes in policy. My results indicate that the transition into employment implies stronger selectivity among employers after the changes in policy. In 1986 and 1990, the extension in maternity leave legislation (which implied both an extension in the job protection and the payment period) reduces the probability of finding a job by about 3% for women without a university degree. Women with a university degree seem to be mainly negatively affected by the combination of a long protection and pay period of 36 months in 1992/1993. A selection model estimating the wages of the newly hired confirms the selectivity at the employment margin: I do not find significant negative effects on wages of the newly hired. Importantly,

only the combination of a job protection and a replacement strategy have significant effects on labour market dynamics.

Section 2 relates maternity-related job-protection to recent models on job protection laws and lay-off costs. The data sets and econometric considerations are presented in section 3, while section 4 contains results and some sensitivity analyses. Section 5 concludes.

## 2 Theoretical Background

Employment protection laws and implied lay-off costs have long been discussed as one of the main reasons for labour market rigidities and unemployment in Europe (Saint-Paul 1997). Often, the emphasis of research on employment protection lies on the welfare effects of externally imposed lay-off costs, which are not part of the employer-worker bargaining process. General equilibrium models of employment protection come to ambiguous conclusions on the effects of job protection laws on average employment. Ljungqvist (2002) shows that the effect on equilibrium employment strongly depends on the underlying model of the labour market.

Maternity leave legislation contributes to the set of employment protection laws, as in many countries the period of maternity-related employment protection has been extended quite generously. Germany is one of the countries which grants the longest period of statutory, protected leave of currently 3 years. Along the lines of the literature of job protection, maternity-related job protection increases lay-off costs for an employer. A woman has to be given the same or an equivalent job if she returns from maternity leave, although her human capital has depreciated in the meantime. In addition, the employer has to hire a substitute employee for the time of leave. As this is typically associated with a temporary job contract for the substitute employee, suitable candidates are often hard to find. In addition, there may be a waste of firm-specific training, because the substitute employee will have to leave the firm again when the leave-taker returns. As a result, maternity leave legislation implicitly increases lay-off costs.

The employer would bear a higher risk when hiring a woman, and thus will try to internalise the risk. The additional costs could be internalised in the employer-employee bargaining process, such that the female employee would bear a higher risk premium. In contrast to Schmitz (2004) there are real costs associated with taking leave after the birth of a child, which would be paid by the employee who causes this under symmetric information. That is, unlike in the Schmitz (2004) case, under symmetric information there would not necessarily be a loss in total surplus, given that the decision on how long to take maternity

leave is not distorted. Under asymmetric information, however, some agents who do not become pregnant do not cause a cost, have to pay an average risk premium to the principal, because the principal can only observe the average pregnancy risk (Scheubel, 2008).

The costs associated with an employee taking leave should rise with the employee's skill level, and the extent of firm-specific training required to do the job. This is only the case if all skill groups take the same time of leave, because the costs associated with taking leave are obviously also related to the actual period of absence. If a woman has a child in Germany, she takes the full leave period in most cases (e. g. Gottschall and Bird 2003; Büchel and van Ham 2004; Schönberg and Ludsteck 2007). The leave-taking period for women with higher education is, however, shorter, such that the effect on job market prospects for university graduates should be less unambiguous.

### **3 Econometric Considerations and Data**

The advantage of using changes in maternity leave legislation to analyse the labour market effects of a government policy that combines the option of a replacement income with job protection is that maternity leave legislation only affects a narrow group of the working population. This opens up several possibilities to reliably identify the effects of the policy change. As a consequence, a difference-in-difference strategy is very appealing for estimation. The group, which is affected by the policy change – women in childbearing age, who are looking for a job and do not have children – is, however, very special in its composition. This sets high requirements for the data. To properly identify labour market dynamics, panel data containing detailed information on labour market status both in the current and in past periods would be most suitable. When aiming to separate effects on university graduates from effects on non-university graduates, this requires a large data set in addition, because the number of unemployed university graduates is relatively low. Above all, the data has to be available for a period, in which a policy change took place. As no available data set perfectly meets these requirements, I use three different German data sets, to check for the effects of the policy change. The German Socio-Economic Panel (SOEP) helps to identify labour market dynamics for its panel structure, while the German Microcensus is cross-section data and provides a large number of cases, but contains no information on previous labour market status. German social security data, in its basic form also only available as cross-section data, allows for a stronger differentiation combined with better information on labour market dynamics, but only contains information on a person's family if they are female. This section first presents the basic identification strategy and encompasses information on all three data sets.

### 3.1 Reforms of Maternity Leave Legislation and Econometric Considerations

Maternity leave legislation in Germany was changed several times between 1979 and 2007, which creates a quasi-experimental setting that can be used for a difference-in-differences approach. The difference-in-difference approach is especially appealing as maternity leave legislation should, by definition, only affect women in childbearing age, so that men of the same age or women out of childbearing age constitute a natural control group (Ruhm 1998).

The early reforms of maternity leave legislation, which granted only a relatively short period of 6 months of leave and basic maternity pay in 1979 and 10 months of leave and basic maternity pay in 1986 were primarily meant to promote the child's well-being. A woman receives maternity pay for the first two months after giving birth and may receive maternity benefits for the 6 weeks preceding the birth if she wishes to do so. Afterwards, she receives maternity benefits (300 € a month) from the government up to the maximum duration of the maternity benefits period. The latest changes to the law are mainly targeted to working mothers. The 2001 reform gave a working parent the right to continue their job part-time instead of full-time after the birth of a child if they desire so. This explicitly includes men, hardly any of whom took parental leave before although they would have been entitled to do so, too. The 2007 reform then increased paternity pay (*Elterngeld*) for the first 12 months. Paternity pay is granted for two additional months, if the other parent agrees to stay home with the child for these 2 months, which was also meant to encourage leave-taking by men.

In January 1986, both the job protection period and the maximum duration of maternity benefits were extended from 6 to 10 months. In July 1990, again both periods were extended to 18 months. The rise from 10 months in 1986 to 2 years in July 1990 was gradual. In 1992, the only change in legislation was a rise in the job protection period to 36 months, while in 1993 only the payment period was extended to match the protection period, i. e. also to 36 months.

Unlike the recent changes in paternity pay, the reforms in the 1990s were introduced for the benefit of the child, so they should be exogenous to women's labour market prospects. This is especially true for women who are not mothers. Moreover, public discussion of the reforms typically took place only three months before the reform was implemented (Schönberg and Ludsteck 2007), so the main behavioural changes should have taken place when the reform was implemented and not when it was agreed upon in parliament.

For the difference-in-differences strategy to yield unbiased estimates, treatment must be assigned randomly or selection must only be based on observables. As women in childbearing age should be affected by the reform, because they are potential mothers, men of the same age



and characteristics constitute a natural control group. In Germany, it is almost exclusively the mothers who take maternity leave (Gottschall and Bird 2003). Treatment is then based on age and gender. A second potential control group are women out of childbearing age. In my analysis, I define women out of childbearing age to be aged 40 or older. The strategy of using men as well as women out of childbearing age as control groups is similar to Ruhm (1998).

Corresponding to the introduction of the reforms, I define treatment as *Year 1986*, *Year 1990/91*, *Year 1992* or *Year 1993* in the cross-section models. I include the year 1991 to be part of the 1990 treatment effect, because the 1990 reform was implemented in July. Only those persons hired after July should have been affected. In the German Socio-Economic Panel, the information on the month of starting the job is not available for all observations, such that 1991 is included instead. The analysis of German social security data allows for a more precise identification strategy.<sup>5</sup> All years other than the treatment years in the panel thus make up a potential ‘placebo’ treatment for the sensitivity analysis in the cross-section analysis of employment opportunities.

The effect of job protection on women’s employment situation should be stronger the stronger the adverse effects of job protection are on the employer. Education should strongly be related to these costs. I compare estimates for women with a university degree and the rest of the sample separately. Moreover, I also use the same approach for different levels in firm-specific training.

An employer can react to the increased period of job protection in two ways: either he can stop to hire women or at least women in childbearing age or he can adjust women’s pay in order to account for higher expected cost in the case of pregnancy, given that the pregnancy risk has remained the same. In both cases, the effect should be stronger for women who are more costly to replace. In estimating these effects, the approach should, however, be different.

First, employment opportunities after the policy change can be analysed best using a kind of first-differences approach. If employers are more reluctant to hire, it should be more difficult for individuals who do not have a full-time job to find one. A reasonable measure for job opportunities is thus whether someone, who was unemployed before, more easily finds a job after the reform. The variable of interest, measuring the opportunities of employment for those who are affected by the reform, is then the first difference in employment status. Job protection laws in general are very rigid in Germany, so that any reaction can only show for employees, who are hired after the policy change.

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<sup>5</sup>Work on this is currently in progress. Please contact the author for first results.



