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Time is Money – The Influence of Parenthood Timing on Wages

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Time is Money – The Influence of Parenthood Timing on Wages

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June 2012

Abstract

This paper studies the effect of parenthood timing on future wages. Using data from the German Socio-Economic Panel (SOEP), we employ an instrumental variable approach to identify the causal effect of delaying parenthood on wages of mothers and fathers. Consistent with previous studies, we provide evidence for a positive delaying effect on wages. We further study the underlying mechanisms of the wage premium, paying particular attention to the relationship between career stage and fertility timing. We find that delaying parenthood by one additional year during the career implies a wage premium of 7%.

Keywords: Fertility; Wage Differentials; Career Path

JEL classifications: J13, J24, J31

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1 Introduction

Labor market outcomes are heavily influenced by the trade-off between family and career. Childbirth decisions affect labor supply (Blau and Robins, 1988), career orientation (Mincer and Polachek, 1974), the flexibility regarding working hours or workplace (Becker, 1985), and wages (Waldfogel, 1997; Lundberg and Rose, 2000; Joshi et al., 1999). While many researchers have studied the effects of parenthood timing on wages in the US (Taniguchi, 1999; Ellwood et al., 2004; Drolet, 2002; Miller, 2011), evidence on the extent to which parenthood decisions affect labor market outcomes of parents in other countries is rather scarce.[1]

Using German data, this paper examines whether early parents suffer in terms of their remuneration. We know very little about the influence of parenthood decisions on labor market outcomes in Germany, although the German labor market differs considerably from that of the US (Nickell, 1997). It appears likely that an interruption at an early stage of the career has more severe effects because early leavers have little experience and a rising wage profile (Light and Ureta, 1995). Another argument is that mothers are faced with restrictions when the child is born (such as child care, immobility), which result in a wage loss (Corcoran and Duncan, 1979). At the same time, it is reasonable to expect that late parents face severe wage penalties if a later break has stronger consequences as more job-specific human capital already accumulated before the break is lost (Mincer and Ofek, 1982).

Against this background, we study the effect of delayed parenthood on wages, using data from the SOEP. We reproduce previous results by estimating a linear wage regression on the age of the parents when giving first birth. In a second step a new instrument is employed to identify the causal effect of delayed parenthood on wages. Specifically, we use the age of the mother-in-law when the mother gave birth to her first child as an instrument for parenthood timing. Finally, we apply a more career-specific timing variable to gain a better understanding of the channel through which parenthood timing affects wages.

Our analysis contributes to the literature in several respects. First, we provide empirical evidence on Germany, which constitutes an excellent example for the analysis of wages effects on delayed parenthood. In Germany, already low fertility-rates amplify the existing problem of an aging society, putting the public system under heavy financial pressure. Second, the majority of the fertility literature focuses exclusively on mothers, although empirical evidence points to negative wage effects on women and positive effects on men (Lundberg and Rose, 2000). It appears likely that women's

[1] Exemptions are studies on Canada (Drolet, 2002) and Denmark (Gupta and Smith, 2002).

working biographies are more severely affected by childbirth. However, some of the possible negative effects may also apply to fathers, who are explicitly considered in our analysis. Third, we introduce a new instrument to the fertility-wage literature to obtain the causal effect of fertility timing on wages earned later. Finally, studies dealing with the timing effects of parenthood do so by focusing on the age at birth. We argue that this measure is biased due to heterogeneity in educational biographies and cannot explain the determinants of a timing effect. We extend the existing literature by analyzing a career effect. Analyzing the timing within the career, we can show that it is not age per se that matters. By far the highest share of the effect that the age at first birth has on later wages is explained by the point in the career when giving birth.

The results indicate a positive, causal effect of the delay of childbirth. The reproduction of the standard approach in fertility research shows that the results found for other labor markets can be confirmed for Germany, indicating a delaying effect of 6-9% per year. When we extend the existing literature by controlling for the timing within a person's career, we conclude that around 80% of this delaying effect are explained by the potential labor market experience. This is a crucial extension of the economic discussion because it delivers an explanation why delaying first birth is of economic importance.

