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"Social Inequality of Women over the Employment Cycle"

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Social Inequality of Women over the Employment Cycle – A Comparison of Cohorts Born after 1935 in West Germany

Introduction

Before I start my presentation I would like to thank you for the invitation to present here.

I have divided my presentation into two parts. First I would like to give you an overview about the German education system. I will explain how the educational expansion effected the participation in different school types and vocational training, differences between women and men and social mobility. Because of the strong connection between the educational certificates and later occupation it is necessary to have a look at the changes on the labour market and changes of employment patterns particularly women's employment pattern. In this context the third overview includes the changes in fertility. Due to restricted time I do not present differences between East and West Germany.

The second part contains our first research results about social inequality of women over the employment life cycle. In particular mothers and non mothers are compared regarding their occupational career. In a second step we focus on the occupational mobility of mothers after first childbirth and mobility changes afterwards. Daniela Hochfellner, a colleague at the Research Data Centre, and I work together on this project.

Education in Germany

First I will give you general information about the structure of education and vocational training in Germany. For a better international comparison I use the International Standard Classification of Education you will see in the left column (slide 3). The other columns contain the different German education facilities. If there is an adequate English translation you will find it in brackets as well the school years. All important parts of the education system are included. The German educational system is divided into three parts: primary education, lower and upper secondary educations and tertiary education. The primary education includes the primary school. With the entry into the lower secondary school pupils will be segregated to different kinds of schools. This early segregation leads to different educational certificates, different chances to get a vocational training position and last but not least different chances on the labour market. The two lower educational certificates are the "tickets" for a vocational training position. The upper secondary part contains different school types to get a general qualification for university entrance and the vocational training system. There are two types of vocational training. The dual system of vocational training combines school and workplace courses. The second type is the full-time vocational school. The third part of the education system includes the university and similar facilities. What is important to know about the different transitions from one educational level into the next? Decisions about the school type children participate in are made at an early stage. Changes between school types are very seldom and mainly towards school types with lower certificates. The educational expansion shows in an increase of graduates from higher level school types for broad levels of the population. The average time spend in the education system has increased.

Let us have a look at the levels of education by age groups (slide 3). Here you can see that the percentage of people with lower secondary certificates of secondary school (Hauptschule) decreases whereas the share of lower secondary certificates of secondary modern school (Realschule) and the general qualification for university entrance increases.

There is still a strong connection between social status of family and educational certificates. A child from a working-class family is less likely to join a university even if it has the same final mark as a child from academicians. Furthermore children with a migration background are more often in lower school types than children with the same social status but without migration background.

In addition there are differences in which kind of educational certificates are preferred in the various fields of vocational training. The entry into the labour market after vocational training is more complicated today but in most cases it is still successful.

The number of persons who have started their training at the university had also increased in the last decades. But the number of students is low in comparison to school leavers with a general qualification for university entrance. Certificates of higher education are more and more important for certain vocational training positions and for the labour market entry. Lower qualifications were adequate for specific vocational trainings and higher position in establishments in the past. Today higher qualifications are demanded. It is a vertical displacement. Higher qualified people displace lower qualified people in the competition of getting the desired jobs.

Last but not least there are gender differences in the decision what kind of vocational training and also what kind of studies are chosen. The strong vocational orientation in the education system of Germany is reflected in the gender-segregated labour market. The next two slides show the 10 most frequent trained occupations by women and men. The majority of young women learn typical female dominated jobs for the industry and trade and tertiary sector like management assistant in retail business, office administrator and hairdresser etc. More than two-thirds of the traineeships are started in these occupations. Young men are specialized in more technical and trade occupations – typical male dominated jobs – like car engineer, electronic engineer and carpenter. Only half of the traineeships are started in these occupations. The problem of gender specific occupations leads to female discrimination in the labour market, because more often female occupations are characterized through low wages and worse chances of promotion. The educational

differences between women and men have changed in favour of women: men are more often without certificates, women are more successful and faster in transition to vocational school, women more often get the general qualification for university entrance, they less often drop out of university and the number of female students is higher. However, the educational advantage of women does not result in better jobs once they enter the labour market. Important to know for the employment patterns in Germany is that the educational and vocational choice decides about the later occupational position at the labour market.