I compare the change in employment status in period  $t$  (1986, 1990/1991, 1992 or 1993) with the change in employment status in period  $t - 1$  (1985, 1989, 1991 or 1992). Let  $e_t$  denote employment status in year  $t$  and  $empl_t$  the change in employment status from year  $t - 1$  to year  $t$ . Then I compare  $empl_t = e_t - e_{t-1}$  with  $empl_{t-1} = e_{t-1} - e_{t-2}$ . As I am interested in the transition from unemployment to employment, I exclude observations, for which  $empl_t - empl_{t-1} = -1$ , i. e. persons who become unemployed. The sample therefore contains persons who move from unemployment into employment, persons who stay employed and persons who stay not employed. The change in employment status in period  $t$  will depend on personal characteristics in the base year,  $t - 1$ . A reduced-form model for finding employment in the year of interest would then be:

$$Y(0) = empl_t - empl_{t-1} = \beta_0 + \beta_t T + \beta_{tg} TG + \beta_{tt} T * TG + \beta_e \mathbf{x}_{e_{t-1}} + u$$

where  $t \in (1985, 1986)$  for the first policy change and  $t \in (1989, 1990/91)$  for the second policy change,  $t \in (1991, 1992)$  for the third policy change and  $t \in (1992, 1993)$  for the fourth policy change.  $T \in (0, 1)$  is a dummy indicating the treatment, that is, the year of change, while  $TG \in (0, 1)$  is an indicator for the treatment group, such that  $T * TG$  identifies the effect of treatment on the treated.  $\mathbf{x}_e$  denotes a vector of personal characteristics that determine the probability of being hired and that are taken from the base year. Explanatory variables, which capture the characteristics of the current job, are taken from the current year. In a first-step analysis, I compare the relevant cross-sections for both control groups. The sensitivity analysis considers the effect of all ‘placebo’ treatments in the panel.

For estimating the effect of the reforms on wages, I use a standard Mincer wage regression in a Heckman type selection model, in which the previous analysis would make up the first stage regression. As wages are likely to be adjusted only for new hires, I am interested in the wages of persons, who move from unemployment into employment, i. e.  $empl_t - empl_{t-1} = 1$ . As the number of these observations is relatively low in the SOEP, I include all observations from the above defined sample for the periods 1984 – 2000. I then define mutually exclusive treatment periods to be included in the regression. That is to say, the first treatment period is 1986 – 1989, the second treatment period is 1990 – 1991, the third treatment period is 1992, and the fourth treatment period is 1993 – 2000. Restricting the selection model to the years before and after each treatment only does not change the results, but inflates standard errors for the decrease in the number of uncensored observations. In Microcensus data, information on previous employment status is not available, such that the first stage regression just estimates the probability of being employed. The log wage of individual  $i$  is

$$\log wage_i = \beta_y \mathbf{year}_t + \beta_{tg} TG + \beta_{tt} TG * T + \beta_{ex} \mathbf{x}_i + \varepsilon_i,$$

where  $year_t$  denotes year fixed-effects and  $\mathbf{x}_i$  denotes the usual explanatory variables in a Mincer wage regression.

### 3.2 The German Socio-Economic Panel

The German Socio-Economic Panel (SOEP) conveniently covers the periods of primary interest for my analysis: the years 1985 and 1986 as well as 1991, 1992, and 1993. The SOEP is an ongoing panel study of German households, which was started in 1984 (e. g. Wagner 1993), containing rich information on the labour market situation of the individuals. I use data from waves 1984 - 2000 from the German Socio-Economic Panel (SOEP).<sup>6</sup> The sample for my analysis includes all persons on whom information on labour market status is available, who do not (yet) have a child, and who are younger than 40, except for the situation when I compare women in childbearing age with women out of childbearing age.

The summary statistics for the total sample are displayed in column (4) of tables 1 and 2, while column (1) in both tables displays summary statistics only for the persons of primary interest for my analysis: persons who were unemployed in the previous period and who found a job in the current period. Both tables comprise observations from all periods 1984 – 2000 from SOEP sample A who do not have a child. This should rule out the possibility that women have already dropped out of the labour force for the birth of a child. Yet, the proportion of women finding a job if previously unemployed is, even on average, lower than the proportion of women in the full sample. The proportion of women is highest in the subsample, which consists of persons who are not employed and who did not experience a change in their employment status compared to the previous period, the summary statistics on which are displayed in column (3).

Table 1 also reveals that those persons hired out of unemployment have to accept lower wages on average than those who are working and do not experience a change in their employment status. This might be due to a higher proportion starting in temporary jobs and these persons being on average slightly younger than persons in the full sample, on average.

Layoff costs or opportunity costs caused by a potential absence due to maternity should be higher the higher the degree of firm-specific training. Table 4 displays the percentage of persons, separated by gender and the intensity of training necessary to do the job, who found

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<sup>6</sup>The data used in this paper was extracted using the Add-On package PanelWhiz for Stata®. PanelWhiz (<http://www.PanelWhiz.eu>) was written by Dr. John P. Haisken-DeNew ([john@PanelWhiz.eu](mailto:john@PanelWhiz.eu)). See Haisken-DeNew and Hahn (2006) for details. The PanelWhiz generated DO file to retrieve the data used here is available from me upon request. Any data or computational errors in this paper are my own.

a job if previously unemployed as a percentage of the working population for each year. In jobs, which require at least vocational training or a university degree to start the job, the percentage of women who finds a job is much lower than the percentage of men. This is not always the case for jobs, which only require short training or courses. Conclusions about the effects of the policy reforms in the years of interest, 1986, 1990, 1992 and 1993 are difficult, as the numbers are relatively volatile. The numbers also show another caveat of using this distinction for the intensity of firm-specific human capital. The measure asks for the training necessary to do the job. The highest possible category is a university degree. When it comes to university education, however, the degree of specificity of the human capital can differ largely. In addition, the requirement of a university degree to start a job does not convey too much about the intensity of the firm-specific training that is received thereafter. Besides, the numbers of persons who did not complete vocational training are very low. This is why I just separate the sample into persons with a university degree and persons without a university degree as a general indication of the value of the human capital of a person. Table 5 shows that wages are lower for women hired out of unemployment than for men. This is the case irrespective of the form of training or education necessary to do the job. It is thus interesting, how much of this gender pay gap is caused by the higher costs women imply for the employer.

Using SOEP data for the analysis however also implies some difficulties. The first one is that the reform most important for my analysis took place shortly after German reunification, which has had major repercussions on the labour market. In addition, these repercussions could have affected women differently than men, because of the higher participation rate of women in the former GDR. I aim to get around this mainly by only using SOEP Sample A, i. e. the original West German sample.

A second caveat is the information on education. The number of female university graduates, who are in childbearing age, but do not (yet) have children, and who are unemployed and at some point move into employment, is rather small. The sample size is sufficient when comparing women in childbearing age to men of the same age, but when reducing the sample further to women only for a comparison of women in childbearing age with women out of childbearing age, the sample of university graduates is too small. In these cases, I have to rely on the results of the comparison to men.

A third complication arises with the information on maternity leave spells. The explicit information on maternity leave spells is available in the SOEP only from 1990 onwards. It is important, however, to control for the negative wage effects after returning from maternity leave, and for the higher probability of re-entering employment because of the job protection law. This is the reason why I restrict the sample to persons without children, to make sure

that selection based on previous maternity does not confound the results.

A word of caution is also required with regard to the information on wages. For the sake of comparability, I rely on harmonised data on gross monthly wages and monthly household income, which are provided in EUR. Moreover, I use imputed income and wage data.

### **3.3 The German Microcensus**

In contrast to the German Socio-Economic Panel, the German Microcensus is a representative 1% sample from the German population, which exists since 1957. For my analysis, I compare data from the 1993 cross-section to data from the 1991 cross-section and data from the 1987 cross-section to data from the 1982 cross-section. This implies that I can use the Microcensus data for analysing the impact of the 1992 and 1993 reforms and the 1986 reform.

The 1993 cross-section contains information on approximately 800.000 persons in approximately 350.000 households. The survey for the 1993 cross-section took place in April 1993. This data set provides a larger sample size such that the small-sample issues for unemployed female university graduates in childbearing age, which arise with the SOEP, can be addressed. There are, however, also some caveats with regard to using Microcensus data. The major issue with analysing employment opportunities is defining the year when someone actually found employment. For the cross-section nature of this data set, information on previous employment status is not available for every cross-section. This is why I cannot analyse the transition into employment with this data set, but just the probability of being employed in addition to analysing the length of job search. This also complicates the analysis of the wages of the newly hired. As these cannot be identified properly, I rely on information about job changes. It must, however, be noted that persons who changed their job are not necessarily hired out of being unemployed, so the sample for the analysis of wages differs somewhat from the approach used with SOEP data. As net personal wages are not provided for the 1982 cross section, I restrict the analysis of wages to the 1991/1993 pooled sample.

### **3.4 German Social Security Data (IABS)**

In addition to larger samples, German social security data provides reliable data on maternity leave spells.<sup>7</sup>

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<sup>7</sup>Work on this is currently in progress. Please contact the author for first results.

## 4 Results

An extension in the job protection period in combination with an extension in the pay period worsens the position of women without a university degree on the job market. They face a lower probability of finding employment of about 3% if they were not employed previously. There are hardly any effects of a joint change in the job protection and the pay period on women with a university degree in 1986. In 1991, however, the joint change seems to have had a positive effect on women with higher education to be hired. A single change in either pay period or protection period does not seem to have similar effects.

