Social Control, Revolving Doors, and Organizations - Testing Alternative Explanations for the Gender Specific Occupational Segregation

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Abstract

The aim of the paper is to analyze determinants of the gender specific occupational channelling, taking different approaches simultaneously into account. The main argument is that classical supply side theories around human capital, preferences, and socialization are not able to sufficiently explain the "occupational gap", meaning the employment of men and women in different occupations. In contrast, it is argued that there exist mechanisms of social control at work, based on institutional barriers or gender specific stereotypes, which bring men and women to leave these occupations after a while, in form of a revolving door, or to rather refrain from going into these atypical jobs. An important control dimension in all analytical steps is the organizations persons work in. The research hypotheses are tested using the SOEP 2008, merging occupational specific variables from the BIBB/BAuA-*Erwerbstätigenbefragung* to the SOEP. Since the dependent variable is a proportion variable (percentage of women in the current occupation), a fractional logit model is estimated, taking into account special problems arising from having such fractional response variables. Furthermore, gender-specific chances of being employed are taken into account to get unbiased estimators. The results show clearly that the revolving door effect play a significant role for gender typical occupational paths: The higher the percentage of women in the occupation 8 years before the year of analysis, the higher (lower) is the job mobility out of these occupations for men (for women). Further, occupation specific variables measuring institutional barriers like opportunities of compatibility between family and occupational work or earning/promotion opportunities for women as well as for men have striking effects of working in a gender typical or untypical occupation. Also, occupation specific gendered work contents and the occupational average degree of perceived workplace integration plays a significant role for going into gender typical occupations, indicating face-to-face-conflicts at the workplace based on activated stereotypes when persons are an occupational minority with regard to gender. In addition, persons who work in small firms (especially women) and in shrinking industries (especially men) are more often employed in gender typical occupations, indicating that firms that have a good economic standing may have a higher need for qualified workers (and therefore move down the "labour queue") and more resources to reduce discriminatory practises and may have a more egalitarian firm culture. An Oaxaca/Blinder decomposition of the "occupational gap" (meaning the employment of men and women in different occupations) show that around 60 percent of the gap can be explained with gender specific different endowments in the independent variables. A large part of that explained effect is due to occupation specific social control and the revolving door effect. Only a marginal part of the gap can be explained by different endowments in human capital, different family responsibilities, socialization background or the localization in different organizations.

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1 Introduction

In Germany, the gender specific labour market segregation remains very stable (Achatz 2008b): Although women and men nowadays are similarly work-oriented and show a comparable human capital accumulation (e.g. concerning education, women actually have exceeded men, see BMBF 2008; Cornelißen 2005), most women still work in typical "women's jobs" and most men in typical "men's jobs". Compared to other European Member States, Germany is on a middle position (Smyth/Steinmetz 2008): In 2004, Germany showed an index of dissimilarity of about 50[2], which means that 50 percent of women and men should change the job to get a complete equality over occupations on the labour market.

This gender specific structure on the labour market has a high societal relevance: The segregation is an important dimension of social inequality, because women's jobs are generally characterized by worse employment conditions, e.g. concerning job security, career opportunities and wages (Blau et al. 2006). Many studies analyze the effects of working in a gender typical or atypical occupation on job success measured by wages, promotion, status or occupational prestige (Busch/Holst 2010; Magnusson 2009; Cohen/Huffman 2007; Trappe 2006; Achatz et al. 2005; Liebeskind 2004; Jacobs/Steinberg 1995; England 1992; England et al. 1988; England 1982).

The question is: Where do these gender specific labour market structures come from? In Germany only few studies have analyzed systematically the determinants of working in a gender typical or untypical job as a dependent variable (exceptions: Trappe/Rosenfeld 2004; Blossfeld 1987). Especially, the so-called "revolving doors" hypothesis is still not considered widely in Germany but gains a growing research interest also in this country (Solga/Pfahl 2009; Trappe/Rosenfeld 2004). This hypothesis, which is focused on the US labour market, assumes that there are "social control mechanisms" at work that force women and men already working in gender atypical occupations to leave these jobs after a while (Jacobs 1989). This may be one important reason why the segregation structures on the labour market remain stable. However, it may be argued that this consideration cannot be translated to the German labour market, because here, career/occupational paths are to a higher extent than on the US labour market structured and regulated with certificates, so that changes into other

[2] The index of dissimilarity ranges between 0 (no segregation at all) and 1 (complete segregation) (Duncan/Duncan 1955). This is the most often used index to show segregation, but it is also criticised (Charles/Grusky 2004; Hinz/Schübel 2001; Charles/Grusky 1995).

occupations may be less common in Germany (Krüger 2004). The question is if, in spite of this, a revolving door also exists in this country.

Therefore, the main goal of the paper is to analyze systematically determinants of gender specific occupational paths and therefore the gender specific "occupational gap" (meaning the employment of men and women in different occupations), taking different approaches simultaneously into account: Firstly, according to the more classical supply-sided approaches explaining gender specific occupational choices, it is tested in how far individual preferences and human capital accumulations, socialization background, and family responsibilities affect working in gender typical and atypical occupations. However, it can be assumed that these explanations nowadays cannot explain to a large extent gender specific segregation. Therefore, in a second step occupational specific factors indicating mechanisms of social control at work are included into the models, assuming that these variables are able to explain a larger part of the "occupational gap". Finally, it is tested in how far the revolving door effect plays a role for the gender specific occupational channeling for the individuals. It will be shown that a higher job mobility in gender untypical occupations plays a significant role for the segregation structure in the long run. An important control dimension in all analytical steps is the organizations persons work in. The assumption that organizations moderate the degree of gender inequality on the labour market is the focus of several studies nowadays. Behind this stands the assumption that the working organizations create the context where gender differences and inequalities emerge but also diminish. Therefore, the organizations the people work in should play an important role for job entries and also for the duration of staying in the occupation.

Since the dependent variable is a proportion variable (percentage of women in the current occupation), a fractional logit model is estimated, a generalized linear model taking special problems arising from having such fractional response variables into account (Papke/Wooldridge 1996). Furthermore, gender-specific chances of being employed are considered with the help of a special version of Heckman selection (Berk 1983). With this it is possible to get unbiased estimators of the coefficients concerning the effects on working in a segregated occupation. In a last analytical step, a Oaxaca/Blinder decomposition method is applied to quantify how much of the "occupational gap" can be explained with the different groups of indicators (Jann 2008; Blinder 1973; Oaxaca 1973).

The data base utilized is the German Socio-Economic Panel Study (SOEP) for the year 2008 (Wagner et al. 2007). Job specific aggregated measurements indicating mechanisms of social

control at work are taken from the BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006 (= survey of employed people) (Hartmann 2006) and merged to the SOEP.

The paper is structured as follows: Firstly, the main theories explaining gender specific occupational segregation are presented, and related working hypotheses are formulated (section 2). Then in section 3, the data material and variables are presented, and the multivariate method for the quantitative analysis of determinants of working in a segregated occupation is illustrated. After that, the empirical findings are presented in Section 4. Finally, in Section 5, the results are summarized and further analytical steps are introduced.

