WORKING PAPER

Non scholae, sed vitae discimus!
- The importance of fields of study for the gender wage gap among German university graduates during labor market entry and the first years of their careers

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Working Paper Series in Economics

No. 85

May 2008

www.leuphana.de/vwl/papers

ISSN 1860 - 5508

Non scholae, sed vitae discimus! - The importance of fields of study for the gender wage gap among German university graduates during labor market entry and the first years of their careers

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This version: May 15, 2008

Abstract

This paper investigates the gender wage gap among German university graduates in their first job and five to six years into their careers. We find that women earn about 30% less than men at their first job and about 35% less after five to six years. Results from standard decomposition techniques show that 80% of the earnings gap in the first job can be attributed to differences in endowment of which between 74 and 78% are related to different fields of studies. Adding employer information leads to an explained share of about 90% of the earnings gap with fields of study still accounting for about half of the gap. These also play a dominant role in a model without employer information after five to six years, directly explaining between 26 and 33% of the earnings gap. Adding employer information, however, leads to insignificant results. Together with detailed information on experiences after graduation, these variables account for about 44 to 50% of the earnings gap later in the graduates careers.

Keywords: Gender wage gap, decomposition, field of study
JEL Classification: J24, J31, J71

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The author would like to thank Joachim Wagner for helpful hints and overall support. The title of this paper has been borrowed from a paper by Lorenz and Wagner (1992) that was one of the earliest papers (and the first for Germany) to consider the impact of school grades in different fields on subsequent earnings. Its origin is a variation of a quote by Seneca (the Younger) who actually stated the opposite ("Non vitae sed scholae discimus!" (Epistulae Morales 106.12)). All calculations were performed using Stata 10.0 SE (StataCorp 2007). All do-files are available from the author on request. The data used in this paper as well as the documentation (Fabian and Minks 2006) can be obtained from the GESIS-ZA Central Archive for Empirical Social Research (*GESIS-ZA Zentralarchiv für empirische Sozialforschung*) under the study number 4272, see http://www.gesis.org/en/za/index.htm for further information.

1 Introduction

Wage differences between men and women have concerned economists for decades. This paper adds to the vast literature written on this subject by using a new and unique dataset on German university graduates to look at wage differences between men and women at the beginning and five to six years into their careers. Our data allows us to control for activities during and after studies as well as for field of study and the complete labor market biography during the first years of an individual's career.

Fields of studies (or the fields of vocational training) might be expected to play a major role as men and women tend to enroll in different fields. Men are usually clustered in technical occupations, like engineering and the natural sciences, while women are more often found in the humanities, education science or the social sciences. As different fields of studies usually imply different employment opportunities and allow access to vastly different industries and occupations, one might expect a direct transformation of these differences into differences in earnings.

Indeed, our findings from standard Oaxaca-Blinder-decompositions (Blinder 1973, Oaxaca 1973) indicate that, depending of the specification, between 74 and 76% of the difference in starting wages can be related to different fields of studies. Additionally, these differences persist during the first years after leaving university: After five to six years, they still explain between 26 and 33% of the earnings gap while an additional 17 to 18% can be explained by differences in other endowments, mostly related to different labor market careers after graduation.

The rest of this paper is organized as follows: Section 2 provides a brief overview on the sparse empirical literature on the role of fields of studies and earnings differences among

university graduates. The data and the estimation procedure is described in section 3. Descriptive results are found in section 4, while estimation and decomposition results are presented in section 5. Section 6 concludes.

2 Previous evidence

In the following short overview we consider only studies on the gender wage gap that focus on academics and include some measure of the subject of studies. Papers dealing exclusively with pay differences in highly specialized occupations like university faculty, e.g Broder (1993) or Formby et al. (1993) are excluded. More extensive surveys on the gender wage gap can be found in Cain (1986), Altonji and Katz (1999) or in Weichselbauer and Winter-Ebmer (2005) who also conduct a meta-analysis.

In the first paper to consider gender related wage differentials among graduates, Dolton and Makepeace (1986) consider the labor market for 1970 graduates in the UK. For 1977 they found an unconditional earnings advantage of 27% for men of which between 7 and 19 percentage points remained unexplained after accounting for various observables and adjusting for selection.