The first possibility for the employer to react to changed economic conditions is just to refrain from hiring women in childbearing age. This can either imply increased hiring of men or less hiring altogether. The first regression in table 6 shows the regression results for a pooled cross section of observations comparing the situation in 1985 to 1986. The sample consists persons, who were younger than 40 and did not (yet) have a child in the base period. The question, which is to be answered with the regression analysis is whether unemployed women are less likely to find a job if they were looking for a job after the reform was implemented.

Many women work in part-time jobs. One of the reasons for this could be that they rather accept a part-time job than no job at all. At the same time, an employer might be more likely to hire a woman if she applies for a full-time job, because then it is less likely that she needs to care for her children or that she might have children soon. At the same time, men are mainly working in full-time jobs. For the sake of comparability, I exclude those observations who found a part-time job.<sup>8</sup> Other usual variables, which should determine employment opportunities are age, marital status, and to a lesser extent years of education in the previous year. Education should matter to a lesser extent, because I look at women with a university degree separately. Table 6 shows that the only (marginally) significant effect of the 1986 reform on women in childbearing age appears for women without university education, who would move (or move not) to a full-time job. For this group, the probability of finding employment would be reduced by around 3%. Effects of the 1986 reform on the duration of job search, as analysed with Microcensus data, are not significant. There is, however, an indication that there were more working women looking for a job, because they knew or expected that they were going to be laid off. This effect is only significant for women without a university degree.

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<sup>8</sup>Including these observations would lower the coefficient of treatment on the treatment somewhat, but would not change the significance of the results most of the time. Refer to tables 6–9 for a comparison of the samples.

There are several reasons for a negative effect of the 1986 reform on women without a university degree. First, women with higher education might return to work earlier anyway. If they delay their return to work too much, their career prospects would be severely hampered. Moreover, job protection was only half a year, which is considered appropriate by most employers even today. In addition, moving from maternity pay to maternity benefits would inflict larger income effects on women with higher education and thus promote their earlier return to work. For women with a lower income, the replacement income offered by the government (maternity benefits) would be a more serious alternative to working.

Table 7 confirms this interpretation somewhat. In July 1990 there was a strong extension in both the leave and the pay period. Again, there is a negative effect on women without a university degree of about 3% in 1991.<sup>9</sup> The effect on women with a university degree in childbearing age is strongly positive and around 19%. So it could well be that an increased duration of maternity benefits might mainly affect women without a university degree where income effects are stronger. This means that women without a university degree have become relatively more expensive for the employer, why he would rather hire women with higher education, among which the risk of a long absence is smaller.

The 1992 policy reform had no significant impact (table 8), but effects again seem to be of a different sign for women with and without a university degree. Interestingly, neither in 1992 or 1993 the magnitude of the effect for women without a university degree is very large. The 1993 reform, which just raised the period of maximum duration of maternity benefits seems to have had a negative effect also on women with a university degree (table 8), just like in 1986. In 1993, the effect on women with a university degree is even marginally significant in the sample, which includes women who moved into part-time jobs. An explanation for this could be the fact that the employer might even be better off if a woman without university education stays home longer. The costs with replacing her should decrease with the time span when she is on leave as it is more likely to find a substitute for a longer time. Additionally, in low-skilled jobs, the loss in human capital should not be as large, so readmitting her when she gets back should not be as costly. Therefore, any extension from 2 – 3 years either in job protection or pay period should not make much of a difference. The result for women with a university degree could appear in 1993 only, because this reform in the duration of pay complements the duration of job protection in 1992. The analysis of Microcensus data only allows for an estimation of the joint effect of these two reforms, and basically confirms the negative effect of the reform also on women with a university degree. Table 14 shows the first results from a robust ordered probit regression on the time of job search on the

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<sup>9</sup>Note that I included the year 1991 to be a treatment period, because the change only took effect in July 1990 and the SOEP sample does not allow to distinguish the month of job start for all observations in the sample.

sample of unemployed persons in the pooled cross-section of 1991 and 1993 Microcensus data. After the reform, women with a university degree are more likely to end up in the highest category, which means that they are more likely to be already searching for a job for two years or more. A simple probit model as displayed in table 15 on the probability of being employed also confirms the effect in the SOEP data. Women with a university degree are around 9% less likely to be employed after the policy change. This effect is significant. In this sample, even a negative and significant effect, albeit of smaller magnitude, appears for women without a university degree.

The analysis of SOEP data also includes an indicator variable for a temporary job contract. In the literature on job protection, temporary job contracts are mentioned as a means of counteracting the rigidities, which are enhanced by job protection legislation (e. g. Cahuc and Postel-Vinay 2002). Empirical research of fixed-duration contracts has shown that the introduction of such a type of contract increases flexibility and labour market flows (Goux et al. 2001; Blanchard and Landier 2001).<sup>10</sup> In fact, in the SOEP sample, starting on a temporary job contract also significantly raises the probability of starting a job.

The second possibility for the employer to react to changed economic conditions is to make women pay a risk premium for the possibility that some of them might have children. A useful approach to measuring a potential risk premium in pay is an estimation of the returns to education. I use a standard Mincer regression in a Heckman selection model setting, in which the previous analysis provides the first stage analysis to estimate the selection term. As women's elasticity of labour supply is much higher than men's I use monthly net household income as a proxy to job seeking intensity. This variable also serves as the exclusion restriction, because household income should not affect the individual wage if controlling for weekly work hours and restricting the type of job to be a full-time job. Table 1 reveals that indeed newly hired persons faced stronger incentives to take up work, as their average net monthly household income in the previous period is significantly lower than the net monthly household income of persons who are not employed and stay not employed.

I include a variable measuring whether a person's educational level corresponds to job requirements. This is meant to capture effects of women often accepting a job which is below their educational level after a long break or because the job is less demanding and so allows for the care of children. Weekly actual work hours are also meant to adjust for such an effect. Differences in pay, which may result from the type of job, are captured by including dummy variables indicating the type of industry. Here, too, an indicator for a temporary job contract is meant to capture differences, which may result from switching to only hiring

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<sup>10</sup>Boeri (1999) is an exception to this. He presents a model and empirical evidence that temporary contracts can decrease the probability of the unemployed finding a job.



on a temporary basis to alleviate the additional lay-off costs implied by job protection in maternity leave legislation. In table 11, a temporary job significantly reduces wages. Thus, temporary workers are not paid a premium as in Hagen (2001).

There is no negative effect of any treatment period on wages (table 10). The estimation indicates significant selection to be present in the sample. There is, however, a negative effect of treatment in the first stage regression (table 11), which confirms the previous analysis. Note that the sample is different than in the previous cases. For the reliability of the second stage analysis, I use the full panel from 1984 to 2000, and do not look at women with and without a university degree separately. Doing this reveals, however, that the significant negative treatment effect in 1993 is due to the women with a university degree. The inflated magnitude of the effect is due to including later periods and thus also allowing for a longer period of treatment coming to effect.

When performing a similar regression with Microcensus data, which allows for analysing the joint impact of the 1992 and 1993 reforms separately, and which also allows for separate regressions for women with and without a university degree, results are slightly different. Table 16 shows both first and second stage results for samples of persons with and without a university degree separately. Column (1) shows a marginally significant increase in wages for women without a university degree, while the effect on the probability of being employed, as displayed in column (3), is negative. Effects for women without a university degree are of a positive sign, but not significant. Apparently, hiring became more restrictive as changes in maternity leave legislation raised potential costs of hiring a woman, but if a highly-educated woman managed to get a job, she would be paid more. It has to be noted that the results in table 16 are indicative with respect to the magnitude of the coefficients, as income is measured in an ordinal variable of income categories, and the second stage regression is just a simple ols regression.

## 4.1 Some additional Sensitivity Analyses

A robustness check of the ‘placebo’ treatments, i. e. all other years in which no reform of maternity leave legislation was implemented, basically confirms the existence of significant effects in the 1991 and 1986 (table 12). This is also confirmed when using women aged 40 or older as a control group, but due to the sample size, these results should be interpreted with some caution (table 13). The placebo treatment strategy, when applied to the selection model not for all periods, but for two-year cross-sections also confirms the pooled analysis.

In addition, instead of comparing women with and without a university degree, I also compare women in jobs, which require a vocational training or a university degree to women

in jobs, which only require some introduction or short training period. Results are qualitatively similar, both for the linear probability model and the selection model. Wages never turn out to be significantly affected.

While there is no clear evidence that a job protection strategy in combination with a replacement income unambiguously worsens the labour market position of women with a university degree, this can be said about women without a university degree. The latter have to pay a risk premium: if previously not employed, it is more difficult to move to gainful employment after the policy reform. Moreover, excessively extended job protection and period of payment of replacement incomes seem to have a negative effect on the probability of finding employment for women with higher education, too. The analysis with Microcensus data however indicates that they can enjoy higher wages, if they manage to overcome employers' restrictive hiring practice and become hired. So while already a relatively short spell of receiving replacement incomes makes it more difficult to find a job for women without a university degree, women with higher education are less likely to be hired if the entitlement period is very long. Generally, it is the combination of job protection and replacement income that matters.