2 Theories explaining the gender specific labour market segregation

2.1 Supply-side approaches

In the classical theoretical literature about gender specific labour market segregation one can primarily find approaches about the supply side on the labour market. These approaches localize the determinants of the segregation in individual constellations in the pre-occupational phase (Heintz et al. 1997: 25): The assumption is that there exist certain gender specific "preferences" that lead to different dispositions and occupational choices. *Human capital theory* assumes that all occupational decisions are the result of rational cost-utility calculations (Becker 1993; for an overview, see Sandmo 1993). The occupational segregation is explained with different investments in human capital: Women are more focused on family concerns than men and plan a more indirect professional path accordingly (Becker 1991). Hence, for women, investments in educational and occupational training are less profitable. This means that the different proportions of women and men in certain occupations and fields of work and thus the gender-specific labour market segregation is the result of rational considerations: Since women plan more indirect professional path with more breaks, they choose in form of a "self selection" (Polachek 1981) particular jobs that can be combined with family responsibilities, for example, those that allow part-time work and breaks in employment and those with a low obsolescence risk.

Socialization theory gives an answer to the question where these postulated gender specific preferences come from (Faulstich-Wieland 2008). It says that preferences and orientations are

learned during childhood already. In this stage of development, societal structures with their action-guiding values and norms are internalized and are important for the personality development of the children (Hurrelmann 1994). The gender specific roles and preferences are also internalized in this socialization process. The historical responsibilities for the family (women) and for the occupation (men) developed in the modernization process (Beck 1992) lead to corresponding gender-specific values and norms internalized by the individuals and thus to gender-specific orientations and "preferences" for special jobs.

From these considerations, the following hypothesis can be assumed:

Hypothesis H1a: Persons who are strongly job orientated, show a high human capital accumulation and have been socialized more egalitarian concerning gender roles show a higher tendency to work in men's occupations.

Studies for the US labour markets analyzing supply side effects on segregation show mixed results (e.g. Okamoto/England 1999). The explanatory power of the human capital theory might be limited, which can be seen by the fact that nowadays women and men show a comparable human capital accumulation (e.g. concerning education, women actually have exceeded men, see BMBF 2008; Cornelißen 2005) but the segregation does not decrease accordingly but remains more or less stable. Further, it is questionable whether the observed gender specific channeling is due to a voluntary choice. Studies show that, from the beginning of their career on, women seem to be "trapped" in the sense of a "lock-in-effect" in occupations with lower pay (Fitzenberger/Kunze 2005). Back in the early 1980s it was shown that women who plan to interrupt their occupations did not - contrary to the thesis of self-selection - more frequently choose a typical "women's job" than other women (England 1982). Furthermore, the assumption of implicit "given" gender-specific preferences in the human capital approach has early been criticized (e.g. England 1989). For Germany, it has been found that family formations like marriage and having children only marginally influence the gender typicality of occupations, which contradicts these classical theories that family responsibilities influence gender typical occupational decisions (Trappe/Rosenfeld 2004).

From these considerations, the following hypothesis is formulated:

Hypothesis H1b: Supply side approaches can explain only a marginal part of the gender specific "occupational gap", meaning the employment of men and women in different occupations.

Finally, the approaches can be criticized because they focus only on (pre-occupational) preferences which determine occupational decisions and the career path in the long run. In contrast, empirical studies show that the mobility between jobs (so individual changes between women's jobs and men's jobs in working life) is surprisingly high - which contradicts the assumption of an early fixing of preferences (Heintz et al. 1997: 29; Jacobs 1989).

2.2 Social control and revolving doors

Thus, because of those contradictions, it can be assumed that the gender specific labour market segregation is not (only) caused by a "voluntary choice", but also by structural constraints and channelling processes within working life. Women work in women's jobs not necessarily because they want to, but also because atypical occupations are blocked or at least hard to reach for them. This argument entails the assumption that problems people are faced with in gender atypical jobs force them to leave these jobs after a while, or to rather refrain from going into these atypical jobs. This can be seen for example in technical natural scientific occupations (so-called MINT occupations – mathematics, informatics, natural science and technology) as a typical male area on the labour market (Solga/Pfahl 2009): Women not only choose these fields of study less often, but even if they choose them, they leave them much more often compared to other occupations.

Jerry Jacobs (Jacobs 1989) has summarized these barriers and constraints with the term "social control"; mechanisms that lead people to choose or return into jobs they are assigned for by their gender. This "revolving door effect" could be an explanation why the segregation, despite of more and more gender atypical occupational choices, does not decrease. The social

control mechanisms and revolving door effect are formulated gender neutral; it should appear for women as well as for men.[3]

Therefore, the following hypothesis is assumed:

Hypothesis H2: Women and men working in gender untypical occupations show a higher job mobility, meaning individual changes between women's jobs and men's jobs over time, than women and men working in gender typical occupations.

Unfortunately, Jacobs does not give a concrete formulation of what is "social control" in his concept. For this, it is important to go in greater detail into other explanations of the gender specific occupational channelling. Here, the institutional approach in gender studies as well as approaches about gender stereotypes (mainly from social psychology) are taken into consideration (see also for a summary of "social control mechanisms" at work: Solga/Pfahl 2009). Organizations as important control dimension for analyzing determinants of gender specific segregation are also introduced.

2.3 Social Control at work: Institutions and stereotypes, organizations

Institutions:

As already mentioned, although women and men nowadays are similarly work-oriented, most women still work in typical "women's jobs" and most men in typical "men's jobs". The institutional approach in gender research – which has its roots mainly in Germany – tries to explain this inconsistency by focusing more on institutions than individuals (Ostner 2003; Krüger 2001a; Krüger/Levy 2001; Gottschall 2000). The main thesis of the institutional approach in gender studies is: On the one hand, there is nowadays a societal change concerning *norms about gender differences and different responsibilities for family and occupational work* into the direction of more egalitarian gender roles. But on the other hand, these gender specific norms have been *relocated and manifested into societal structures and institutions* (Krüger 2004). Here, the term "institution" refers to those structures that regulate

[3] However, the assumption that men are as much confronted with these mechanisms of social control in atypical jobs is criticised (Heintz et al. 1997).

the life course and divide it into different biographical sections (like family of origin, education system, labour market, pension system) (Kohli 2007, 1985). But another institution of the life course, the *family*, and its combination with the institution *labour market*, is of main importance. The family plays especially for women a crucial role in the life course, mainly because it affects the same biographical timeframe that is also structured by the labour market (Born et al. 1996). Both institutions contradict each other, because on the one hand the success on the labour market is based on a continuity in working life, but on the other hand, the childcare requires also time and with this usually comes a discontinuity in working life. Institutional regulations still foster the traditional family model, e.g. with policies concerning taxes and pensions that favour those married couples in which one person (mostly the woman) stays at home and cares for the family.