Gerhart (1990) uses data from a single large firm in the US in 1986. He focuses on hires between 1976 and 1986 and controls for college majors alongside the usual human capital variables like experience and schooling. He finds that about 6-7 percentage points of an initial 11% wage penalty for women in both starting and current salaries can be explained by human capital and different college majors.

In a survey among male and female graduates in business from a specific university, Fuller and Schoenberger (1991) find an initial 7% earnings penalty for women in starting

salaries and a 14% earnings penalty later in their careers. College major and grade point average account for roughly 50 to 70 percent of the difference in starting wages. Their findings furthermore suggest a declining impact of those characteristics over time.

Controlling for high school courses and the fields of the highest degree, Brown and Corcoran (1997) find that these account for 0.08 to 0.09 of an initial 0.18 to 0.20 gap in log earnings in 1986. They also find some evidence that men profit more from taking typical "male" majors than women.

Machin and Puhani (2003) compare the contribution of the subject of degrees to wage inequality between male and female university graduates in Germany and the UK in 1996. Their findings indicate that these differences explain between 8 to 20% of the overall wage gap and raise the explanatory power of wage regressions by about 24 to 30%. Note that their study differs from this one in the definition of the respective population: While they consider persons of all ages and in various states of their labor market careers, we focus on the first few years after leaving university. Consequently, we might expect the impact of different subjects to be stronger in our study as less human capital deprecation has taken place since graduation and eventual signalling components of degrees might be more important at the beginning of a labor market career.

Using data for Finish university graduates over the first 11 years of their careers, Napari (2006a) finds that between 8 and 11% of the gender wage gap can be related to differences in the field of studies. He also finds that men are more clustered in technology oriented fields, while women are more likely to be found in education science, the humanities, health and welfare and the social sciences (including business). Finally, in a related paper, Napari (2006b), using a different sample, finds large contributions of differences in fields of studies for both labor market entrants and more experiences workers. For new entrants, differences

in fields explain between 20 and 39% of the gender wage gap for graduates with a Bachelor and between 27 and 35% for those with a Master's degree. Using data on more experienced workers, the respective shares are between 20 and 30% for those with a Bachelor's degree and between 18 and 23% for those with a Master's degree.

Overall, the evidence suggests that college majors or fields of study are an important factor when looking at the gender wage gap among graduates. Furthermore, the impact seems to be strongest shortly after graduation and declining over time.

3 Data and empirical approach

The data used in this paper comes from the scientific use file of the "HIS panel survey of graduates 1997" (*HIS Absolventenpanel 1997*), a representative survey among German university graduates who obtained their degree between September 1996 and September 1997.[1] The data is collected by the *HIS Hochschul-Informations-System GmbH*, a company owned by the Federal Republic of Germany and the German *Länder* with the purpose to provide services to university administrations, to conduct research on university graduates and to support German higher education policies. The scientific use file as well as the documentation (Fabian and Minks 2006) can be obtained from the GESIS-ZA Central Archive for Empirical Social Research (*GESIS-ZA Zentralarchiv für empirische Sozialforschung*).

The relevant target population of the survey are all graduates from German universities and universities of applied sciences (*Fachhochschulen*) who completed their first degree between September 1996 and September 1997. Note that at the time of the survey the

[1] Some general information on the HIS surveys can be obtained from http://www.his.de/abt2/index22_html.

relevant degrees were the German *Diplom* and *Magister*[2] that are equivalent to 4 (at universities of applied sciences) or 4,5 to 5 (at universities) years of post-school education, making them roughly comparable to the Master's degree.

The sample for the survey is obtained by a clustered sampling design, where clusters are defined by the specific university and field and type of degree. Furthermore, graduates from East Germany are oversampled. To account for this sampling design all further results use weights provided by the HIS.

Respondents were surveyed twice: The first survey in 1998 took place between 6 and 18 months after graduation. It focuses on characteristics and the individuals' perception of studies, the respondents' social background and the transition from university to the labor market. It also contains detailed socio-demographic characteristics, including some information on parental background. The second survey was conducted in 2003, that is approximately 5 to 6 years after graduation. Respondents were asked about their employment biography since graduation, characteristics of their current job, further training and education and the development of their family situation.