Labour force

Let us have a look at the changes on the labour market. Since the middle of the 1970ies the changes on the labour market have led to various problems in Germany such as increase of unemployment, marginal part-time jobs and fixed-term jobs. You can see on slide 6 that more women than men work in part-time. The percentage of women in part-time jobs in West Germany is much higher than in East Germany. Just about 30% of women in East Germany work part-time. The possibility of having part-time jobs is important for women with children in West Germany due to restricted public child care facilities. Otherwise they would not have a chance to return in employment. Additionally the restricted opening hours of public child care facilities constrain full-time employment.

What are the reasons of the changed labour market since 1970? According to Olaf Struck (2006) five points are crucial: first the labour demand and supply due to the increase of female employment, migration and the shift of employment in the tertiary sector, second the change in economic structure due to rationalisation for example to shift the production to other countries, third the changed qualification standards through mechanisation and fourth changed interests of people due to satisfaction of self-fulfilment, the protection through social system and last but not least the higher flexibility on the labour market. The labour supply of employees with lower qualification declines and the labour demand of employees with high and specialized qualification increases.

The changes on the labour market influence the employment patterns of men and women. For some years there is a discussion about increasing discontinuous employment patterns in Germany. Researchers found that employment gaps are more likely today. There are different reasons for that. One reason is the rise of fixed-term and marginal part-time jobs which increase the risk of getting unemployed. But stable continuous employment patterns are still possible mainly for men. However, there are different individual and contextual determinants which influence the stability of employment. The effect of education is stable over time. There is a higher risk of unemployment for people without formal education or less qualification than for academicians.

As I mentioned before, gender specific occupation leads to female discrimination. There is no economic sector in which women earn more money than men. The average wage difference between men and women is in general about 23%. The wage difference between young men and young women is smaller because of the higher qualification of women. Young women still earn less money than men on average even in the same job. Another difference between men and women results from employment breaks due to family formation. First let us have a look at the completed fertility rate (on slide 6). Of course the increase of female employment, educational qualification and the longer stay in the education system and last but not least the change of the traditional female role with the homemaker household arrangement influences the time of family formation and also the number of children.

Fertility

Germany is besides Austria, Greece, Spain and Italy one of the persistently low fertility countries in Europe. Over the past thirty years the total fertility rate is stable under 1.5 children per woman. The following graph contains the complete fertility of female birth cohorts born 1930 or later which is usually higher than the total fertility rate. The complete fertility rate involves the number of children actually born per woman in a cohort of women

by the end of their childbearing year. The average number of children has declined over birth cohorts. Between the birth cohort 1935 and 1965 the difference is about 30% for West Germany but only 13% for East Germany. At the same time the number of women without children has increased over birth cohorts.

Let us go back to the female employment patterns. Important for female employment is besides individual factors the social political framework. Legal regulations and norms supported for a long time the male breadwinner model in West Germany. Nowadays it becomes less important. Reasons are the increase of part-time employment of married women with children in school age, the increased number of cohabiting couple families and the increased number of divorced mothers. The aim of the last family reform 2007 is to involve fathers in the child rearing process. If the father takes parental leave the benefit is paid for two additional months. Furthermore the expansion of public child care facilities for children below three has already started. The new legal regulation provides a claim on child care facilities for children below three from the beginning of 2013.