What are the implications of this for the gender specific labour market segregation? The assumption is that the gender specific occupational channelling is to a high extent institutionalized in the vocational education (Krüger 2003). This is evidenced for example in the fact that in Germany two forms of vocational training exist that developed with the establishment of the modern occupational system from the beginning of the 20th century on: On the one hand there is the dual system (training takes place in a firm and in a vocational school in parallel, trainees get a salary). At the other hand there are occupations that are learned full-time in vocational school (no parallel practical training in firms, trainees do not obtain a wage; in contrast, they often have to pay school fees). The professions that can be learned are to a high degree located in “female” parts of the labour market, namely in health and educational sector, and many of them are assistant jobs, with few possibilities of professional advancement (Achatz 2008b). As Krüger argues, the development of these two forms of vocational training is grounded in the former gender system: The full-time-schooling education has been established by collective actors like professional associations as a solution for women to bridge the time gap between schooling education and marriage, and perhaps later for the upgrade of the family income. Although nowadays gender norms have changed, these structures are still to a high degree institutionalized in the vocational system, and the structures remain constant (Krüger 2001b).

Altogether, these considerations result into the following assumptions: The labour market is institutionalized in a way that it continuously reproduces the gender specific division of labour (which allocates the family work to women and the occupational work to men). This leads to the observation that occupations generally held by women are mainly jobs that are compatible with family responsibilities, e.g. with possibilities for part-time-work, but have at

the same time less career opportunities. Simultaneously, this means that typical men's jobs offer on average higher career opportunities but are at the same time *less* compatible with family responsibilities, because they are not so much fitted with "family realities". Thus, it can be expected that women with a family tend to go more often into women's jobs. Women already working in typical men's jobs and then starting a family should be confronted with stronger compatibility problems of family and work than women working in women's jobs, and thus show a higher probability of leaving these jobs. Men with growing family responsibilities on the other hand tend to go into better situated men's jobs to fulfil the role of the "male-breadwinner".

Altogether, the following hypothesis can be assumed from this approach:

Hypothesis H3: For women, gender typical occupational decisions can be explained with better opportunities concerning compatibility of family and occupational work. For men, gender typical occupational decisions can be explained with better opportunities concerning wages and promotion.

Face-to-face-conflicts at the workplace and gendered work content

The institutional approach in turn again neglects the individual view. Boundaries in gender atypical occupations are located in this theory only in structural constraints. Prejudices and discrimination practises from supervisors or colleagues women as well as men could be faced with in gender atypical occupations are not taken into consideration. Here, approaches from social psychology assume that widely shared cultural beliefs about gender are reproduced in form of a "doing gender" in everyday interaction processes (Ridgeway/Smith-Lovin 1999; West/Fenstermaker 1995; West/Zimmerman 1987). In daily face-to-face interactions, people make gender-specific categorizations about the interaction partner that serve to simplify the interpretation of the actions of the counterpart. This categorization activates gender stereotypes; the interacting people fill the particular category (man/woman) with cultural perceptions about the relevant gender. Whenever gender is salient (meaning socially significant for the actors) in a social relational context, comprising "any situation in which individuals define themselves in relation to others in order to act" (Ridgeway/Correll 2004: 511), it activates patterns of behaviour and interactional practices.

In line with this goes the consideration that people working in atypical workplaces are minorities, so-called "tokens" (Kanter 1977). Based on the *homophily principle* - which

expects that persons tend to interact with other persons who are similar to them in several socio-demographic characteristics (e.g. gender) (McPherson et al. 2001) – it can be assumed that these minorities are less integrated in the workgroup and have more conflicts at work.

Furthermore, *expectation states theory* - focusing more on occupations than on workplaces - hypothesizes that the effort of women at work is evaluated more discriminatory, because they are seen as less competent and have a lower status on the labour market than men (Correll/Ridgeway 2006; Ridgeway 2001).[4] Gender serves in working groups as a "diffuse status characteristic", which is information about the person's abilities; information that is derived from the fact that the persons are members of a certain social group: Men are seen as generally more competent on the labour market than women ("*gender status belief*" (Ridgeway 1997)), so men achieve a higher status and thus they gain more influence and power in the working group. This leads to a double standard in the performance evaluation of persons with higher and lower status (Foschi 2000, 1996). The effort and mistakes of the lower-status people are evaluated more rigidly and strictly, the ones of the higher-status persons more laxly. Thus, the success of the lower-status person is less rewarded, the failure of the lower-status person is more highly judged.

However, this advantage for men varies depending on the question in how far the status characteristic is also relevant for the group task (Ridgeway 2001: 360): If the group task is seen as a typical male task (e.g. technical tasks), the expected competence and thus the status and influence in the group for men increases. But when the task is seen as a typical female task (e.g. nurturing, caring), then women gain a slight advantage in status and influence over men. With this, occupational minority women/men[5] may experience these cultural effects of having the "wrong" gender in segregated occupations, in forms of socio-emotional burdens and feelings of isolations at the workplace, which may be an important activator of the revolving door.

[4] To be more concrete, expectation states theory, a concept from social psychology, is about the question how and why status hierarchies emerge ingroups (Berger et al. 1977). The theory is applicable to groups that share a common goal or rather have to achieve a common task (e.g. working groups). Status differentiation serves as an instrument for an efficient as possible goal achievement. The group members try to achieve the goal in the most effective way while they identify those group members who are to their opinion the most competent ones concerning the group task.

[5] An occupational minority member is a worker who is a numerical rarity in the occupations he/she works in (Taylor 2010).

From those considerations, the following hypotheses are formulated:

Hypothesis H4: Women and men go into gender typical occupations, because these occupations include a work content they are assigned for, and because of a better workplace integration in those occupations.

Organizations

All described approaches so far do not take into account that processes of gender specific occupational channelling and discrimination in working life are not constant on all parts of the labour market but vary in different contexts. Therefore, the current research focuses increasingly on organizations people are working in (Allmendinger/Podsiadlowski 2001). This can be seen for example in the fact that in Germany the gender specific segregation and their consequences (mostly related to wages) nowadays are analyzed not only job specific but also firm specific (Beblo et al. 2008; Allmendinger/Hinz 2007; Achatz et al. 2005; Hinz/Gartner 2005). Behind this stands the assumption that organizations are the central "switch points" of the inclusion of women and men into the working life (Achatz 2008a: 121-122). With this, today's research perspective more and more lies on the demand side, to be more concrete on the demand for employees from firms and enterprises as central factor for individual career chances, income and job mobility (Goedicke 2006: 504).

With respect to gender, the concept of "*gendered organizations*" assumes that the differentiation between sexes is a basic element of organizations and is embedded in every organizational structures and organizational processes (Acker 1990). With this, the construction of gender specific divisions is also institutionalized on the organizational level. Organizations establish gender specific norms that are orientated on life realities of men, ignoring double burdens of family and occupational responsibilities (see also Achatz 2008a).

However, this internalization of gender roles on the organizational level may vary: Studies show that the gender specific labour market segregation is different depending on large or small firms, public or private sector, or rather profit- or non-profit companies (Allmendinger/Podsiadlowski 2001; Burchell 1996). But it is not so clear where these effects come from (see also Lengfeld 2010). An important approach from economy here is Becker's theory of "tastes of discrimination" (Becker 1971). It argues with personal prejudices concerning cooperation with a certain group: According to this theory, actors in the labour market anticipate that the employment of a woman produces higher costs than the

employment of a man. Therefore discrimination on the labour market is defined as rational profit maximization. In the view of the employer, the employment of women leads to higher personnel costs because the employer assumes that women are less productive than men. According to the human capital theory, the employer will therefore prefer men as employees.[6] However, the strength of this mechanism depends on the degree of competition on the part of the labour market the firm is situated in. If there is a high competition, employers are not able to choose employees only by these preferences, because they need also female employees. Above that, other employers could hire women for low wages to save costs and have with this a market advantage compared to those employers who only hire men for high wages. Thus, "such 'tastes' are more intense and salient only in firms protected from competition or with slack resources" (Kaufman 2002: 549).