The paper is structured as follows: The second section introduces the sample and covariates. This is followed by an explanation of the estimation procedure applied in the analysis including a detailed description of the IV approach. The fourth section presents the results from the econometric analysis. At first the reproduction of the existing literature is presented. Then the more career oriented approach is shown. Section 5 concludes.

2 Data

For the empirical analysis we employ data from the German Socio-Economic Panel. The SOEP is a large, representative household panel dataset which was introduced in 1984. Data are collected on a yearly base (Wagner et al., 2007). For our analysis observations are restricted on working parents between 20 and 65. Furthermore, we restrict our sample[2] on parents who have their first child after finishing their education. This is crucial in order to focus on the research question we ask, namely the effect of the timing of first birth. Also considering observations of first birth

[2]All data were extracted using PanelWhiz, a Stata add-on written by John P. Haisken-DeNew (Haisken-DeNew and Hahn, 2010).

within the education would bias our results. In this case there are mechanisms in progress which can surely influence later wages but do not fall into the range of the question analyzed in this paper. The sample restriction guarantees, for example, not to observe cases in which the educational career is quit after giving birth to a child. This can be a relevant case, observed in the literature for teen-mothers (Taniguchi, 1999). We use 11 waves of the SOEP (2000-2010). As many child-related questions for fathers were implemented in the SOEP in 2000, it is not possible to use earlier waves. Nevertheless, using 11 waves offers a large number of observations for a profound empirical analysis.

[Table 1 about here.]

Besides the timing of parenthood within the career[3], which is the subject of our analysis, all variables reported here and included in the following empirical analysis are standard in economic wage literature. Thus we can control for the most prominent determinants of wages and compare the results to the existing literature. Next to the variables described in Table 1, we include industry and year dummies.

Descriptive statistics in Table 1 show that we can build our analysis on more than 29,000 person-year observations. Both sexes are represented sufficiently with more than 13,000 person-year observations for women (2,827 individuals) and nearly 16,000 for men (2,998 individuals). Descriptives show some differences by sex, which are well-known in empirical literature.

The first and most obvious difference is the hourly wage. Mean hourly wages of men are on average 13 Euros and thereby more than 3 Euros higher than women's wages.

Tenure is a few years higher for men and there is a difference in the distribution across educational degrees to be observed. Around half of the women in our sample are in the medium education category, including the highest school degree in Germany (*Abitur*) and/ or a vocational education. Around one quarter of the women are in the low education group, which means no or a lower school degree and no vocational education. The same share of the women in our sample has a high educational degree, which means a degree in tertiary education, either from a university or a polytechnic (*Fachhochschule*). The distribution for men is a little different and more equal across the educational levels. A very similar share (31%, 36% and 33% respectively) is in the categories low, medium and high education.

Slight differences can also be observed in the size of the companies the respondents work at. The share of individuals working in the smallest company size (1-20 em-

[3]Descriptive statistics on the timing variables can be found in Table 2.

ployees) is higher for women (34%) than for men (22%) while a bigger share of men is employed in companies with more than 2000 employees (27% of men, 19% of women).

The medium age is in the mid-forties (45.4 for men, 44.4 years for women). Regional differences between East and West Germany, which still are observed in the German labor market, are also considered. The share of West Germans in our sample is around 80% (78% of women, 82% of men).

No considerable differences between men and women can be found for the other control variables included. The share of persons with a direct migrational background is equally low (3%) for men and women. The subjective health status, measured on a 0-5 scale, where 5 is "very good", is nearly identical at 3.6. A further control for subsequent children shows that the majority of the sample we observe has had subsequent children after the first (68% of women, 70% of men).

3 Estimation Method

The aim of this paper is to identify the wage effects of the timing of parenthood. We therefore use wage regressions with the logarithm of hourly wage as dependent variable and the timing of first birth as independent variable of main interest. Then, standard controls in wage equations are used.