Research project

Now I would like to start with the second part of the presentation about our research interests. The aim of our research project is to analyse social inequality of women over the employment life-cycle in West Germany. The research about female employment patterns is already widely analysed in different research fields like Sociology, Economies and Demography. The gender aspect dominates in many research works. Fewer studies analyse the career mobility of women. Important national researchers on this field are for example Karl Ulrich Mayer, Peter Blossfeld and Anja Hall. Most studies which analyse the effect of the first child on the career observe a high downward mobility for women after they return into the labour market. Another important research field on career processes which is related to downward career mobility includes the financial effect of motherhood. Miriam Beblo, Elke Wolf and Stefan Bender for example found that the first childbirth reduces

women's wages by 16 to 19 percent. However the exciting studies about occupational mobility examined only the short-term effect on motherhood but not the whole employment life cycle. In a first step we look at the occupational mobility between mothers and non-mothers in general because the analysis of female employment patterns requires this comparison. In a second step we focus on the occupational mobility of mothers after first childbirth and mobility changes afterwards.

Data we use

Analysis of this topic requires biographic data which provide information about the changes in employment over a long period. That is why we use data from the Federal Employment Agency and the Institute for Employment Research with additional data from the German pension insurance. Important to know about the German social insurance system is that employees pay social security contributions for health insurance, unemployment insurance and compulsory pension insurance. This sample comprises register data from the notification procedure of the social security system. Every employer has to complete a form for every worker in employment covered by social security. This form contains different information e.g. profession, working hours, gross salary, beginning and end of employment. It is not a survey but a process-generated data on a daily basis. The IAB-Employment Sample we use for our analysis includes demographic information, education, occupational codes, employment status, gross salary per day, unemployment benefit and assistance from 1975 to 1995. The data of German pension insurance contains additional information about the years before 1975 concerning employment, unemployment and legal times of maternity and times of illness. The original sample ended in 1995. Therefore we matched the same information including the time until 2003 from the Federal Employment Agency. We know from other studies that employment patterns are affected by contextual factors like firm characteristics. Therefore we merged firm characteristics from the Establishment History Panel to our sample. We do not have information about self-employment, civil servant,

unpaid family workers, household context and partnership. After data cleansing our sample includes 96.089 women thereof 21.829 non-mothers.

Labour market participation of mothers and non-mothers

First, I want to focus on the labour market participation of mothers and non-mothers (slide 11). We calculated the percentage of employment on the reference date 30th June for each birth cohort. The y-axis maps the proportion in percent and the x-axis maps the age to the reference date. The entry is for mothers and non-mothers nearly the same for each cohort. But we can see on the left graph for mothers that the younger cohorts enter the labour market later than the older cohorts. The reason is a longer stay in the education system. The main difference between mothers and non-mothers is of course the decline of employment participation of women older than 20 for all cohorts because of family formation. Older cohorts had started family formation earlier than younger cohorts. The average age at first childbirth is about 30 today. The percentage of employment is rising from the age of 30 for older cohorts and a few years later for younger cohorts. The employment participation of non-mothers is always higher than 80 percent and for the oldest five cohorts more than 90%.

Are there education differences between mothers and non-mothers (slide 12)? We expect differences because more female academicals are childless. What we see at first is the effect of the educational expansion. The percentage of women with higher educational qualification has increased and the percentage of women with lower educational qualification has decreased. The last cohort does not show this effect because women with a higher degree enter the labour market at a later point of time. Second non-mothers have higher certificates than mothers. For the interpretation we have to keep in mind that we cannot distinguish between family-oriented and career-oriented women.

The last comparison between mothers and non-mothers include the occupational status (slide 13). We use the International Socio-Economic Index of Occupational Status from Ganzeboom (1992). The Index is based on international data about income and education

for different occupations. The values range between 16 and 90. Unfortunately we do not have occupational information before 1975. Therefore we cannot analyse cohort effects for the older ones. We know that female occupations are characterised by low wages and worse chances for promotion. The results show that the average prestige stays low for mothers as well as for non-mothers. There are no systematic differences between the cohorts of mothers. All curves converge to ISEI-value around 46. The reason for the deviation of the youngest entry cohort is that non-mothers are potential mothers because of their younger age. Additionally we looked at the 10 most frequent occupations of mothers and non-mothers. There are only small differences in the hierarchy. Only two occupations are different. The ten most frequent occupations do not include social workers for non-mothers but certified and tax accountants which are not included for mothers.