Another theoretical approach for this assumption coming from sociology is the "*job queues/labour queues*" approach (Reskin/Roos 1990): Here, the main question is which mechanisms lead to a change of the "gender label" of jobs. The authors locate the reason for this in an interplay of two waiting queues: On the one hand, there is the labour queue where the employers rank the potential employees into more and less favoured workers. The criteria for this ranking are professional and personal qualifications as well as ascribed characteristics like gender. This labour queue is faced with a job queue, where the workers rank the offered jobs into highly and less attractive (e.g. income, prestige, working conditions). Changes in the gender composition of jobs can occur if the job gains or losses attractiveness in the eyes of the privileged employees, or if the employer change the rank of the potential employees. The question is now what affects the relative importance of gender in the labour queue as a criterion for hiring? An important moderator is the particular labour market situation where the company is localized: If there is a high demand for employees in a particular firm, the employer is perhaps forced to readjust his ideals to the real conditions (Salvisberg 2004; Charles 2000). Thus, it can be assumed that especially in good situated growing firms the chances and possibilities for persons in gender atypical jobs increase. „When occupational expansion outpaces the supply of qualified labour, employers are thought to broaden their search (i.e. to move down the 'labour queue'), so that new opportunities emerge for less preferred workers" (Charles 2000: 29). Especially organizations that have a good economic standing on the labour market may have more resources to reduce discriminatory practises and to establish anti discrimination laws and may have a more egalitarian firm culture.

[6] This theory was reformulated as "statistical discrimination" by Phelps (Phelps 1972).

From that, the final hypothesis is assumed:

Hypothesis 5: The probability of working in a gender untypical occupation is higher for those persons who work in firms that have a good economic standing.

3 Data, method, variables

The data base for the analysis is the German Socio-Economic Panel Study (SOEP),[7] for the year 2008 (Wagner et al. 2007). The sample observed consists of employees of employment age, namely persons aged between 18 and 64 years, including blue-collar workers, white-collar workers ("Arbeiter" and "Angestellte") and public servants ("Beamte").

The dependent variable is the *percentage of women in the current occupation*. This information is not directly available in the SOEP; so it has been computed while taking the distribution of men and women in each job of the job classification of the German Federal Office of Statistics (4digits).[8] The values have been taken from German *Erwerbstätigenbefragung* 2005/2006 ("Survey of employed people") of the Bundesinstitut für Berufsbildung (BIBB) (Federal Institute for Vocational Education and Training) and the Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (BAuA) (Federal Institute for Occupational Safety and Health) (Hartmann 2006).[9] For each occupation of the job classification, the percentage of women in the job has been computed. The values have been generated using frequency weights. Occupations with less than 10 persons have been indicated with missing. This information of the gender composition in each job has been merged via the job classification to the SOEP.

[7] The SOEP is a representative longitudinal study of private households, located at the German Institute for Economic Research, DIW Berlin. Every year, nearly 11,000 households, and more than 20,000 persons were sampled.

[8] This classification is more appropriate than the ISCO88-code (International Standard Classification of Occupations) to show the horizontal segregation and related inequalities because it has many more job categories than the ISCO88. Especially the 4digit version offers more than 1,300 job categories and therefore is very much appropriate for measuring gender specific occupational segregation. However, the German Mikrozensus (Statistisches Bundesamt 2008) which is in most studies the applied source to measure segregation does only offer the 3digit version. Therefore, the BIBB/BAuA *Erwerbstätigenbefragung* has been applied here, because it includes, like the SOEP, the 4digit classification.

[9] This is a representative cross sectional survey of 20,000 employees (defined as employees 15 years or older, working at least 10 hours per week, excluding apprentices) in Germany, fielded in the years 2005/2006. The goal of the survey is to provide detailed, representative, information about employees and workplaces in Germany. It includes questions about the work content (work tasks, demands, job requirements, efforts and rewards at work, work satisfaction, etc.) as well as questions about the socio economic background of the individuals (education, family responsibilities).

Since the dependent variable is measured as proportions and therefore is bounded between 0 and 1, standard OLS regression is not appropriate (impossible predictions of values smaller than 0 and larger than 1, non-normal errors, heteroscedasticity, non-linear effects) (Papke/Wooldridge 1996). A typical way dealing with this problem is transforming this fractional dependent variable into log-odds. The main problem with this strategy is that in this transformation procedure the values of 0 and 1 are transformed into missing values. Therefore, Papke and Wooldrigde propose a quasi-likelihood estimation method for regression models with such a fractional dependent variable. The so-called Fractional Logit Model can handle proportions of exactly 0 or 1 (Papke/Wooldridge 1996). In Stata, it is possible to compute such a generalized linear model, computing robust standard errors:

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glm varlist, family(binomial) link(logit) robust
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Further, it should be taken into consideration that persons working in the same occupation are not independently from each other. This may underestimate standard errors and with that overestimate significance tests. Therefore, the models are estimated with robust standard errors, clustered with the job classification of the German Federal Office of Statistics (3 digits).

However, the coefficients may be biased due to selection into the sample, meaning here the selection into the labour market, which differ between women and men. This selection may bias the estimators. To correct for that, a special version of Heckman's correction (Heckman 1979) is used (England et al. 1988; Berk 1983). Here, for the year 2008 a logit regression model is performed that predicts the probability to be employed (versus not being employed), separately for women and men. From these equations an instrumental variable is computed that is the predicted probability of being employed for women and men. This instrumental variable is added to the main model to control sample selectivity bias.

In a last analytical step, the mean difference between women and men in the dependent variable is decomposed using the Oaxaca/Blinder decomposition method (Jann 2008; Blinder 1973; Oaxaca 1973). With this, it is possible to quantify more precisely how much each variable is able to explain the gender differences of working in a gender typical or untypical occupation. For that, the "occupational gap", meaning the gender specific difference in the raw means of the dependent variable (percentage women in an occupation) is splitted into different parts:

- *Endowment effect (E)*: This part, which is also called the "explained" part, is the portion of the mean difference of the dependent variable that can be explained with gender specific

differences in the endowments of the independent variables. Technically, it is the difference in the average independent variable values between the two groups multiplied by the coefficient calculated for the group with the higher value in the dependent variable (here: women).

- *Residual effect (R)*: This is also called "unexplained" part and shows the portion of the mean difference of the dependent variable that cannot been explained by gender specific differences in endowments of the included variables but with the different valuation placed on the characteristics. Technically, the differential between the coefficients estimated for men and for women multiplied by the average of each variable for the group with the lower value in the dependent variable (here: men) is computed, plus the difference in the shift coefficients (*shift effect*).