## 5 Conclusion

This paper sheds light on the effects of maternity leave legislation on the labour market outcomes for women, without restricting the analysis to mothers. By using exogenous variation in the length of the job protection and benefit entitlement period, the analysis uses a difference-in-differences strategy to show the effect of legislation changes on women's wages and employment opportunities.

The analysis is based on a model, which assumes that a long leave period imposes costs on the employer. As the employer cannot know which female employee becomes pregnant, a risk premium has to be borne by all females willing to participate in the labour market. The contribution of the empirical analysis is twofold. First, I estimate whether employment opportunities change after the changes in legislation. The analysis shows that a prolongation of job protection by 4 months in combination with a prolongation in the entitlement period by the same time mainly affects women without a university degree. Their chances to find (full-time) employment decrease by about 3%. A prolongation of benefit entitlement by a year, from a level of two years, however, also negatively affects the employment opportunities women with a university degree in childbearing age, while there does not seem to be an additional effect for women without a university degree. My results indicate that it is

the combination of both measures, which worsens the labour market position of women in childbearing age.

Second, the estimation of women's returns to education with a selection model confirms selection, but also shows that once a woman has found a job, there is no remaining wage penalty associated with being in childbearing age.

One should always keep in mind, that other changes in maternity leave legislation have positive effects on female labour supply (e. g. Ruhm 1998; Schönberg and Ludsteck 2007). The prevailing focus on supply side effects, however, does not cover the whole story. As my results indicate, too long a leave period worsens women's position in the labour market. Given the evidence for hampered employment opportunities, which are associated with too generous maternity leave policies, recent moves towards more generous policies and in particular lengthier job protection in combination with lengthier benefit entitlement periods should be regarded with caution. These policies implicitly worsen the labour market position of women in childbearing age. Employers react to an implicit rise in expected costs associated with higher social standards with more selective hiring.

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# Appendix

## A: Figures

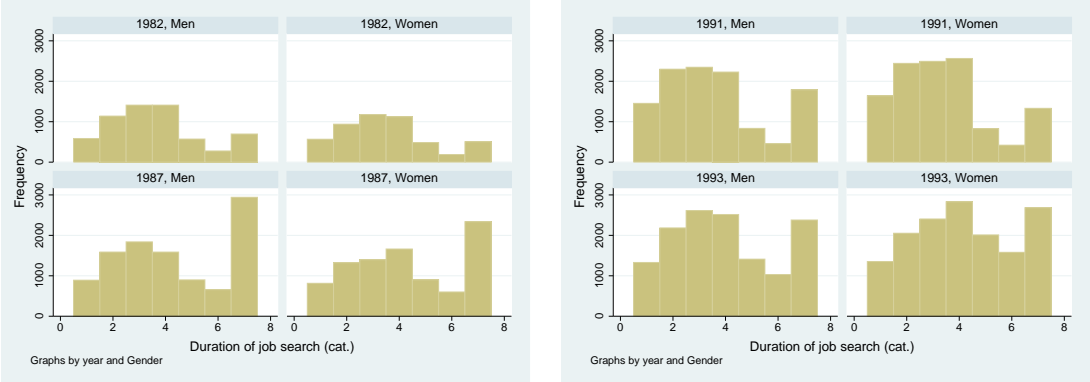
Figure 1: NET INCOME (CAT.) IN THE POOLED 1991/1993 MICROCENSUS SAMPLE



Categories: 1: less than 300 DM 2: 300-600 DM, 3: 600-1000 DM, 4: 1000-1400 DM, 5: 1400-1800 DM, 6: 1800-2200 DM, 7: 2200-2600 DM, 2200-2500 DM, 8: 2500-3000 DM, 9: 3000-3500 DM, 10: 3500-4000 DM, 11: 4000-4500 DM, 12: 4500-5000 DM, 13: 5000-5500 DM, 14: 5500-6000 DM, 15: 6000-6500 DM, 16: 6500-7000 DM, 17: 7000-7500 DM, 18: 7500 DM and more.



Figure 2: DURATION OF JOB SEARCH (CAT.) IN THE POOLED MICROCENSUS SAMPLES



Categories: 1: less than 1 month, 2: 1-3 months, 3: 3-6 months, 4: 6-12 months, 5: 12-18 months, 6: 18-24 months, 7: 24 months and more.

## B: Tables

Table 1: SUMMARY STATISTICS FOR SELECTED VARIABLES (SOEP)

Variable	(1)		(2)		(3)		(4)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Gross monthly income (EUR)	1594.02	630.92	1930.08	1087.64			1918.3	1074.33
Work hours per week	42.56	7.75	42.38	8.49			42.19	8.75
Firm Size	7.27	2.62	7.84	2.46			7.8	2.48
Intensity of job training	4.45	1.43	4.54	1.19			4.60	1.16
Years in unemployment	0.75	1.31	0.25	0.76	0.35	1.19	0.27	0.75
Years with firm			6.36	5.24			6.06	5.25
Net monthly HH inc. in $t - 1$	1770.5	1132.13	2066.75	1167.97	2074.89	1399.69	2053.18	1182.37
Age in $t - 1$	25.63	4.83	29.03	5.21	21.68	4.76	28.9	5.23
Obs.		<b>701</b>		<b>14568</b>		<b>6382</b>		<b>14874</b>

Column (1) shows summary statistics for all persons in the panel 1985 – 2000 who found a full-time job if previously unemployed. Column (2) displays summary statistics for all persons employed in a full-time or part-time job and did not experience a change in labour market status. Column (3) shows summary statistics for all persons, who are not employed and did not experience a change in their labour market status. Column (4) shows summary statistics for the full sample, i. e. for all persons for whom labour market status is known. All statistics refer to persons in SOEP sample A who did not (yet) have their first child.

Table 2: SUMMARY STATISTICS FOR SELECTED DUMMY VARIABLES (SOEP)

<b>Variable</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Gender (D)	0.26	0.36	0.4	0.36
Temporary job contract (D)	0.23	0.04		0.05
Full-time job (D)	1	0.97		0.96
Education corresponds to job requ. (D)	0.64	0.70		0.69
Industry: service (D)	0.24	0.25		0.25
Industry: manufacturing (D)	0.24	0.25		0.24
Industry: construction (D)	0.15	0.12		0.12
Industry: retail (D)	0.1	0.12		0.12
Industry: public service (D)	0.05	0.12		0.11
Married in $t - 1$ (D)	0.14	0.37	0.06	0.36
University degree in $t - 1$ (D)	0.09	0.13	0.02	0.14
Obs.	<b>763</b>	<b>15658</b>	<b>6382</b>	<b>14874</b>

Column (1) shows summary statistics for all persons in the panel 1985 – 2000 who found a full-time job if previously unemployed. Column (2) displays summary statistics for all persons employed in a full-time or part-time job and did not experience a change in labour market status. Column (3) shows summary statistics for all persons, who are not employed and did not experience a change in their labour market status. Column (4) shows summary statistics for the full sample, i. e. for all persons for whom labour market status is known. All statistics refer to persons in SOEP sample A who did not (yet) have their first child.

Table 3: SUMMARY STATISTICS FOR SELECTED VARIABLES (MICROCENSUS)

Variable	(1)		(2)		(3)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>Pooled Sample 1991 and 1993</b>						
Age	29.6	5.91	27.74	5.11	28.79	5.5
No. of persons in HH	1.49	0.69	1.48	0.78	1.52	0.63
Town size	3.27	1.28	3.57	1.28	3.26	1.27
Net income (cat.)	3.26	1.26	3.12	1.8	5.98	2.69
Gender (D)	0.41	0.49	0.48	0.51	0.47	0.5
Married (D)	0.27	0.45	0.22	0.42	0.32	0.47
German (D)	0.87	0.34	0.89	0.31	0.93	0.26
Working (D)	0.02	0.13	0.04	0.21	0.79	0.41
Receives unempl. benefits (D)	0.75	0.43	0	0	0.04	0.2
Highest school degree: Higher sec. (D)	0.2	0.4	0.11	0.31	0.12	0.33
Highest school degree: Lower sec. (D)	0.14	0.34	0.15	0.36	0.23	0.42
Household head (D)	0.71	0.45	0.59	0.5	0.71	0.46
Only search part-time (D)	0.04	0.2	0.04	0.21	0.01	0.08
Only search full-time (D)	0.69	0.46	0.28	0.46	0.07	0.26
Public official (D)	0.01	0.09	0.02	0.15	0.05	0.23
Employee (D)	0.33	0.47	0.37	0.49	0.48	0.5
Worker (D)	0.56	0.5	0.28	0.46	0.3	0.46
In voc. training (D)	0.02	0.15	0.07	0.25	0.03	0.17
Self-employed (D)	0.02	0.15	0.02	0.15	0.05	0.22
No. of obs.	<b>5873</b>		<b>46</b>		<b>107721</b>	
<b>Pooled Sample 1982 and 1987</b>						
Age	27.36	6.10	27.39	5.52	26.92	5.98
Town size	7.73	4.11	7.89	3.36	7.39	4.05
Gender (D)	0.4	0.49	0.46	0.5	0.45	0.5
Married (D)	0.24	0.43	0.27	0.44	0.3	0.46
German (D)	0.86	0.35	0.83	0.38	0.92	0.27
Working (D)	0.02	0.15	0	0	0.76	0.43
Receives unempl. benefits (D)	0.68	0.47	0	0	0.04	0.2
Highest school degree: Higher sec. (D)	0.15	0.36	0.38	0.49	0.28	0.45
Highest school degree: Lower sec. (D)	0.17	0.37	0.25	0.43	0.26	0.44
Household head (D)	0.53	0.5	0.53	0.5	0.51	0.5
Only search part-time (D)	0.04	0.21	0.1	0.3	0.01	0.07
Only search full-time (D)	0.73	0.44	0.4	0.49	0.07	0.25
Public official (D)	0.01	0.07	0.01	0.09	0.05	0.23
Employee (D)	0.24	0.43	0.33	0.47	0.37	0.48
Worker (D)	0.63	0.48	0.41	0.49	0.29	0.45
In voc. training (D)	0.02	0.15	0.01	0.12	0.06	0.24
Self-employed (D)	0.01	0.11	0.01	0.09	0.04	0.19
No. of obs.	<b>7613</b>		<b>134</b>		<b>121280</b>	