The Ordinary Least Squares (OLS) model for the wage regression is the following:

$$ln(w_{it}) = F(X_{it}\beta, S_{it}\delta, c_i\gamma) = \beta_0 + c_i\gamma + S_{it}\delta + X_{it}\beta + \varepsilon_{it} \tag{1}$$

where w_{it} is the hourly wage of individual i at time t, c_i denotes the age of the parent when the first child is born,[4] s_{it} is a matrix of job characteristics (tenure, firm size, industry dummies) and x_{it} includes additional control variables (age, education, subsequent children, health, immigrant status, a west dummy and year dummies).

The OLS approach will not deliver causal effects. Firstly, there is the question of reverse causality, so the argument that it might not be the timing having an effect on the wage but the wage influencing the timing decision (e.g. Miller (2011)). We argue that this is not a problem for this analysis as we only include ex post wages. The problem of reverse causality is only a potential source of bias if wages of parents

[4]Testing for higher ordered terms did not show significance.

before the birth are included.

The second problem discussed in the literature is an omitted variable bias. Numerous studies have used different strategies to cope with this problem. Blackburn et al. (1993) instrument the timing variable with information on the respondents' family background (e.g. siblings and parental education). However, the use of this instrument does not lead to new insights as the IV results are comparable to the OLS results (Blackburn et al., 1993).[5]

A different IV approach is used on research questions similar to ours by Miller (2011) and Herr (2007). They instrument the timing by fertility shocks, which can be observed in the NLSY dataset they use. The possibilities of miscarriage, pregnancy while using contraception and the time between conception attempts and first birth are used as instruments (Miller, 2011).[6] Miller (2011) presents results for both, OLS as well as IV wage regressions without strong quantitative differences in most cases. Herr (2007) does even give stronger evidence for the IV approach not revealing new insights. She reports that after running both, the IV and the OLS approach are not qualitatively or quantitatively different (Herr, 2007). As a potential problem of the instruments presented in these papers, a possible measurement error is to be named as the information asked for are highly private and sensitive.

These approaches show that trying to identify a causal effect of the fertility timing on wages calls for an instrument but none of the approaches undertaken in the literature so far has proven as an optimal choice. We use the age of the mother-in-law when giving birth to her first child as an instrument of the timing of the first birth. The first stage equation is given by

$$c_i = \gamma_0 + instrument_i\gamma_1 + S_{it}\gamma_2 + X_{it}\gamma_3 + \eta_{it}, \tag{2}$$

where $instrument_i$ denotes the instrument. The IV approach allows us to estimate the causal effect of parenthood timing on wages if (i) the instrument is correlated with the age of the mother when the first child is born and (ii) if the only channel through which the instrument affects wages is its effect on parenthood timing. It appears likely that the timing decision of the mother-in-law influences the family taste of the respondent's partner. A strong preference for family of the mother-in-law, should show in e.g. a high number of children, low labor force attachment

[5]The instrumental approach using family background as suggested by Blackburn et al. (1993) has been applied to the data used here, by instrumenting the timing with the number of siblings. We confirm the previous finding that it is a weak instrument.

[6]None of these variables are available in the SOEP.

and/or early birth of her first child. A strong preference for career of the mother-in-law, should show in e.g. a single child, high career orientation and/or a late birth of her first child. The timing of first birth is not an individual decision but is made on the household level. Family and career values are adopted by the respondent's partner and thus impact the fertility timing negotiation. This theoretical assumption is confirmed by F-test statistics. The F-test statistics are always larger than the rule of thumb suggested by Staiger and Stock (1997). Furthermore, the critical values following Stock and Yogo (2005) are also exceeded. Thus, we assume that the weak instrument problem does not apply.

The remaining problem refers to the question if the first birth timing of the mother-in-law has a direct effect on the respondent's wage. We argue that this is not the case. For this to happen, four successive channels had to take place: Firstly, the timing of the mother-in-law's first birth had to have an influence on her educational level. Secondly, the education of the mother-in-law had to have an effect on the education of her children. Thirdly, the mating theory had to take place. Fourthly, the educational level had to have an effect on the wage. Only if all of the successive channels were in place a direct effect of the mother-in-law's birth timing on the respondent's wage could be detected.