With that, it is possible to quantify how much of the occupational gap is due to human capital, organizations, social control and the revolving door. This decomposition method is mainly used to split the gender wage gap into explained and unexplained parts (e.g. Watson 2010). But the method is not restricted to wage equations and therefore can be transferred to the present research question. However, since this methodology has been constructed for linear regression models, the procedure always applies the decomposition to the linear predictions from the models. Therefore, the occupational differential computed by the procedure in this paper does not show the raw differential in the dependent variable between women and men but the linear transformation.

The following independent variables are included:

Human capital/preferences: Here, the *desired weekly working hours* as an indicator of the degree of job orientation is included. Above that, the *highest vocational education* as a measurement for human capital is added. Further, the *work experience* in years gained through *part-time work* and through *full-time work* is included, respectively. For indicating family responsibilities, the *family status*, the *number of children* younger than 16 years in the household, and the information if there is *at least one child 6 years or younger* in the household is considered.

Socialization/social background: As proxy for the degree of a traditional or egalitarian socialization concerning gender roles in childhood a combined indicator for the *school graduation of the parents* is included: Both less than technical college/university entrance qualification, both technical college/university entrance qualification, father higher educated, mother higher educated. Furthermore, the occupation of the parents, performed when the sample unit was 15 years old, is considered ("women's job" with a percentage of women 70 percent or more, "men's job" with a percentage of women 30 percent or less, "integrated job", not employed).[11] Since that socialization specific indicators have relatively often missing values, for each of these variables persons with missing values have been captured through a category so that they are not excluded from the models (results not shown).

Organization: As important measurements of the organization the person works in, the *firm size* and the information if the person works in the *public sector* is considered. Further, *economic growth industries* have been indicating with industry specific indicators of the *Volkswirtschaftliche Gesamtrechnungen* (national accounts) (Statistisches Bundesamt 2009). From that, it has been investigated in how far there have been advancements or declines in the years 2000-2007 (2008 is not yet available) within each industry concerning gross value added (adjusted for price) and the real gross earnings per worker (adjusted for inflation while dividing the earnings with the consumer price index (Statistisches Bundesamt 2010)). If there were advancements (declines) in both indicators, the industry has been classified into a growing industry (shrinking industry). Industries are classified with the official classification of industries NACE ("Nomenclature statistique des activités économiques dans la Communauté européenne"), which is also available in the SOEP.

Revolving door: As an indicator for the revolving door effect, the information of the *percentage of women in the job performed in the year 2000* and therefore 8 years before the year of analysis (2008) is included into the model. A positive significant effect shows the degree of job stability in terms of remaining in a gender untypical or typical job over this time period. Furthermore, the *squared percentage of women in the job performed in the year 2000* is included, showing in how far the job stability gets higher the more "female" the job was (positive sign, expected for women) or lower the more "female" the job was (negative sign,

[11] This information of the gender composition of the *parents'* occupation has been merged from the German Mikrozensus for the year 1993, which is the first year where the job classification of the Federal Office of Statistics has been evaluated. It is based on the 3digit version.

expected for men). This procedure constrains the sample additionally, because only persons that are employees of employment age not only in the year of analysis 2008, but also in the year 2000, are taken into consideration in the models.

Social control mechanisms: Here, occupational specific means using the job classification of the German Federal Office of Statistics (3digit) have been computed in the BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006 and have been merged to the SOEP. The values have been computed using frequency weights. Occupations with less than 20 persons have been indicated with missing.

Perceived workplace integration: 5 questions from the BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006 have been used:

1. How often do you feel like a part of a community at your workplace?
2. How often do you perceive the teamwork of you with the other colleagues at work as good?
3. How often do you get help and assistance at work from colleagues when needed?
4. How often do you get help and assistance at work from your direct supervisor when needed?
5. How satisfied are you with the working atmosphere?

Questions 1 to 4 have the response categories of 0 (*never/seldom*), 1 (*sometimes*) and "2 (*often*)". Question 5 has the response categories 0 (*not/less satisfied*), 1 (*satisfied*) and 2 (*very satisfied*). A sum index has been constructed where these items are summed and divided by 5. If a response is missing for an individual, the available items are summed and divided by the number of available valid variables for that person. Finally, these values are divided by 2, so that the index varies between 0 (not at all integrated at the workplace) and 1 (fully integrated at the workplace). This index has been aggregated per occupation.

Compatibility between Family and Work: Here, in the BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006 it is asked: "Is it possible for you to fulfil your private/familial interests beside your work?" This information has been aggregated per occupation and merged to the SOEP.

Earning opportunities: Here, the gross hourly income (monthly income divided with the actual working hours) has been aggregated per occupation.

Promotion opportunities: Here, the percentage of persons who supervise other persons at work per occupation has been computed.

Work content: Three indexes describing typical "male", "female" and "gender neutral" job tasks are considered. The BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006 provides several variables about the every-day working content. All these variables have three response categories (never, sometimes, often). Three sum indexes have been constructed, showing in how far the work content includes typical male and female as well as neutral tasks:

- *Male tasks*: Producing, repairing, technical tasks (variables included: "Manufacturing and producing of goods"; "Controlling/navigating machines, constructions, technical processes"; "Repairing")
- *Female tasks*: Caring, educate, catering, nurturing/domestic tasks (variables included: "Educating, teaching, training"; "Serving, cooking, housing"; "Caring, parenting, healing")
- *Gender neutral tasks*: Marketing, PR, information services (variables included: "Advertising, marketing, PR"; "Collecting information, investigating, documenting"; "Advising, providing information").

Again, three sum indices are constructed where these items are summed and divided by the number of available valid variables for that person, respectively The final indices range between 0 and 1. These three indices again have been aggregated per occupation and merged to the SOEP.

Finally, the following ***control variables*** are included: The *place of residence* (new (eastern) federal states versus old (western) federal states), the information if the person has the

German nationality, and the *occupational position* (blue-collar worker, white-collar worker, public servant), as well as the probability of being employed (see above).

Selection variables: In the selection equation for being employed versus not being employed, the following independent variables are included: The highest vocational education, the work experience in years gained through part-time work and through full-time work, the number of children younger than 16 years in the household, the information if there is at least one child 6 years or younger in the household, the combined indicator for the school graduation of the parents, the occupation of the parents when the person was 15 years old, place of residence (eastern/western Germany) and the nationality (German/not German). As additional selection variables, the *current health* (ranging from 1 “very good” to 5 “bad”) and the information if there are *persons requiring help present in the household* are taken into consideration.

Table 1 gives an overview over the included independent variables analyzing determinants of working in a gender segregated occupation. The average woman in the sample observed work in occupations with a percentage of women of 73 percent. Men work on average in occupations with a lower share of women (24 percent). Therefore, the “occupational gap”, meaning the mean difference in the femaleness of the current occupation is 49 percent.