Column (1) shows summary statistics for all persons, who are unemployed in the sample, and who do not yet have another job offer. Column (2) displays summary statistics for all persons who are unemployed, but did already receive another job offer. Column (3) shows summary statistics for the full pooled 1991 and 1993 sample. All statistics refer to persons aged 18 – 40, who do not have children. Net monthly income is a categorical variable, which is available on a personal level for the pooled 1991/1993 sample only. 1: less than 300 DM, 2: 300-600 DM, 3: 600-1000 DM, 4: 1000-1400 DM, 5: 1400-1800 DM, 6: 1800-2200 DM, 7: 2200-2600 DM, 8: 2600-3000 DM, 9: 3000-3500 DM, 10: 3500-4000 DM, 11: 4000-4500 DM, 12: 4500-5000 DM, 13: 5000-5500 DM, 14: 5500-6000 DM, 15: 6000-6500 DM, 16: 6500-7000 DM, 17: 7000-7500 DM, 18: 7500 DM and more.

Table 4: PERCENTAGE OF PREVIOUSLY UNEMPLOYED FINDING A JOB (SOEP)

Year	No or short training, courses				Vocational training or university degree			
	Men	Obs.	Women	Obs.	Men	Obs.	Women	Obs.
1985	.0594059	208	.0869565	70	.0223881	557	.0384615	279
1986	.0684211	193	.0606061	71	.0471311	504	.0205761	258
1987	.0758294	214	.1265823	83	.0545073	500	.0649351	256
1988	.0515464	204	.0684932	78	.0717489	466	.0343348	256
1989	.0895522	208	.1481481	89	.0644444	496	.0536398	304
1990	.0706522	190	.0348837	98	.047836	464	.027027	279
1991	.0443038	162	.0133333	78	.0655738	463	.0380228	290
1992	.0759494	159	.0533333	78	.0542453	446	.024	268
1993	.0592593	139	.0149254	69	.0636364	469	.0163265	272
1994	.0970149	139	0	59	.0691964	457	.0362903	263
1995	.1037037	138	.0483871	64	.0764045	464	.027668	274
1996	.0666667	123	.0357143	59	.0741627	427	.029661	249
1997	.0588235	120	.0217391	51	.0765306	411	.0197628	272
1998	.0659341	95	.0222222	48	.0595855	407	.028	271
1999	.0595238	89	.0833333	51	.0517711	384	.0357143	269
2000	.1025641	79	.1212121	35	.0235294	358	.0423077	287

The table displays the percentage of persons, who were unemployed in  $t - 1$  and who found a job in the respective year relative to persons without a job change. Numbers refer to persons in SOEP Sample A aged younger than 40, who did not (yet) have their first child.

Table 5: WAGES OF THE NEWLY HIRED (SOEP)

Year	No or short training, courses				Vocational training or university degree			
	Men	Obs.	Women	Obs.	Men	Obs.	Women	Obs.
1985	1316.7683	12	876.60167	6	1390.7508	12	1136.75	10
1986	1273.3892	13	547.08	4	1468.5135	23	1218.61	5
1987	1240.6775	16	1101.942	10	1379.5562	26	1276.8953	15
1988	1347.712	10	951	5	1426.4184	32	1155.3838	8
1989	1284.5094	18	1055.755	12	1585.9366	29	1125.2314	14
1990	1158.4546	13	1212.27	3	1550.8729	21	1166.69	7
1991	1247.88	7	1048.14	1	1559.5625	28	1345.204	10
1992	1559.4333	12	1112.055	4	1763.9748	23	1518.5283	6
1993	1726.4338	8	306.77	1	1819.1568	28	2288.02	4
1994	1515.6492	13		0	1903.7245	31	1473.5333	9
1995	2086.5014	14	1602.8967	3	2119.7271	34	1556.66	7
1996	1533.8675	8	2236.895	2	1971.0442	31	1947.8743	7
1997	1781.0629	7	1278.22	1	2081.6657	30	1327.384	5
1998	1753.725	6	1048.66	1	1861.9783	23	1437.4414	7
1999	1400.442	5	1636.1275	4	2029.5511	19	1667.43	9
2000	1780.5975	8	1495.54	4	2098.78	8	1382.2936	11

The table displays the average gross wage of persons who were unemployed in  $t - 1$  and who found a job in the respective year. Numbers refer to persons in SOEP Sample A aged younger than 40, who did not (yet) have their first child.

Table 6: REGRESSION RESULTS – EMPLOYMENT OPPORTUNITIES: REFORM 1986 (SOEP)

	(1)	(2)	(3)	(4)
Year 1986 * gender (D)	-0.059 (.054)	-.054 (.049)	-.032 (.017)*	-.025 (.018)
Gender (D)	.010 (.045)	-.012 (.044)	-.007 (.015)	-.009 (.015)
Year: 1986 (D)	.038 (.026)	.038 (.027)	.023 (.011)**	.025 (.011)**
Temporary job contract (D)	.059 (.062)	.093 (.059)	.130 (.048)***	.134 (.047)***
Age in $t - 1$	-.103 (.063)	-.079 (.061)	-.030 (.009)***	-.031 (.009)***
Age in $t - 1$ sq.	.001 (.0009)	.001 (.0009)	.0005 (.0001)***	.0005 (.0001)***
Work hours per week	.0003 (.001)	-.001 (.001)	.0001 (.0005)	-.0007 (.0006)
Married in $t - 1$ (D)	-.003 (.027)	.006 (.026)	-.012 (.009)	-.008 (.009)
Net monthly HH income in $t - 1$	-.00008 (.00004)**	-.00008 (.00004)*	-.00002 (1.00e-05)*	-.00002 (1.00e-05)
Net HH income in $t - 1$ sq. /100000	.001 (.0006)*	.0009 (.0005)	.00007 (.00003)**	.00006 (.00003)*
Years of education in $t - 1$	-.040 (.017)**	-.049 (.018)***	-.004 (.005)	-.006 (.005)
Fachhochschule (D)	-.091 (.054)*	-.120 (.056)**		
First child born in current yr. (D)	-.068 (.027)**	-.069 (.027)**	-.007 (.016)	-.010 (.015)
Required educ. for job (D)	.046 (.028)*	.058 (.028)**	-.005 (.011)	-.007 (.011)
Industry: service (D)	-.067 (.048)	-.058 (.048)	-.045 (.015)***	-.048 (.015)***
Industry: manufacturing (D)	-.030 (.050)	-.029 (.050)	-.045 (.015)***	-.049 (.016)***
Industry: construction (D)	.016 (.065)	.015 (.065)	-.046 (.018)**	-.053 (.019)***
Industry: retail (D)	-.089 (.063)	-.122 (.066)*	-.055 (.017)***	-.059 (.018)***
Industry: public service (D)	-.050 (.050)	-.063 (.049)	-.059 (.016)***	-.061 (.017)***
Intensity of training necessary for job	.019 (.012)	.013 (.013)	-.014 (.006)**	-.014 (.006)**
Obs.	277	307	1885	1957

The table displays the effect of maternity leave legislation on the probability of finding employment for women in childbearing age who either found a job in 1986 if previously unemployed or found a job in 1985 if previously unemployed as compared to persons without a change in labour market status. The associated change in maternity leave legislation was an extension of the job protection period from 6 to 10 months and an increase of 4 months in the maximum duration of the pay of maternity benefits ((300€ a month). The sample covers persons aged 40 or younger in SOEP sample A, who do not (yet) have a child. The interaction term of the year of treatment and gender indicates the treatment on the treated as in a difference-in-difference linear probability model. Column (1) covers university graduates in a full-time job. Column (2) covers university graduates in both full-time and part-time jobs. Column (3) displays results for persons without a university degree in full-time jobs, while column (4) displays results for persons without a university degree in both full-time and part-time jobs.