The mating theory on the wedding market has been shown (Becker, 1974). This theory shows that couples tend to share similar characteristics, one of them being the educational level. In addition positive returns to education are a stylized fact in economic literature, see e.g. Harmon and Walker (1995). While these two channels are well known, the other two are far from clearly identified. For the second channel, the intergenerational transmission of human capital, empirical evidence is ambiguous. Black et al. (2005) find only little positive effects for the mother-son relationship but no effect for others. Behrman and Rosenzweig (2002) do find a significant relationship between father's educational attainment and children's educational attainment but no intergenerational transmission of mother's schooling. Thus, the existence of intergenerational effects of education is not convincingly shown. The first channel - that the mother-in-law's educational level is influenced by her birth timing - is even less clear. Taniguchi (1999) shows that teenage pregnancy might cause an early school leaving. As a robustness check, we exclude all cases in which the mother-in-law does not have a school degree. This analysis confirms that the first channel does not exists. Thus, without empirical evidence giving a hint at the possibility of a direct effect, our instrument must be considered valid.

4 Empirical Results

A large fraction of the previous literature in the field of fertility timing and wage effects has based the analyses on the parents' age at first birth (e.g. (Taniguchi, 1999)). We also run this analysis to reproduce the approach used so far and guarantee comparability of our results with the existing literature. In the second part of our analysis we extend the existing literature with a closer look at the true determinant of the previously found wage premium of delay.

4.1 Age at first birth

In the first step we estimate OLS wage regressions to analyze the correlation between the timing of parenthood and later wages. As we use log. hourly wage as dependent variable, we account for possibly fewer working hours after having a first child. As independent variables we include the age at first birth as well as a large number of control variables (for a detailed description see Table 1). We estimate the effects for male and female samples separately to take the possible gender heterogeneity of effects into account (Lundberg and Rose, 2000).

[Table 3 about here.]

The OLS regressions for the age at first birth confirm the direction of the results found for other countries. Older age when giving first birth is correlated to higher wages earned afterwards, results range from 0.7% for men to 1.3% for women.[7] Although this hints at results going to the same direction as in other countries, the OLS regressions do not reveal much of the real effects as they cannot show more than correlations.

The timing of first birth must be assumed to be highly endogenous. In this case an econometric strategy is needed that can detect causal effects. One possibility to do so is using an IV strategy. As previously discussed, 2 different instruments have found applications in the econometric literature but can for several reasons not be applied to this analysis (for a detailed description, see section 2.2). As it is necessary for the analysis to use an instrument, we introduce a new IV to the fertility-wage literature: the age of the mother-in-law at her first birth. This instrument is relevant and valid, as can be concluded from theoretical considerations as well as standard econometric tests. Using this instrument enables us to detect causal effects of a

[7] Results are qualitatively and quantitatively comparable to Buckles (2008).

delay of parenthood. This means we do not only find a correlation but can answer the question if fertility delay lead to higher wages in the later career.

Table 4 shows the results derived with age at first birth instrumented with the fertility timing of the respondent's mother-in-law. All other controls are the same as in the OLS regression. The IV regressions show that there is indeed a causal effect and this is even much stronger than the findings derived from the OLS analysis.

[Table 4 about here.]

This difference is due to an omitted variable bias in the OLS regression. E.g. a positive achievement within a person's career is associated with a positive effect on the wage as a desired occupational position is reached. At the same time it triggers family formation as the individual now shifts his focus to family issues. Thus, in an OLS analysis a bigger part of the population earning higher wages are early child bearers resulting in an underestimation of the true relationship.

For the pooled sample we find a positive wage effect of more than 8%. For women, there is an effect of more than 6% for every year of delaying birth of the first child. Later wages are heavily affected by this timing decision. For men, the effect is even larger with more than 9%. This backs the theoretical consideration that the timing of first birth is not just important for the career development of mothers but that fathers are also affected.