To arrive at the estimation sample, we try to make as less restrictions as possible. For the sample of entrants, we drop those with missing information on variables used in the following analysis. Furthermore, we drop those with exceptionally low or high incomes below 800€ or above 10,000€ per month. The former are most likely individuals in casual work directly after studies, while the latter restriction removes one extreme outlier from the estimation sample. For the second sample after five to six years, we make the following income restrictions: We again remove individuals who report a (current) wage below 800€ while the upper bound is set at 15,000€ per month.

[2] A *Diplom* typically focuses on one field of study, e.g. economics or engineering, while a *Magister* usually allows for the choice of several major and minor fields of study.

In a first step, we estimate standard wage regressions in two different models with and without employer characteristics where (log) gross monthly wages are regressed on dummy variables for the relevant fields of study and a number of control variables. The separate consideration of employer characteristics seems necessary as these may already be influenced by discrimination if, e.g., employers in certain industries are reluctant to hire females workers. However, as employer characteristics are also important determinants of earning, it seems worthwhile to consider them in a separate model.

Control variables in all models include information on the respondent's social background, that is marital status (permanent parter, married) and children and the information whether at least one parent has completed higher secondary schooling and/or has been to university.

We also include variables for work experience before or during studies, that is whether vocational training was completed, work experience in months before studying, whether the respondent worked in an occupation related to their studies while studying and whether the respondent worked at all during studies. To capture academic achievement, we include information on the grade of the school leaving degree, measured as "good" or "very good", a dummy variable for obtaining additional qualification during studies, the final grade of the university degree (running from 1.0 as the best grade to 4.0 as the worst passing grade), the duration of studies (in German half-year *Semestern*) and the age at obtaining the degree.

Experience after leaving university is captured by information on further degrees (doctorates and MBAs or equivalent) and for wages after 5 years by information on further training while working, distinguishing longer trainings from shorter ones, e.g. weekend courses, the number of job changes and months spent working, in self-employment, in casual work, in family work, in further education and in unemployment. In the second

model, estimated for both samples, we also include information on employer characteristics, that is industry, in 38 categories as measured by the HIS, six dummy variables each for firm size and the share of workers with a university degree, a dummy variable capturing whether the respondent is employed in the civil service and dummy variables for the German *Bundesland* where the firm is situated.

In a second step, we rely on standard Oaxaca-Blinder-Decompositions to identify the part of the raw wage differential explained by differences in the covariates and the part of the differential unexplained by these observable differences. As usual, we focus on the explained part of the differential as the unexplained part might be due to genuine differences in the (structural) coefficients as well as due to differences in unobservables. We also rely on the usual practice of using both the female and the male coefficients as weights for the decomposition.[3]

4 Descriptives

Consider the descriptive comparisons in table 1. Note first that there is a statistically significant earnings difference between men and women in both the first job as well as after five years. Entry wages for men are about 500€ or 27% higher per month than those for women. After five years this difference has risen in absolute terms to ca. 1000€ or 32%.

(Table 1 about here.)

Now turn to differences in relevant characteristics. Starting with the socio-demographic variables, note that the share of individuals being married or living in stable relationships

[3] On a sidenote, we also tried to look into wage differentials within degrees by calculating decompositions conditional on the field of study. Unfortunately, case numbers were too low to allow any reliable analysis.

is rising over time. An interesting point to note is that men are more likely to be married at both points in time. A similar observation can be made for children: While only a minority of both men and women had children at the end of their studies, this share rises to about a third of all respondents for men and to about a quarter of all respondents for women. This is consistent with a widespread concern in Germany that most female university graduates postpone the decision for children in favor of their careers and also with the casual observation that having children induces higher costs on women than on men.

Looking at the parental background, one notices that women are more likely to be from an academically educated family than men. Note that the small differences observed between the sample of entrants and the sample after five years are due to persons not working in 2003 or without information on the first job after studies.

Turning to differences in high school degrees, one notices a higher share of women with "good" degrees and similar shares among those with a "very good" degree. The high share of individuals with at least "good" degrees in both groups is not surprising as admission to universities depends to a certain degree on high school grades.[4]

Men have slightly more work experience than women with about 4% more men having worked in a job somewhat related to their studies or having completed vocational training before going to university. Note that the relatively high share of individuals in both groups with completed vocational training is also not uncommon in Germany.