Table 7: REGRESSION RESULTS – EMPLOYMENT OPPORTUNITIES: REFORM 1990 (SOEP)

	(1)	(2)	(3)	(4)
Year 1990 * gender (D)	.030 (.043)	.018 (.047)	-.017 (.016)	-.019 (.017)
Year 1991 * gender (D)	.199 (.057)***	.215 (.060)***	-.032 (.016)*	-.035 (.017)**
Gender (D)	-.120 (.030)***	-.106 (.029)***	-.031 (.012)**	-.034 (.013)***
Year: 1990 (D)	-.012 (.032)	.014 (.032)	-.002 (.011)	-.005 (.011)
Year: 1991 (D)	-.087 (.026)***	-.075 (.027)***	.013 (.011)	.013 (.012)
Temporary job contract (D)	.263 (.062)***	.250 (.056)***	.209 (.037)***	.214 (.035)***
Age in $t - 1$	-.031 (.050)	-.051 (.052)	-.036 (.007)***	-.039 (.007)***
Age in $t - 1$ sq.	.0003 (.0008)	.0006 (.0008)	.0005 (.0001)***	.0006 (.0001)***
Work hours per week	-.001 (.001)	-.003 (.001)**	-.0003 (.0005)	-.002 (.0005)***
Married in $t - 1$ (D)	.0007 (.020)	.008 (.020)	-.024 (.007)***	-.019 (.007)***
Net monthly HH income in $t - 1$	-.00008 (.00003)***	-.00008 (.00003)***	-.00002 (5.45e-06)***	-.00002 (5.58e-06)***
Net HH income in $t - 1$ sq. /100000	.0009 (.0003)**	.0009 (.0004)**	.00006 (.00002)***	.00007 (.00002)***
Years of education in $t - 1$	-.082 (.017)***	-.085 (.016)***	.007 (.003)**	.009 (.003)***
Fachhochschule (D)	-.215 (.046)***	-.238 (.045)***		
First child born in current yr. (D)	.013 (.035)	.006 (.035)	-.014 (.010)	-.016 (.011)
Required educ. for job (D)	.011 (.027)	.003 (.027)	.012 (.008)	.003 (.009)
Industry: service (D)	-.034 (.036)	-.020 (.035)	-.017 (.014)	-.016 (.014)
Industry: manufacturing (D)	-.026 (.041)	-.035 (.039)	-.037 (.013)***	-.042 (.013)***
Industry: construction (D)	-.030 (.058)	-.023 (.056)	-.039 (.014)***	-.042 (.014)***
Industry: retail (D)	-.012 (.055)	-.030 (.056)	-.038 (.015)***	-.030 (.015)**
Industry: public service (D)	-.085 (.046)*	-.091 (.046)**	-.055 (.013)***	-.060 (.013)***
Intensity of training necessary for job	-.021 (.015)	-.027 (.015)*	-.010 (.004)**	-.013 (.004)***
Obs.	535	570	3630	3778

The table displays the effect of maternity leave legislation on the probability of finding employment for women in childbearing age who either found a job in 1991/1990 if previously unemployed or found a job in 1989 if previously unemployed as compared to persons without a change in labour market status. The associated change in maternity leave legislation was an extension of the job protection period from 10 to 18 months and an increase of 8 months in the maximum duration of the pay of maternity benefits ((300€ a month). As this took place in July 1990, the specification accounts for both effects in 1990 and 1991, because information on the exact month of starting the job is missing. The sample covers persons aged 40 or younger in SOEP sample A, who do not (yet) have a child. The interaction term of the year of treatment and gender indicates the treatment on the treated as in a difference-in-difference linear probability model. Column (1) covers university graduates in a full-time job. Column (2) covers university graduates in both full-time and part-time jobs. Column (3) displays results for persons without a university degree in full-time jobs, while column (4) displays results for persons without a university degree in both full-time and part-time jobs.



Table 8: REGRESSION RESULTS – EMPLOYMENT OPPORTUNITIES: REFORM 1992 (SOEP)

	(1)	(2)	(3)	(4)
Year 1992 * gender (D)	.071 (.060)	.048 (.060)	-.008 (.015)	-.007 (.016)
Gender (D)	-.017 (.030)	-.016 (.032)	-.052 (.011)***	-.055 (.011)***
Year: 1992 (D)	-.026 (.025)	-.030 (.026)	.012 (.012)	.010 (.012)
Temporary job contract (D)	.240 (.093)***	.293 (.085)***	.213 (.057)***	.196 (.050)***
Age in $t - 1$	-.095 (.065)	-.132 (.069)*	-.019 (.009)**	-.024 (.009)***
Age in $t - 1$ sq.	.001 (.001)	.002 (.001)*	.0003 (.0001)*	.0004 (.0001)**
Work hours per week	.001 (.001)	-.002 (.002)	-.0004 (.0006)	-.001 (.0006)**
Married in $t - 1$ (D)	.035 (.026)	.045 (.027)	-.026 (.007)***	-.022 (.007)***
Net monthly HH income in $t - 1$	-.0001 (.00006)	-.0001 (.00007)**	-1.00e-05 (6.05e-06)*	-1.00e-05 (5.99e-06)**
Net HH income in $t - 1$ sq. /100000	.002 (.001)	.002 (.001)*	.00003 (.00002)*	.00004 (.00002)**
Years of education in $t - 1$	-.042 (.018)**	-.037 (.017)**	.004 (.003)	.003 (.003)
Fachhochschule (D)	-.100 (.055)*	-.104 (.052)**		
First child born in current yr. (D)	.078 (.061)	.068 (.059)	-.010 (.013)	-.005 (.014)
Required educ. for job (D)	.009 (.030)	-.008 (.034)	.004 (.010)	-.002 (.010)
Industry: service (D)	-.049 (.045)	-.016 (.043)	-.009 (.016)	-.005 (.016)
Industry: manufacturing (D)	-.047 (.048)	-.047 (.045)	-.030 (.015)*	-.034 (.015)**
Industry: construction (D)	-.060 (.054)	-.044 (.049)	-.025 (.018)	-.028 (.018)
Industry: retail (D)	-.098 (.052)*	-.062 (.058)	-.022 (.017)	-.016 (.017)
Industry: public service (D)	-.092 (.060)	-.098 (.058)*	-.050 (.015)***	-.053 (.015)***
Intensity of training necessary for job	-.035 (.021)	-.036 (.021)*	-.004 (.005)	-.005 (.005)
Obs.	375	400	2630	2731

The table displays the effect of maternity leave legislation on the probability of finding employment for women in childbearing age who either found a job in 1992 if previously unemployed or found a job in 1991 if previously unemployed as compared to persons without a change in labour market status. The associated change in maternity leave legislation was an extension of the job protection period from 18 to 36 months, which came to effect on January 1st, 1992. The sample covers persons aged 40 or younger in SOEP sample A, who do not (yet) have a child. The interaction term of the year of treatment and gender indicates the treatment on the treated as in a difference-in-difference linear probability model. Column (1) covers university graduates in a full-time job. Column (2) covers university graduates in both full-time and part-time jobs. Column (3) displays results for persons without a university degree in full-time jobs, while column (4) displays results for persons without a university degree in both full-time and part-time jobs.

Table 9: REGRESSION RESULTS – EMPLOYMENT OPPORTUNITIES: REFORM 1993 (SOEP)

	(1)	(2)	(3)	(4)
Year 1993 * gender (D)	-.055 (.059)	-.107 (.059)*	-.008 (.015)	-.006 (.015)
Gender (D)	.058 (.037)	.061 (.038)	-.066 (.011)***	-.070 (.011)***
Year: 1993 (D)	.030 (.022)	.042 (.024)*	.002 (.012)	.002 (.012)
Temporary job contract (D)	.312 (.096)***	.349 (.092)***	.180 (.058)***	.172 (.052)***
Age in $t - 1$	-.076 (.060)	-.084 (.060)	-.031 (.009)***	-.037 (.009)***
Age in $t - 1$ sq.	.001 (.0009)	.001 (.0009)	.0004 (.0001)***	.0005 (.0002)***
Work hours per week	.003 (.001)**	.001 (.001)	-.001 (.0005)**	-.002 (.0006)***
Married in $t - 1$ (D)	.024 (.023)	.023 (.023)	-.011 (.007)	-.009 (.007)
Net monthly HH income in $t - 1$	-.00006 (.00005)	-.00009 (.00006)	-7.46e-06 (5.17e-06)	-1.00e-05 (5.19e-06)**
Net HH income in $t - 1$ sq. /100000	.0007 (.001)	.001 (.001)	.00002 (1.00e-05)	.00003 (1.00e-05)**
Years of education in $t - 1$	-.052 (.016)***	-.041 (.014)***	.003 (.003)	.003 (.003)
Fachhochschule (D)	-.131 (.043)***	-.118 (.041)***		
First child born in current yr. (D)	.069 (.063)	.054 (.061)	-.011 (.010)	-.004 (.013)
Required educ. for job (D)	.029 (.026)	.011 (.030)	-.003 (.010)	-.004 (.010)
Industry: service (D)	-.083 (.042)**	-.049 (.043)	-.0009 (.016)	.006 (.015)
Industry: manufacturing (D)	-.063 (.043)	-.056 (.041)	-.014 (.015)	-.014 (.015)
Industry: construction (D)	-.087 (.044)**	-.068 (.042)	-.015 (.018)	-.015 (.018)
Industry: retail (D)	-.100 (.044)**	-.054 (.055)	-.008 (.016)	.0002 (.017)
Industry: public service (D)	-.105 (.056)*	-.099 (.054)*	-.040 (.015)***	-.042 (.014)***
Intensity of training necessary for job	-.017 (.018)	-.031 (.019)	-.003 (.005)	-.006 (.005)
Obs.	357	383	2562	2665