Table 1: Employees of employment age: Overview of variables (means and standard deviations) 2008

	Women (n=1,487)		Men (n=1,524)	
	Mean	S.D.	Mean	S.D.
Percentage of women in occupation	0.733	0.229	0.241	0.242
Revolving door				
Percentage of women in occupation in year 2000	0.745	0.225	0.242	0.247
Percentage of women in occupation in year 2000 [2]	0.605	0.288	0.119	0.186
Human capital/preferences				
Desired weekly working hours (in hours)	29.805	9.437	39.149	6.319
Vocational education				
No vocational education	0.104	0.305	0.072	0.258
Apprenticeship	0.434	0.496	0.444	0.497
Vocational school, commercial school, healthcare school	0.160	0.367	0.085	0.278
Technical college or university degree	0.222	0.416	0.239	0.427
Others[1]	0.081	0.272	0.161	0.367
Work experience full-time (in years)	14.764	10.006	23.428	9.169
Work experience part-time (in years)	7.372	7.555	0.533	1.764
Family				
Married and living with spouse (=1)	0.683	0.465	0.740	0.439
Number of children 16 years or younger in HH	0.399	0.714	0.659	0.953
At least one child 6 years or younger in HH (=1)	0.103	0.304	0.142	0.350
Socialization				
Occupation of the mother, when person was 15 years old				
Men's job	0.021	0.143	0.025	0.156
Integrated job	0.081	0.273	0.064	0.244
Women's job	0.095	0.294	0.085	0.278
Not employed	0.148	0.355	0.171	0.377
Does not know/does not allpy	0.654	0.476	0.656	0.475
Occupation of the father, when person was 15 years old				
Men's job	0.403	0.491	0.442	0.497
Integrated job	0.135	0.342	0.135	0.341
Women's job	0.015	0.123	0.023	0.150
Not employed	0.015	0.123	0.018	0.134
Does not know/does not allpy	0.430	0.495	0.383	0.486
School graduation of the parents				
Both less than technical college/university entrance qualification	0.845	0.362	0.852	0.356
both technical college/university entrance qualification	0.022	0.147	0.023	0.150
Father higher educated	0.061	0.239	0.064	0.244
Mother higher educated	0.015	0.121	0.012	0.111
At least one information missing	0.057	0.232	0.049	0.216
Organization				
Number of employees at place of employment				
Less than 20 employees	0.271	0.445	0.146	0.353
20 – 199 employees	0.302	0.459	0.289	0.453
200 – 1,999 employees	0.219	0.413	0.260	0.439
2,000 employees or more	0.208	0.406	0.306	0.461
Employed in public sector (=1)	0.373	0.484	0.273	0.446
Shrinking industry (=1)	0.190	0.393		
Social Control				
Institutions				
Compatibility of family and occupational work	0.647	0.095	0.585	0.110
Earning opportunities (in Euro)	13.677	3.971	15.859	4.411
Promotion opportunities	0.276	0.139	0.364	0.204
Promotion opportunities [2]	0.096	0.121	0.174	0.196
Work content				
Male work content	0.169	0.119	0.331	0.223
Female work content	0.298	0.231	0.188	0.121
Gender neutral work content	0.565	0.167	0.518	0.183
Perceived workplace integration	0.688	0.063	0.666	0.055
Perceived workplace integration [2]	0.478	0.084	0.446	0.071
Controls				
Place of residence: New (eastern) federal states (=1)	0.259	0.438	0.211	0.408
Age (in years)	46.355	8.525	46.360	8.248
Nationality: Not German (=1)	0.048	0.213	0.059	0.236
Occupational position				
Blue-collar worker	0.169	0.375	0.386	0.487
White-collar worker	0.764	0.425	0.493	0.500
Public servant	0.067	0.249	0.121	0.326
Probability of being employed	0.844	0.138	0.920	0.107

[1] No vocational degree, engineering school, "Meister"/Public servant education/other degrees/does not apply/no answer.

Source: SOEP 2000, 2008; BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006, own calculations.

4 Multivariate analysis

Table 2 shows the results of the fractional logit model, with the percentage of women in the current occupation as dependent variable. The models are computed stepwise: Model 1 is computed only with human capital/preferences, family, socialization and organizational factors. In model 2, the variables indicating the revolving door effect are added. Finally, in model 3, occupational variables indicating social control are included. Further, the information if the effects differ significantly between men and women are presented. All models are controlled with basic control variables described above.

Model 1 shows the results of the model which is controlled only with supply-side individual indicators and organizational factors. The variables indicating human capital and preferences have effects into the assumed direction, with differences in the effects between men and women: The higher the desired weekly working hours, the more "male" is the occupation the persons work in, but only for men. Further, higher vocational education degrees lead less often into female occupations. Interestingly, vocational education certificates gained in vocational schools or healthcare schools for women show a positive effect on working in a more female occupation, compared to an apprenticeship. Since both ways of vocational education require comparable costs (e.g. concerning time investment), or rather the monetary costs of a vocational school are often much higher (they often require school fees), this significant effect can hardly be explained with human capital theory; concerning this theory there should not be a difference or it should be even the other way round. Concerning human capital theory persons with a vocational school degree should work in a men's job with higher wages and better career possibilities. Thus, it is more an evidence for the thesis that there are different institutionalized educational paths for women and men, which lead to different occupations and careers (Krüger 2003).

Further, the work experience has effects on working in a segregated job, but only the one gained through part-time work. Persons who worked in their employment history more part-time, show a higher tendency to being employed in a more female occupation.

Table 2: Employees of employment age: Determinants of working in a gender segregated occupation 2008