Using the birth timing of the respondents' mother-in-law as an instrument for the age at first birth reveals several mentionable results. The instrument that is used in this study is a valid instrument, so the results found can be interpreted as causal effects. These results clearly show that there is a positive delaying effect for men and women. Waiting with the birth of the first child for one year leads to an increase in later wages of 6-9%.[8] Comparing the two econometric methods shows that the OLS results, which are still commonly used in this field of literature, give a hint at the direction but clearly underestimate the effect.

4.2 Career Timing

The empirical literature so far focuses on the age at first birth. As a result, one cannot clearly identify the core of the effect. What causes the age effect? How much of it can be explained by education, which naturally takes longer time for higher

[8] Although point estimates are higher than in the US, confidence intervals overlap. Higher point estimates might be due to a more rigid German labor market.

degrees? Is the effect driven by the time one has already worked in his job? To approach these questions it is not sufficient to analyze the age effect. Instead, we focus on the point in parents' careers (potential labor market experience).

The theoretical considerations explained in section 2.2 explain why the age at birth is not necessarily the most important influence. There are obvious differences between educational groups as different educational degrees need different amounts of time. But controlling for educational degrees does not fully cover these differences as there are also differences within educational groups. The same degree is not achieved in the same time by different persons. Repeated years at school, early/late enrollment in primary school, search/change of vocational education/discipline are only a few examples that cause heterogeneity in the time spent in education. We therefore focus on the timing of parenthood within a career and not solely on the age. This focus is possible using data from the SOEP. Data on the end of education are available as well as information on the timing of first birth. The professional career of a person starts with achieving the final educational degree. The time from this point to the birth of the first child is defined as the timing of first birth within the career.

[Table 2 about here.]

Table 2 shows the differences in means for men and women. While the gender difference regarding the age of the parents at first birth is about 3 years, the gender difference regarding the timing within a career is only 1.3 years. An issue mentioned by Buckles (2008) is the difference between early and late parents. The raw correlation between the age of the parent at first birth and the years of education is 4 times higher than the raw correlation between the point in career when the first child is born and the years of education of the parent. Thus, we conclude that the following analysis is less subject to selection issues.

The first results (Table 5) present the OLS wage regressions pooled (column 1) and differentiated by sex (columns 2-3).

[Table 5 about here.]

The first column shows an overall coefficient of the career timing of parenthood on wages. We see a positive, statistically significant coefficient (0.7%). When splitting the sample into men and women, it can be seen that the coefficient is driven by women. The results indicate that a delay of parenthood of one year within the career is related to a 0.8% higher future wage. Compared to the results focusing on the age of the parents at birth (1.3%), the coefficient is smaller.

As discussed before (sections 3 and 5.1), the results from the OLS regressions remain descriptive. To obtain a causal effect, it is necessary to instrument the timing variable. We do so by running a 2SLS IV approach, instrumenting the timing variable with the age of the mother-in-law when giving birth to her first child (Table 6).

[Table 6 about here.]

There is an overall positive effect of 7% of delaying parenthood by one year within the career. This finding is robust over the whole sample as well as for men and women separately. For women we find an effect of 7.5%. For men, there is a significant effect of about 6%.

The overall causal effect of delaying first birth of 7% is somewhat smaller than the effect found for age at first birth (8.5%). Surprisingly, the career effect found for women is larger than the age effect for women. But due to the overlapping 95% confidence intervals it cannot be argued that the coefficients are truly different. For men, the effect of career timing is about two third the size (6%) compared to the age effect of about 9%. We conclude that the overall wage premium associated with a delay of parenthood of one year within the career is about 7%.

The question evolves why the results are different. Generally, the coefficient of age at first birth is biased due to career taste. We assume that those who have the first child at a higher age have a higher career taste. This does not only show in the career but in any career-promoting actions undertaken before (e.g. internships, exchange years). A wage premium results which is not due to the higher age when the first child is born, but due to investments within education.