Differences in occupational mobility among mothers

Now, I would like to present our second research topic about occupational mobility of mothers related to first child birth and if the occupational status changed afterwards. The starting point to observe career mobility is 1975. The end of the observation window is 2003. Therefore we cannot include mothers who have their first child before 1976. We have two observation periods. The first period starts 12 months before first child birth due to avoid possible effects of pregnancy. The first period ends after the return into the labour market. The second period starts with the return into the labour market after first child birth and ends with the employment in the last observation period. Because of the limited observation period our sample shrinks to 4.148 mothers in West Germany.

There are four important time points for our analysis: point of time 1 is 12 months before first child birth, point of time 2 is childbirth, point of time 3 is time of return into the labour market and at the last point of time 4 is end of the last employment we observe. Our dependent variable is occupational mobility between point of time 1 and 3 which we call period 1 and between point of time 3 and 4 which we call period 2. Therefore for each

person we have two spells. We define a change in mobility if the occupational prestige measured by the International Socio-Economic Index changes by more than 10%.

The independent variables for our model are time-constant variables like entry cohorts, education, age at first birth, duration until return into the labour market and number of children. The time-dependent variables are job experience until the beginning of each period, time without employment covered by social security within each period. We include prestige and prestige squared, full-time and part-time, firm occupation segregation and establishment size observed at the end of period 1 and 2. Furthermore we include a firm change dummy.

Our first result is that 86% of mothers have no occupational mobility in period 1 and 2. The second important result is that 34% of mothers who had a downward mobility in the first period experienced an upward mobility in the second period. Both results are not surprising because of the strong connection between the educational certificates and job positions which are typical for women. Furthermore female dominated jobs are often as part-time jobs.

Which factors determine occupational mobility? We analysed the determinants of upward and downward mobility using a logistic regression for each type of mobility.

The risk for downward mobility is smaller for all entry cohorts in comparison to the oldest entry cohorts. Higher education and job experience reduce the risk for downward mobility. But the risk of downward mobility increases with the level of prestige. Duration of times without employment covered by social security increases the risk of downward mobility. The fast return into the labour market after childbirth reduces the risk of downward mobility in comparison to women who re-enter the labour market after 3 years and more. Part-time with less than the half of full-time, firm change, female-dominated and medium firms increase the risk of downward mobility.

What has an effect on upward mobility? Higher education increases the chance for upward mobility in comparison to lower education. Job experiences and higher prestige reduce the

chance for upward mobility. One explanation for the negative upward mobility for job experience is that upward mobility is more likely in the first years of the employment life cycle. Not surprisingly, the higher the starting prestige the less likely is further upward mobility. The duration of times without employment covered by social security increase the chance of upward mobility. We cannot identify times of further education or training. This could be an explanation why durations with no employment covered by social security increase the chance for upward mobility. Being employed part-time with less than the half of full-time increases the chance of downward mobility but only in the first period. We had a closer look which kind of jobs the mothers had before and after the first child birth. Mostly mothers with very low prestige jobs change to slightly better jobs when they return into the labour market. For example they become office administrators. Female-dominated firms and mixed firms reduce the chance of upward mobility. Times in employment and firm changes also increase the upward mobility. The firm change effect could be overestimated because of the data collection. If there is an upward or downward mobility within a firm not all the employers update the occupation information.

Summary

The results show that 86% of mothers had no significant change in job prestige after childbirth and later in their employment life cycle. The most important determinants for changes are education, job experience and firm change for downward as well as upward mobility. For further analysis we will go into detail about the comparison between mothers and non-mothers in particular if non-mothers have upward mobility during the time when mothers stay at home. Furthermore we would like to investigate how long it takes for an upward mobility if childbirth has led to a lower occupational prestige. And last but not least we will go into detail about which mothers do not return into the labour market.