	Model 1			Model 2			Model 3		
	Women	Men	Δ women - men	Women	Men	Δ women - men	Women	Men	Δ women - men
Human capital/preferences									
Desired weekly working hours (in hours)	0.004	-0.013***	+**	0.004	-0.009*	+**	0.004	-0.009**	+**
Vocational education (ref.: apprenticeship)									
No voc. education	0.187	-0.105		0.157	-0.254	+**	0.05	-0.152	
Voc. school, healthcare school	0.446***	0.265		0.228**	0.179		0.057	0.036	
Techn. college/univ. degree	-0.109	-0.453***		-0.023	-0.396***	+**	0.107	-0.235***	+***
Others[1]	-0.065	-0.322*		-0.002	-0.167		-0.037	-0.062	
Work experience full-time (years)	0.005	-0.026		0.013	-0.017	+**	0.01	-0.022*	+***
Work exp. part-time (years)	0.036**	0.046**		0.027**	0.008		0.019*	-0.021	+**
Family									
Married, living with spouse	-0.005	-0.081		0.02	-0.062		0.062	-0.116**	+**
Number of children 16 years or younger in HH	0.022	-0.044		0.022	-0.023		-0.017	0.022	
At least one child 6 years or younger in HH	0.056	-0.114		-0.118	-0.079		-0.08	0.011	
Socialization									
Occ. of mother, when person was 15 years old (ref: men's job)[2]									
Integrated job	0.268	-0.097		0.139	-0.01		0.193	0.072	
Women's job	0.405**	-0.11	+*	0.254	-0.163	+*	0.270*	-0.086	+**
Not employed	0.278	-0.033		0.149	-0.099		0.18	0.038	
Occ. of the father, when person was 15 years old (ref.: men's job)[2]									
Integrated job	-0.117	0.251***	-***	-0.016	0.137*		-0.046	0.072	
Women's job	0.174	0.246		0.302	-0.002		0.143	0.058	
Not employed	-0.046	-0.549**		-0.131	-0.450***		-0.302	-0.447***	
School grad. of parents (ref.: both low educated)[2]									
Both highly educated	-0.429**	0.26	-**	-0.205	0.260*	-**	0.055	0.194**	
Father higher educated	-0.266**	0.131	-**	-0.154	0.243*	-**	-0.067	0.097	
Mother higher educated	-0.075	0.255		0.073	0.259		0.03	0.09	
Organization									
Number of employees in firm (ref:less than 20)									
20 – 199	-0.551***	0.307**	-***	-0.307***	0.307***	-***	-0.242***	0.201**	-***
200 – 1,999	-0.803***	0.288*	-***	-0.414***	0.201	-***	-0.295***	0.249**	-***
2,000 or more	-0.732***	0.223	-***	-0.298**	0.314***	-***	-0.135	0.281**	-***
Employed in public sector	0.440***	0.503**		0.225**	0.293**		-0.11	-0.028	
Shrinking industry	0.022	-0.098		-0.046	-0.105		-0.052	-0.215**	
Revolving door									
Percentage women in occ. in year 2000				-1.034	4.638***	-***	-0.682	3.397***	-***
Percentage women in occ. in year 2000 [2]				3.295***	-2.010***	+***	2.063***	-1.953**	+***
Social Control									
Institutions									
Compatibility family/ occup.							3.425***	2.518***	
Earning opportunities							-0.080***	-0.060***	
Promotion opportunities							-3.057**	-3.400**	
Promotion opportunities [2]							3.514**	3.482**	
Work content									
Male work content							-1.655**	-3.197***	+*
Female work content							3.130***	2.333***	
Gender neutral work content							-2.123**	-0.071	
Workplace integration							-1.456	55.786**	
Workplace integration [2]							2.734	-44.234**	+*
Controls									
Probability of being employed	-0.277	-0.272		-0.572	0.031		-0.238	0.594*	
Constant	0.824	-2.031*	+*	0.285	-2.853***	+***	0.147	-19.753**	+*
AIC	0.876	0.814	0.844	0.802	0.732	0.767	0.759	0.691	0.724
BIC	-9658.2	-6610.0	-18307.9	-9592.6	-6361.7	-17991.3	-9471.3	-6104.3	-17600.1
Observations	1487	1524	3011	1487	1524	3011	1487	1524	3011

Dependent variable: Percentage of women in current occupation.

Results of a generalized linear model (fractional logit model); estimated with robust standard errors, clustered with the job classification of the German Federal Office of Statistics (3 digits). All models are controlled for place of residence: New (eastern) federal states/ Old (western) federal states, age (in years), German/no German nationality, occupational position white-collar, blue-collar worker, public servant.

* significant at 10%; ** significant at 5%; *** significant at 1%

[1] No vocational degree, engineering school, "Meister"/Public servant education/other degrees/does not apply/no answer

[2] Controlled for missing values in a separate category.

Source: SOEP 2000, 2008; BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006, own calculations.

Interestingly, the variables indicating family responsibilities do not have any effects on gender typical or untypical occupations. This is consistent with other studies (Trappe/Rosenfeld 2004) and stands contrary to classical theories assuming that family formations play an important role for gender typical occupational decisions.

There are some interesting effects in the variables concerning socialization background: If the mother was employed in a women's job (compared to a men's job) when the person was 15 years old, the tendency is high that women go themselves in a female occupation as well. It may be the case that this stands for long-term effects of gender role attitudes and aspirations formed in youth (Okamoto/England 1999). For men, the occupation of the father seems to play a more important role: If the father was employed in an integrated job or not employed, this increases the son's probability of working in a more male occupational field. Also, for women, the educational relation of the parents affects occupational decisions in the later working life. If both parents had a low school education, the probability is highest that women go into gender typical occupations. Taken together, hypothesis 1a - *persons who are strongly job orientated, show a high human capital accumulation and have been socialized more egalitarian show a higher tendency to work in men's occupations* - can confirmed only partly, also because there are gender specific differences in the effects which is not assumed in classical supply side theories.

Organizational factors play an important role for gender typical or untypical occupational decisions especially for women: The larger the firm persons work in, the higher the tendency of working in a gender untypical occupation. This is true for men and for women, but to a significantly larger extent for women. Large firms may have a higher need for qualified employees, and have a relatively good economic standing on the labor market and with this maybe more resources to reduce discriminatory practices, to establish anti discrimination practices, and may have a more egalitarian firm culture. Therefore, the hypothesis 5 - *the probability of working in a gender untypical occupation is higher for those persons who work in firms that have a good economic standing* – is confirmed with regard to firm size. However, the industry does *not* play a significant role: Although the signs show into the expected direction, if persons work in economically shrinking industries (compared to stagnating or growing industries), gender typical or atypical occupational decisions are not affected significantly.

In model 2, revolving door variables are added to the model. As can be seen, for men, the degree of "femaleness" of the performed job 8 years before the year of analysis affects

strongly positive the percentage of women in the current job, showing a high job stability – if one working path is entered, men tend to stay there or at least in a similar occupation. For women, there is not such a significant effect observable, indicating a lower job stability compared to men. But what is even more important is that that the squared percentage of women in the job in the year 2000 has strong effects for both sexes and show an opposite sign for men and women: For women, the occupational stability gets higher the more "female" the job performed in the starting year was. For men, the occupational stability decreases the more "female" the job in the starting year was. This goes in line with the revolving door hypothesis 2: *In gender untypical jobs the probability of staying in such a job is lower compared to the situation in gender typical occupations.*

In the last model 3, the occupational variables indicating social control are added to the models. As can be seen, the absolute effects of the revolving door variables decrease, which may be an indication that part of the revolving door effect is due to social control at work that bring women and men to leave gender untypical jobs after a while. However, the revolving door effects do not decrease in significance. The variables concerning social control have striking effects on gender typical or untypical occupational decisions: High compatibility opportunities and low earning opportunities are associated with a higher probability of working in a female occupation. Interestingly, the degree of promotion opportunities does not affect the "femaleness" of the current occupation in a linear way. Indeed, as expected, higher promotion opportunities are associated negatively with the percentage of women in the occupation. But this dependency gets weaker the more female the occupation is, which can be seen at the squared variable. Hypothesis 3 - *for women, gender typical occupational decisions can be explained with better opportunities concerning compatibility of family and occupational work. For men, gender typical occupational decisions can be explained with better opportunities concerning wages and promotion* – can only partly be confirmed, since there are no differences in the observed effects of the institutional variables between women an men. Therefore, in general, better opportunities of compatibility lead into women's occupations, and better opportunities concerning wages and promotion lead into men's jobs, for both men and women.

Concerning work content there are gender specific differences, though: Female work content is equally associated with more female occupations; but male work content plays a more important role for men than for women for working in a male occupation. Therefore, especially men tend to go into male occupations, because these occupations include work content they are assigned for by their gender. Further, the perceived workplace integration

plays a significant role: The higher the perceived workplace integration is, the higher is the tendency to work in a more female occupation. For women, the variable is positively significant in a model excluding the quadratic term (results not shown). In women's jobs, in general there seems to be a higher group cohesion. But this positive effect decreases significantly for men, the higher the percentage of women in the occupation is. The effect differs significantly from women. Therefore, for men, in more gender balanced occupations the situation at work concerning group cohesion seems to get better compared to strongly male occupations; but in stronger female occupations, the situation gets worse, which can be seen at the squared term. Therefore, hypothesis 4 - *women and men go into gender typical occupations, because these occupations include a work content they are assigned for, and because of a better workplace integration in those occupations* – can be confirmed with regard to male work content and also with regard to workplace integration, although the latter has non linear effects for men. Interestingly, for women, gender neutral work content leads in tendency in male jobs. Therefore, male occupations seem to be attractive for women not so much because of male work content but because of other gender neutral contents.