The table displays the effect of maternity leave legislation on the probability of finding employment for women in childbearing age who either found a job in 1993 if previously unemployed or found a job in 1992 if previously unemployed as compared to persons without a change in labour market status. The associated change in maternity leave legislation was an extension of the maximum duration of the pay of maternity benefits (300€ a month) from 18 to 24 months. The sample covers persons aged 40 or younger in SOEP sample A, who do not (yet) have a child. The interaction term of the year of treatment and gender indicates the treatment on the treated as in a difference-in-difference linear probability model. Column (1) covers university graduates in a full-time job. Column (2) covers university graduates in both full-time and part-time jobs. Column (3) displays results for persons without a university degree in full-time jobs, while column (4) displays results for persons without a university degree in both full-time and part-time jobs.

Table 10: REGRESSION RESULTS – WAGES (SELECTION MODEL) (SOEP)

Dep. var:	Log gross monthly wage
Year: 1986 – 1989 (D)	.083 (.084)
Year: 1986 – 1989 * gender (D)	-.050 (.131)
Year: 1990 – 1991 (D)	.142 (.090)
Year: 1990 – 1991 * gender (D)	-.001 (.152)
Year: 1992 (D)	.316 (.100)***
Year 1992 * gender (D)	-.202 (.179)
Year 1993 – 2000 (D)	.399 (.083)***
Year 1993 – 2000 * gender (D)	-.078 (.131)
Gender (D)	-.153 (.120)
Temporary job contract (D)	-.030 (.059)
Age	.098 (.032)***
Age sq.	-.002 (.0005)***
Work hours per week	.006 (.002)***
Married (D)	-.037 (.040)
Years of education	-.009 (.009)
University degree (D)	.314 (.082)***
First child born in current yr. (D)	.003 (.088)
Required educ. for job (D)	-.058 (.039)
Industry: service (D)	-.081 (.043)*
Industry: manufacturing (D)	-.005 (.044)
Industry: construction (D)	.006 (.048)
Industry: retail (D)	-.053 (.054)
Industry: public service (D)	-.142 (.079)*
Intensity of training necessary for job	.034 (.015)**
Mills ratio	.168 (.022)**
Obs.	15270

The table displays the effect of the reforms in maternity leave legislation on the wages of the newly hired as second stage results from a Heckman type selection model. Newly hired refers to persons who were previously unemployed and found a job. Exclusion restriction: net household income per person living in the household in  $t - 1$ . The associated changes in maternity leave legislation took place in 1986, 1990, 1992 and 1993. The sample covers persons aged 40 or younger in SOEP sample A, who do not (yet) have a child.

Table 11: REGRESSION RESULTS – WAGES (SELECTION MODEL) – SELECTION EQUATION (SOEP)

Dep. var:	Prob. of finding empl.
Year: 1986 – 1989 (D)	.315 (.106)**
Year: 1986 – 1989 * gender (D)	-.150 (.177)
Year: 1990 – 1991 (D)	.315 (.116)**
Year: 1990 – 1991 * gender (D)	-.327 (.200)
Year: 1992 (D)	.414 (.133)**
Year 1992 * gender (D)	-.331 (.236)
Year 1993 – 2000 (D)	.476 (.104)**
Year 1993 – 2000 * gender (D)	-.385 (.173)**
Gender (D)	-.149 (.162)
Temporary job contract (D)	.834 (.058)**
Age in $t - 1$	-.156 (.038)**
Age in $t - 1$ sq.	.002 (.001)**
Weekly work hours	-.002 (.002)
Married in $t - 1$ (D)	-.290 (.052)**
Years of education in $t - 1$ (D)	-.057 (.013)**
Net monthly HH income in $t - 1$	.000 (.000)**
Net HH income in $t - 1$ sq. /100000	.001 (.000)**
University degree in $t - 1$	-.300 (.097)**
First child born in current yr. (D)	-.122 (.109)
Required educ. for job (D)	-.140 (.051)**
Industry: service (D)	-.187 (.059)**
Industry: manufacturing (D)	-.300 (.057)**
Industry: construction (D)	-.182 (.066)**
Industry: retail (D)	-.304 (.071)**
Industry: public service (D)	-.705 (.089)**
Intensity of training necessary for job	-.009 (.021)
Obs.	15270

The table displays the change in the probability of finding a job if previously unemployed compared to persons without a change in labour market status as first stage results from a Heckman type selection model. Exclusion restriction: net household income per person living in the household in  $t - 1$ . The associated changes in maternity leave legislation took place in 1986, 1990, 1992 and 1993. The sample covers persons aged 40 or younger in SOEP sample A, who do not (yet) have a child.

Table 12: SENSITIVITY ANALYSIS – EMPLOYMENT OPPORTUNITIES (CONTROL GROUP: MEN) (SOEP)

	UNIVERSITY DEGREE				
	Year 1986	Year 1987	Year 1988	Year 1989	Year 1990
	(1)	(2)	(3)	(4)	(5)
Gender * Year (D)	-.059 (.054)	.080 (.067)	-.040 (.048)	-.077 (.053)	.035 (.043)
Obs.	277	414	405	414	410

	NO UNIVERSITY DEGREE				
	Year 1986	Year 1987	Year 1988	Year 1989	Year 1990
	(1)	(2)	(3)	(4)	(5)
Gender * Year (D)	-.032 (.017)*	.013 (.017)	-.002 (.017)	.023 (.019)	-.017 (.016)
Obs.	1885	2811	2713	2767	2748

	UNIVERSITY DEGREE						
	Year 1991	Year 1992	Year 1993	Year 1995	Year 1996	Year 1997	Year 1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gender * Year (D)	.185 (.058)***	.071 (.060)	-.055 (.059)	-.003 (.059)	-.013 (.058)	-.074 (.050)	.021 (.047)
Obs.	394	375	357	384	412	429	438

	NO UNIVERSITY DEGREE							
	Year 1991	Year 1992	Year 1993	Year 1994	Year 1995	Year 1996	Year 1997	Year 1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gender * Year (D)	-.030 (.016)**	-.008 (.015)	-.008 (.015)	.005 (.016)	-.010 (.017)	.008 (.018)	.006 (.017)	.008 (.017)
Obs.	2759	2630	2562	2472	2437	2317	2235	2107

The table displays the change in the probability of finding a job if previously unemployed compared to persons without a change in labour market status. Major changes in maternity leave legislation took place in January 1986, July 1990, January 1992, and January 1993. The sample covers women in SOEP sample A, who do not (yet) have a child. Treatment is defined as being younger than 40. The table shows the interaction term as of a cross-sectional difference-in-difference linear probability model.

Table 13: SENSITIVITY ANALYSIS – EMPLOYMENT OPPORTUNITIES (CONTROL GROUP: WOMEN AGED 41 OR ABOVE) (SOEP)

	UNIVERSITY DEGREE				
	Year 1986	Year 1987	Year 1988	Year 1989	Year 1990
	(1)	(2)	(3)	(4)	(5)
Age < 41 * Year (D)	-.067 (.071)	.093 (.065)	.004 (.058)	-.023 (.040)	-.005 (.038)
Obs.	93	141	143	149	152

	NO UNIVERSITY DEGREE				
	Year 1985	Year 1986	Year 1987	Year 1988	Year 1989
	(1)	(2)	(3)	(4)	(5)
Age < 41 * Year (D)	-.006 (.015)	.025 (.015)*	-.012 (.014)	.017 (.017)	-.030 (.012)**
Obs.	708	1054	1029	1093	1132

	UNIVERSITY DEGREE							
	Year 1991	Year 1992	Year 1993	Year 1994	Year 1995	Year 1996	Year 1997	Year 1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age < 41 * Year (D)	.078 (.061)	.055 (.061)	.015 (.068)	-.031 (.055)	-.097 (.065)	.006 (.061)	.004 (.059)	-.116 (.081)
Obs.	148	147	140	140	140	150	167	182

	NO UNIVERSITY DEGREE							
	Year 1991	Year 1992	Year 1993	Year 1994	Year 1995	Year 1996	Year 1997	Year 1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age < 41 * Year (D)	-.040 (.025)	-.012 (.025)	.008 (.016)	.016 (.014)	.009 (.010)	.004 (.011)	-.030 (.026)	-.007 (.024)
Obs.	1178	1130	1103	1051	1039	1001	993	967

The table displays the change in the probability of finding a job if previously unemployed compared to persons without a change in labour market status. Major changes in maternity leave legislation took place in January 1986, July 1990, January 1992, and January 1993. The sample covers women in SOEP sample A, who do not (yet) have a child. Treatment is defined as being younger than 40. The table shows the interaction term as of a cross-sectional difference-in-difference linear probability model.