By controlling for the career point, we regard the years of education as one source of heterogeneity. What remains is the wage premium due to potential labor market experience. E.g. labor market experience, on-the-job training, accumulated human capital and networks are the driving forces behind the positive wage effect associated with a delay of parenthood. Simply controlling for labor market experience does not include the unobservable actions. As a robustness check we ran the regression with labor market experience as the variable of interest. Unfortunately the number of observations drops significantly. However, the correlation between the two measures for those observations we have is around 95%, showing that there is not a grave difference between the actual and the potential labor market experience.

Thus, we conclude that the relevant variable is not the age at first birth but the potential labor market experience of the parent.

5 Conclusion

This paper uses German micro data to analyze the impact of fertility timing on future wages. By arguing that the timing of birth is a conscious decision, potential effects of the timing are examined.

In order to detect causal effects, a new instrument variable is introduced to the fertility-wage literature. As a source of exogenous variation serves the mother-in-law's timing of first birth. The theoretical argumentation that the instrument is relevant and valid is supported by standard statistical tests.

Furthermore, the present paper analyzes the topic in more depth. The existing literature focuses on the parents' age at first birth. As the age at first birth cannot be the crucial determinant itself, we introduce a more precise variable. Analyzing the impact of the timing of parenthood within one's career, it is controlled for the potential labor market experience. By doing so, this analysis offers insights into the mechanism behind the wage effects of the timing of parenthood that have not been shown in the economic literature that clearly yet.

Concerning the results, it can be seen that the benefit of shifting parenthood to a higher age is of comparable size in Germany and the US. Delaying parenthood by one year has a positive effect on future wages of about 8.3% per year for men and women. When focusing on the time spent in the labor market before having the first child, the impact becomes smaller. The effect of delaying first birth by one year results in a 6.8% higher wage. Thus, delaying first birth is connected to higher earnings in later life as more on-the-job experience and human capital can be accumulated before childbirth.

The results imply that fertility delay has a positive linear relationship on wages. Robustness checks show that there is no hint for a non-linear relationship. Thus, infinite delay should maximize the wage premium. However this is highly implausible. Our model neglects biological risks. Individuals face a trade-off between economic incentives and medical risks for the child and mother. If both, medical risk and economic incentives were regarded in one model, we would assume to find an optimal timeframe for fertility timing.

From a policy perspective the results are highly relevant. Late parenthood amplifies the issue of demographic change, as late childbirth shortens the time available for further children. However, the results imply that individuals have strong monetary incentives to delay parenthood. As such, societal and individual interests are not in line. This situation calls for political interventions. One possibility to harmonize

interests is a monetary compensation of early parenthood. As our results imply, this comes at very high costs. An alternative would be the non-monetary support of early-parents. The consequences of an early career interruption could be attenuated by publicly provided off-the-job training, adequate child care facilities or support of flexible work schemes. As demographic change is one of the hot topics in Germany, politicians need to be aware of conflicting individual interests.

This paper yields important contributions to the economic fertility discussion in two ways: Using an instrumental variable not yet used in the economic literature, we can state that a delay of first birth has positive wage effects for parents. We can also give new insights to the underlying mechanism.

6 Appendix

Table 1: Descriptive Statistics of Personal Characteristics

	Women		Men	
	Mean	Std.Dev.	Mean	Std.Dev.
Hourly wage	8.97	(5.92)	12.99	(9.19)
Age	44.43	(8.93)	45.42	(9.46)
Low education	0.24	(0.43)	0.31	(0.46)
Medium education	0.52	(0.50)	0.36	(0.48)
High education	0.24	(0.43)	0.33	(0.47)
Tenure	11.22	(9.57)	14.27	(10.77)
Direct mig. background	0.03	(0.17)	0.03	(0.18)
Current health status	3.59	(0.82)	3.60	(0.82)
Subsequent children	0.68	(0.47)	0.70	(0.46)
West Germany	0.78	(0.42)	0.82	(0.39)
1-20 employees	0.34	(0.48)	0.22	(0.41)
20-200 employees	0.27	(0.45)	0.26	(0.44)
200-2000 employees	0.16	(0.37)	0.21	(0.41)
2000 + employees	0.19	(0.39)	0.27	(0.44)
N	13591		15861	

Note: Authors' calculations based on SOEP.