Graduates in both groups are about 27 years old when leaving university with men being about half a year older than women. Academic achievement seems to be rather similar

[4]The extent to which grades play a role depends on the ratio of applicants to free places. More specifically, as long as there at most as many applicants as places, applicants are admitted without selection. If the number of applicants exceeds the number of places, admittance to university is based mainly on high school grades and waiting time after studies.

with almost the same average grades and similar durations of studies in both groups. One should not though that grades are hard to compare over different fields of study. As far as men are more or less likely to select fields with relatively low (good) average grades this comparison may be misleading. Note that again all aforementioned variables are similar between the sample of entrants and the sample after five years suggesting that selection bias due to non-participation is not a major issue.

Now consider the variables describing experiences after the end of studies. Note first that the share of individuals with doctoral degrees is similar between men and women. The relatively low share of those with a doctoral degree in the first sample is related to the fact that the respective survey takes place 6 to 18 months after graduation. Even taking the upper bound of this time span, completion of a doctoral thesis is essentially impossible in almost any field, except for medicine and law where shorter theses are more common. For shorter post-graduate programs, like MBAs, one notes the following: First, rather unsurprisingly given the shorter time needed for completion, a higher share of individuals has already finished such a degree at the beginning of their careers. Secondly, there are slightly more women than men who have completed such a degree. Note, however, that while the difference is statistically significant, it is actually rather small with the share of women being only 3% higher than that of men. Finally, consider the two variables related to further training during work: Here, almost every respondent has received at least a short training session. Longer training seems to be more frequent among women with a share of about 30% compared to about 20% among men.

Turning to labor market experience after graduation, note that only the average number of months spent in self-employment is similar across groups. The remaining differences can be summarized as follows: Women tend to have slightly more job changes, about 10 months

less work experience, spent about two months more in casual work and about half a month more in unemployment, and have on average spent four months more in further education and three months more doing family work.

Considering differences in employer characteristics, one notices that women are more likely to be employed in civil service. Additionally, they are also more likely to be employed in smaller firms and in firms with a higher share of university graduates – at least after five years. All of these differences become more pronounced after several years in the labor market. We also find pronounced differences in the industries the respondents work in: Men are more likely to be found in production and engineering industries, while women are more likely to be found in health and education. This applies to both the entry sample and the sample after five to six years.

To sum up, our results suggest that women tend to have a more academic family background and have done slightly better at school. Men tend to acquire more work experience during studies, while academic results are similar in both sexes. After graduation, women spend more time in education and further training, as well as in unemployment, family and casual work, while men spent much more time in regular employment. During the first years in the labor market, men tend to accumulate more work experience, while women spend more time in education, unemployment and with family work. Additionally, men tend to move into larger firms and out of civil service.

Figure 1 displays the distribution of the different fields of studies by gender. Note that fields of studies have been slightly aggregated. In the regressions, we distinguish between universities and universities of applied sciences and make finer distinctions within the subfields, e.g. separate teachers for elementary schools from teachers for secondary schools. A full list of all fields can be obtained from the author on request. The shares are

calculated from the sample of entrants. However, the distribution is practically identical to the distribution after five years.

(Figure 1 about here.)

From this figure it is apparent that there are differences in fields of studies between men and women. Men are more likely to study technical fields as engineering, computer sciences or the natural sciences, while women tend to cluster in the humanities, the social sciences and in teaching. In the next section, it will be discussed to what extent these differences transform into differences in labor earnings.

5 Results

Consider first the regression results for entry wages displayed in table 2 and focus on differences between the sexes. Stable partnerships and even more being married is associated with large wage gains regardless of whether employer characteristics are included. On the contrary, wage changes for women are small and insignificant at career entry. While having children does not change wages for men and for women at the begin of their careers significantly, one should note that the associated point estimate indicates an earnings loss of about 5 to 6%.

(Table 2 about here.)