Table 14: REGRESSION RESULTS – DURATION OF JOB SEARCH: REFORM 1992 AND 1993 (MICROCENSUS)

	(1)	(2)	(3)	(4)
Dep. var: time of job search				
Year: 1993 * gender (D)	.085 (.045)*	-.129 (.117)		
Year 1993 * age ≤ 40 (D)			-.171 (.046)***	-.207 (.174)
Year: 1993 (D)	.015 (.030)	.035 (.077)	.261 (.031)***	.118 (.151)
Gender (D)	-.095 (.035)***	.095 (.089)		
Age ≤ 40 (D)			.398 (.062)***	.370 (.213)*
Age	.020 (.020)	.057 (.091)	.042 (.008)***	.136 (.033)***
Age sq.	.0003 (.0003)	-.0001 (.001)	-.0001 (.00009)	-.001 (.0004)***
No. of persons in HH	-.019 (.020)	.021 (.068)	-.019 (.027)	-.024 (.114)
Married (D)	-.093 (.029)***	.009 (.079)	-.140 (.034)***	.016 (.097)
German (D)	-.097 (.039)**	-.073 (.111)	-.029 (.052)	-.019 (.149)
Receives unempl. benefits (D)	-.070 (.035)**	-.152 (.095)	-.381 (.033)***	-.182 (.122)
Imm. available for job (D)	.054 (.027)**	.122 (.066)*	.137 (.029)***	.089 (.088)
Highest school degree: Higher sec. (D)	-.069 (.027)**	-.002 (.085)	-.013 (.030)	-.085 (.106)
Highest school degree: Lower sec. (D)	-.102 (.030)***	.372 (.248)	-.082 (.032)**	.521 (.285)*
Was fired (D)	.044 (.035)	.069 (.100)	-.006 (.032)	-.208 (.125)*
Quit job volunt. (D)	-.105 (.050)**	-.211 (.165)	.012 (.050)	-.596 (.198)***
Quit job temp. (D)	-.283 (.082)***	-.431 (.203)**	-.099 (.071)	-.705 (.338)**
Was empl. prev. (D)	.459 (.041)***	.203 (.098)**	.810 (.044)***	.439 (.126)***
Town size	.036 (.009)***	.018 (.026)	.041 (.009)***	.008 (.033)
Household head (D)	-.112 (.031)***	-.047 (.091)	-.052 (.036)	-.201 (.125)
Only search part-time (D)	-.290 (.057)***	-.315 (.165)*	-.111 (.036)***	-.405 (.182)**
Only search full-time (D)	-.109 (.029)***	-.125 (.072)*	-.056 (.027)**	.012 (.089)
Obs.	8838	1315	9088	793

The table displays the joint effect of the 1992 and 1993 reforms of maternity leave on the duration of job search. Coefficients are taken from an ordered probit model on the 1991 and 1993 cross sections of the German Microcensus.<sup>a</sup> Only persons aged younger than 41 who do not have children are considered in the sample. The associated change in maternity leave legislation was an extension of the maximum duration of the pay of maternity benefits (300€ a month) and the job protection period from 24 to 36 months. Column (1) displays results for a comparison between men and women in childbearing age without a university degree. Column (2) displays results for a comparison between men and women in childbearing age with a university degree. Column (3) displays results for a comparison between women in childbearing age and women out of childbearing age without a university degree. Column (4) displays results for a comparison between women in childbearing age and women out of childbearing age with a university degree.

<sup>a</sup>Note that the parallel regression assumption is violated in this context as stages of job search are not measured in equal intervals. The use of more sophisticated models, which account for that fact, does not lead to significantly different results.



Table 15: REGRESSION RESULTS – PROBABILITY OF BEING EMPLOYED: REFORM 1992 AND 1993 (MICROCENSUS)

	(1)	(2)	(3)	(4)
Dep. var.: Employed (D)				
Year: 1993 * gender (D)	-.098 (.019)***	.031 (.061)		
Year 1993 * age $\leq$ 40 (D)			-.036 (.016)**	.066 (.063)
Year: 1993 (D)	.008 (.013)	-.006 (.041)	-.054 (.009)***	-.037 (.045)
Gender (D)	.143 (.014)***	-.032 (.047)		
Age $\leq$ 40 (D)			-.100 (.023)***	-.199 (.082)**
Age	.197 (.009)***	.351 (.045)***	.207 (.003)***	.208 (.015)***
Age sq.	-.003 (.0001)***	-.005 (.0007)***	-.003 (.00004)***	-.003 (.0002)***
No. of persons in HH	.302 (.012)***	.182 (.044)***	.194 (.011)***	.131 (.055)**
Married (D)	.175 (.013)***	-.120 (.042)***	-.136 (.013)***	-.215 (.052)***
German (D)	.404 (.017)***	.720 (.048)***	.317 (.021)***	.702 (.062)***
Highest school degree: Higher sec. (D)	.272 (.015)***	.124 (.048)**	.343 (.016)***	-.041 (.048)
Highest school degree: Lower sec. (D)	.717 (.013)***	.356 (.143)**	.493 (.010)***	-.055 (.084)
Town size	-.091 (.004)***	-.039 (.013)***	-.007 (.003)**	-.017 (.013)
Household head (D)	.353 (.013)***	.289 (.046)***	.244 (.014)***	.237 (.058)***
Obs.	94532	13189	223284	10986

The table displays the joint effect of the 1992 and 1993 reforms of maternity leave on the probability of being employed. Coefficients are taken from a probit model on the 1991 and 1993 cross sections of the German Microcensus. Only persons aged younger than 41 who do not have children are considered in the sample. The associated change in maternity leave legislation was an extension of the maximum duration of the pay of maternity benefits (300€ a month) and the job protection period from 24 to 36 months. The interaction term of the year of treatment and gender indicates the treatment on the treated. Column (1) displays results for a comparison between men and women in childbearing age without a university degree. Column (2) displays results for a comparison between men and women in childbearing age with a university degree. Column (3) displays results for a comparison between women in childbearing age and women out of childbearing age without a university degree. Column (4) displays results for a comparison between women in childbearing age and women out of childbearing age with a university degree.

Table 16: REGRESSION RESULTS – WAGES (SELECTION MODEL): REFORM 1992 AND 1993 (MICROCENSUS)

	(1)	(2)	(3)	(4)
	Dep. var.: Net wage (cat.)		Dep. var.: Employed (D)	
Year: 1993 (D)	.163 (.101)	.315 (.214)	.403 (.063)***	.251 (.249)
Gender (D)	-.978 (.111)***	-1.335 (.233)***	.476 (.069)***	.097 (.244)
Year: 1993 * gender (D)	.249 (.142)*	.516 (.322)	-.524 (.098)***	.169 (.409)
Age	.329 (.072)***	.830 (.344)**	.238 (.045)***	.768 (.247)***
Age sq.	-.005 (.001)***	-.011 (.006)**	-.003 (.001)***	-.012 (.004)***
No. of persons in HH	-.050 (.061)	-.067 (.207)	.266 (.053)***	.618 (.291)**
Married (D)	.109 (.070)	.162 (.223)	-.050 (.064)	-.256 (.299)
German (D)	.367 (.109)***	-.569 (.292)*	-.259 (.094)**	-.256 (.299)
Highest school degree: Higher sec. (D)	-1.119 (.104)***	-.197 (.258)	.452 (.073)***	.516 (.420)
Highest school degree: Lower sec. (D)	.131 (.079)*	-.145 (.689)	.243 (.059)***	
Normal work hours / week	.040 (.004)***	.079 (.010)***		
Actual work hours / week	.022 (.003)***	.008 (.007)		
Self-employed (D)	2.009 (.184)***	2.366 (.452)***		
Helping in fam. busin. (D)	45.382 (.686)***			
Public official (D)		2.144 (.432)***		
Employee (D)	1.214 (.153)***	2.552 (.359)***		
Voc. training (D)	-1.089 (.187)***	.117 (.764)		
Worker (D)	.566 (.153)***			
Household head (D)			.247 (.067)***	.361 (.306)
Mills ratio	-1.959316 (.954)**	-.929 (2.893865)		
No. of obs.	8635	1151		

The table displays first and second stage regression results of a Heckman type selection model on the 1991 and 1993 cross sections of the German Microcensus. Only persons aged younger than 41 who do not have children are considered in the sample. The associated change in maternity leave legislation was an extension of the maximum duration of the pay of maternity benefits (300€ a month) and the job protection period from 24 to 36 months. The interaction term of the year of treatment and gender indicates the treatment on the treated. Column (1) and (2) show the second stage results for persons without and with a university degree. Column (3) shows first stage results for persons without a university degree. Column (4) shows first stage results for persons with a university degree. Income is measured in income categories; results are a first approximation.