Table 2: Age at first birth and point in career at first birth

	Women		Men	
	Mean	Std.Dev.	Mean	Std.Dev.
Age when 1st child is born	26.78	(4.56)	29.57	(5.01)
Career Point	5.91	(3.79)	7.20	(4.66)
N	13591		15861	

Note: Authors' calculations based on SOEP.

Table 3: OLS- Age at first birth

	Dep. Variable: Log. hourly wage		
	Men & Women	Women	Men
	(20-65)	(20-65)	(20-65)
Age when 1st child is born	0.016***	0.013***	0.007***
	(0.001)	(0.001)	(0.001)
Medium education	0.080***	0.066***	0.118***
	(0.007)	(0.010)	(0.009)
High education	0.420***	0.349***	0.431***
	(0.008)	(0.014)	(0.010)
Constant	0.714***	0.853***	0.843***
	(0.033)	(0.050)	(0.042)
Other characteristics	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	29452	13591	15861
R^2	0.39	0.32	0.40

Note: Robust standard errors in parentheses. *, ** and *** denote significance level of 10%, 5% and 1% respectively. Estimations based on SOEP data 2000 - 2010.

Table 4: IV regression- Age at first birth

	Dep. Variable: Log. hourly wage		
	Men & Women	Women	Men
	(20-65)	(20-65)	(20-65)
Age when 1st child is born	0.083***	0.064**	0.091***
	(0.015)	(0.028)	(0.020)
Medium education	-0.006	-0.025	0.030
	(0.021)	(0.061)	(0.022)
High education	0.095	0.073	0.104
	(0.071)	(0.156)	(0.076)
Constant	-0.752**	-0.156	-1.029**
	(0.331)	(0.556)	(0.488)
Other characteristics	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	16965	6855	10110

Note: Robust standard errors in parentheses. *,** and *** denote significance level of 10%, 5% and 1% respectively. F-statistics exceed crititcal values suggested by Stock and Yogo (2005). Estimations based on SOEP data 2000 - 2010.

Table 5: OLS- Point in career

	Dep. Variable: Log. hourly wage		
	Men & Women	Women	Men
	(20-65)	(20-65)	(20-65)
Career Point	0.007***	0.008***	0.001
	(0.001)	(0.001)	(0.001)
Medium education	0.106***	0.092***	0.126***
	(0.007)	(0.010)	(0.009)
High education	0.512***	0.426***	0.460***
	(0.008)	(0.013)	(0.010)
Constant	1.065***	1.111***	1.014***
	(0.030)	(0.045)	(0.038)
Other characteristics	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	29452	13591	15861
R^2	0.37	0.32	0.40

Note: Robust standard errors in parentheses. *,** and *** denote significance level of 10%, 5% and 1% respectively. Estimations based on SOEP data 2000 - 2010.

Table 6: IV regression- Point in career

	Dep. Variable: Log. hourly wage		
	Men & Women	Women	Men
	(20-65)	(20-65)	(20-65)
Career Point	0.068***	0.075**	0.058***
	(0.012)	(0.034)	(0.011)
Medium education	0.153***	0.097***	0.186***
	(0.014)	(0.017)	(0.021)
High education	0.633***	0.477***	0.610***
	(0.027)	(0.032)	(0.037)
Constant	0.872***	1.017***	0.863***
	(0.060)	(0.086)	(0.073)
Other characteristics	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	16965	6855	10110

Note: Robust standard errors in parentheses. *,** and *** denote significance level of 10%, 5% and 1% respectively. F-statistics exceed crititcal values suggested by Stock and Yogo (2005). Estimations based on SOEP data 2000 - 2010.

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