Looking at the variables relating to experiences during or before studies, one notices that labor market experience during studies does only matter (positively) for women. The highest effect can be found for study related work experience. However, there are also

considerable wage gains associated with vocational training and work experience in other occupations. Note however, that the impact of work experience seems to decline when including employer characteristics. This may indicate that experience influences earnings indirectly through placement in higher-paying jobs. The final grade of the high-school leaving degree seems to matter only for women, with the point estimates indicating rather small and insignificant results for men.

Now, consider academic achievement. Here, we notice only weak hints that the duration of studies might influence the earnings of men and practically no signs that such an effect exists for women. Better (lower) grades as the prime measure of academic achievement are associated with higher earnings for men, while no such effect exists for women. One should keep in mind though that grades are not really comparable across fields which, given the different distribution over fields of studies, might explain the different results for men and women. Age at the completion of the degree has a weakly positive association with wages for almost all groups. Note that this may be related to age components in collective bargaining agreements and compensation structures.

Looking at postgraduate degrees, one notices that having completed a doctoral degree pays more for men than for women. However, remember from the discussion in the previous section that the results for entry wages are based on rather few and most likely special cases and should be taken with some caution. The negative to insignificant results for MBAs or equivalent titles for both sexes can be explained by the fact that MBAs were uncommon and also seldom offered by universities in Germany during the years covered by this survey. Additionally, the available MBA degrees were conceptually different from and often considered inferior to the respective US degrees.

Finally, looking at employer characteristics, one notices that an employer's firm size is associated with higher earnings. This effect is similar between men and women. For the share of high qualified workers, one notices that both shares above 75% as well as shares below 50% are associated with wage penalties that rise with a declining share. Working in civil service is associated with a non-significant wage penalty that is similar for both men and women.

Comparing these results with the results for the wage regressions after five to six years shown in table 3 and starting with the socio-demographic information, one notices the much larger and now significant wage penalty for women associated with having children. These results are consistent with the common notion that women's careers are significantly damaged by having children while no such effect exists for men. These, however, still gain from living in stable partnerships.

(Table 3 about here.)

Now, look at the variables describing experiences during or before studies. Almost all variables related to work experience during or before studies are now insignificant and associated with small point estimates. This negligible effect on wages seems plausible: Both signaling values as well as experience gained in these occupations can be expected to lose importance when other work experience is accumulated. The only exception is the completion of vocational training that is now associated with a negative wage impact for both men and women that also seems to be relatively uninfluenced by the inclusion of employer characteristics. Note that this may reflect unobserved differences between those who decided to complete vocational training before university and those making a direct transition from school to studies that offset the initial gains associated with vocational

training after a few years. The negative effect of school grades for men that also seems to be related to employer characteristics is hard to interpret as there is no apparent reason for this relationship.

Considering the impact of academic achievement, we first note a positive effect of age at degree for women. This might be a perverse effect of fertility as a higher age at graduation makes it more likely that the respective persons already have children and thus reduces the risk of a maternity leave in the future. Duration of studies has a small negative impact on earnings which might be related to screening behavior of employers if these consider a longer duration of studies as an indicator for negative productivity. Similarly, we find a persistent negative effect of worse (higher) university grades on earnings that is of a similar magnitude as found at labor market entry.

For post-graduate degrees, we find that a doctoral degree pays only for men. Additionally, its impact declines when taking employer characteristics into account, suggesting an indirect effect on earnings that may run through placement at different jobs. MBAs and similar degrees affect earnings only insignificantly. Additional training seems to have a beneficial effect on earnings, with men profiting more from shorter and women more from longer trainings.

Looking at the impact of labor market experience after 5 years, one notices that the impact of work experience is similar for men and women. Self-employment experience does not seem to have any influence on earnings as the coefficients are small and insignificant. Casual work is associated with a relative similar and small wage loss for both men and women. It seems, however, favorable to being unemployed which is related to a larger wage penalty. Gender differences can be seen for further education which is associated with wage losses for men and for family work which is associated with wage losses for women.

Taking a final look at employer characteristics, we see similar results as those obtained for the entry wages: Working in larger firms is generally associated with higher earnings. Similarly, shares of university graduates among fellow employees above 75% and below 50% are again associated with wage penalties. Being employed in civil service is again associated with an insignificant negative effect for men and a negligible, also insignificant effect for women.