What should be noted is that some effects of the original variables from model 1 change after including the new variables in models 2 and 3. In general, the effects concerning human capital and family responsibilities as well as the differences in these variables between sexes have been underestimated before including the revolving door effect and social control variables, whereas effects of socialization variables have been overestimated. For example, in model 3 the vocational education in a (healthcare) school does not have an effect anymore for women, as it was the case in model 1. Therefore, it may be that occupations that are based on such vocational education systems are often occupations that include comparatively often for example opportunities of compatibility between family and occupational work, or female work content. Further, some effects for men get more visible after including the occupational variables: The effect of high vocational education and of work experience gained through full-time work on working in a male occupation is now significantly stronger for men than for women. Above that, for men the family status of being married now has a negative effect of the percentage of women in the current job. The effects of organizational variables also change: The most interesting observation may be here that in the full model 3 the information if people work in shrinking industry for men, but not for women, now has significant effects on working in a gender typical occupation. This strengthens hypothesis 5, saying that the probability of working in a gender untypical occupation is higher for those persons who work in firms that have a good economic standing.

The question is now how much each of the variable groups is able to explain the mean difference in the femaleness of the current occupation between women and men and therefore the "occupational gap"? To answer that question, a standard Oaxaca/Blinder decomposition of the difference in means is computed (Jann 2008), weighted by the coefficients of women. Since this methodology has been constructed for linear regression models, the procedure always applies the decomposition to the linear predictions from the models. Therefore, the occupational differential computed by the procedure does not show the raw differential in the dependent variable between women and men but the linear transformation. The results of the decomposition of the full model 3 are presented in table 3. In the table, the independent variables have been grouped and the endowment effects of the variables per group have been summed up. It can be seen that in general the model can explain 62.15 percent of the "occupational gap". To be more concrete, 62 percent of the occupational gap can be explained with different endowments of men and women in the independent variables.

Table 3: Determinants of working in a gender segregated occupation: Oaxaca/Blinder decomposition - Endowment effects (E)

	E	In %
Human Capital/Preferences	0.007	0.27
Socialization	0.000	-0.02
Family	0.004	0.15
Organization	0.010	0.36
Social control	0.943	34.31
Revolving Door	0.659	23.98
Probability of being employed	0.018	0.66
Controls	0.067	2.43
Total endowment effect	1.708	***62.15***
Total residual effect	1.040	***37.85***
Occupational differential	*2.748*	
Men	*-1.516*	
Women	*1.231*	

Results of the Oaxaca/Blinder decomposition, based on the clustered fractional logit model for women and men (model 3 of table 2).

Source: SOEP 2000, 2008; BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006, own calculations.

A large part of that explained effect is due to occupation specific social control endowments (34 percent) and the revolving door effect (24 percent). Only a marginal part of the gap can be explained by different endowments in human capital, different family responsibilities, and socialization background, confirming hypothesis 1b - s*upply side approaches can explain*

only a marginal part of the gender specific "occupational gap", meaning the employment of men and women in different occupations.

This shows that mechanisms of social control and job changes out of gender untypical occupations highly impacts gender typical occupational paths on the individual level and therefore segregation structures on the macro level, whereas individual level characteristics are only able to explain segregation structures insignificantly. Interestingly, also organizational factors do not explain a large part of the gap, which is contrary to the assumption that organizations are important mediators of the inclusion or exclusion processes of women/men on the labour market. It has a higher endowment value compared to supply side factors though, indicating that it plays a slightly larger role for the "occupational gap".

5 Conclusions, further steps

The aim of the paper was to analyze systematically determinants of the gender specific occupational channelling, taking different approaches simultaneously into account. The main argument was that the more classical supply side theories around human capital, preferences, and socialization are not able to sufficiently explain the "occupational gap", meaning the employment of men and women in different occupations. In contrast, it has been argued that there exist mechanisms of social control at work, based on institutional barriers and gender specific stereotypes, which bring men and women to leave these occupations after a while, in form of a revolving door, or to rather refrain from going into these atypical jobs.

The research hypotheses have been tested using the SOEP 2008, merging occupational specific variables from the BIBB/BAuA-*Erwerbstätigenbefragung* 2005/2006 to the SOEP. Since the dependent variable has been a proportion variable (percentage of women in the current occupation), a fractional logit model has been estimated, a generalized linear model taking into account special problems arising from having such fractional response variables. Furthermore, gender-specific chances of being employed have been taken into account with the help of a special version of Heckman selection, to get unbiased estimators of the coefficients. In a last analytical step, decomposition methods have been used to quantify how much of the "occupational gap" (meaning the employment of men and women in different occupations) can be explained with the different groups of indicators.

The results have shown clearly that the revolving door effect play a significant role for gender typical occupational paths: The higher the percentage of women in the occupation 8 years

before the year of analysis was, the higher (lower) was the job mobility out of these occupations for men (for women). Further, occupation specific variables measuring institutional barriers like opportunities of compatibility between family and occupational work or earning/promotion opportunities for women as well as for men have striking effects of working in a gender typical or untypical occupation. Also, occupation specific gendered work contents and the degree of perceived workplace integration plays a significant role, indicating face-to-face-conflicts at the workplace based on stereotypes when persons are an occupational minority with regard to gender. In addition, persons who work in small firms (especially women) and in shrinking industries (especially men) are more often employed in gender typical occupations, indicating that firms that have a good economic standing may have a higher need for qualified workers (and therefore move down the "labour queue") and more resources to reduce discriminatory practises and to establish anti discrimination laws and may have a more egalitarian firm culture.

An Oaxaca/Blinder decomposition of the gender specific occupational gap has been shown that around 60 percent of the gap can be explained with different endowments of men and women in the independent variables. A large part of that explained effect is due to occupation specific social control endowments and the revolving door effect. Only a marginal part of the gap can be explained with different endowments in human capital, different family responsibilities, socialization background or the localization in different organizations. However, the decomposition method used here is applied to linear regression models and therefore less appropriated for the fractional logit model presented here. Further research should take a more established decomposition technique into consideration that allows for non-linearity.

Further analytical steps should analyze the dependency between social control mechanisms at work and job changes out of gender untypical occupations in greater detail. The analysis presented here gives first clues that there seems to be a causal dependency: Social control at work especially in gender untypical occupations may lead to job changes. However, this should be analyzed more deeply taking job changes between gender typical and untypical occupations over time as dependent variable. Therefore, the consideration is to analyze occupational changes from gender untypical into typical occupations with a discrete time logit model (Allison 1982). Here, it is considered to show that occupational characteristics or social control at work plays an important role for going out of untypical occupations, therefore explaining the revolving door effect in Germany.

6 Literature

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