Now, consider the decomposition results for the entry wages displayed in table 4. Focus first on the overall results shown in the top panel. The overall wage difference at labor market entry is 0.25 in log earnings. Of these, 0.19 or 76% can be explained through differences in observables in the models without employer characteristics. Of these, 0.18 to 0.19 or between 74% and 76% of the overall wage gap are related to differences in fields of studies. Differences in all other covariates are either insignificant or negligible small. Note also that the results do not differ by much when using either the male or female coefficients as weights.

(Table 4 about here.)

Adding employer characteristics raises the explained part of the differential to 0.22 and 0.20 or 90% and 82% using the male or female coefficients as weights. The part related to differences in fields of studies declines to 0.12. and 0.14 (47 and 55%), while an employer's industry explains between .06 and .08 or between 22% and 31%. This tradeoff is actually not surprising as fields of studies are to a certain degree limiting factors when choosing employers and industries to work in.

Turning to the situation later in the respondent's careers with results shown in table 5, one notices that the overall wage gap widens to 0.30 in log earnings. At the same time, the

part of the difference that can be explained by differences in endowments drops to between 0.14 and 0.16 or 47% to 53% in the model without employer characteristics. Of these, a large part of between 0.08 and 0.10 or between 26 and 33% of the overall wage gap can be related to different fields of studies.

The remaining explained differences differ with respect to the coefficients used as weights: If women were paid like men, that is using the male coefficients as weights, about 0.07 of the difference in log earnings could be explained by different experiences after graduation. These differences are mostly driven by the differences in work experience, time spent in casual work and time spent in family work. Additionally, differences in the number of children would be responsible for narrowing the gap by about 0.03 in favor of the women.

(Table 5 about here.)

If men were paid like women, differences in labor market careers after graduation are responsible for 0.08 or 26% of the earnings gap. These are mostly driven by the relatively less work experience of women that accounts for .03 or 10% of the overall gap and the different times in further education that accounts for an additional 0.015 or 5%.

Adding employer information again alters the results for the detailed decomposition while leaving the overall explained part of the gap constant: Differences in fields of study decline in importance and become insignificant while firm characteristics account for between 0.06 and 0.09 of the earnings gap. Here, the results differ somewhat with the coefficients used for weighting. Using the male coefficients results in insignificant and smaller results for industries compared with the results using the female coefficients. Differences in employers' firmsizes explain relatively between .02 and .03 of the earnings gap.

It is worthwhile to consider the strong role played by fields of study in most models in contrast to the other studies discussed in section 2: While our results, especially for the sample of entrants, seem quite high, they are similar to those of Gerhart (1990) and Fuller and Schoenberger (1993) whose results indicate that between 50 and 70% of the gender wage gap among labor market entrants can be related to differences in fields of studies. The lower results reported by Brown and Corcoran (1997), Machin and Puhani (2003) and Napari (2006a) may be explained by the fact that their samples also include older individuals in later stages of their careers and the declining importance of degrees over time that was also found in this study. The differences to Napari (2006b) who also reports lower results for labor market entrants may be related to a variety of reasons as institutional differences in both the labor market and the educational system exist between Finland and Germany.

6 Conclusion

This paper considered the importance of different fields of studies for the gender wage gap among German university graduates at the beginning and after five to six years into their labor market careers. We used a representative and new data set on 1997 graduates that contained detailed information on activities before and during studies as well as complete employment biographies after leaving university.

Our results from standard Oaxaca-Blinder-decompositions indicate that 75% of the 500€ (or 27%) difference found in starting wages can be explained by differences in endowments, not considering employer characteristics. Of these, differences in fields of studies play a dominant role, solely explaining between 74 and 76% of the earnings gap. Adding

employer characteristics leads to 90% of the gap being explained by differences in observables with fields of study acoounting for about 47 to 55%. After several years, the relative gap rises to 32% in advantage for men. Of these, between 44 and 50% can be explained by differences in endowments. Again fields of studies play a large role by soley explaining between 26 and 33% of the earnings gap, while the remaining explained differences are related to different expericens after graduation. Adding employer characteristics does not alter the overall explained share of the gap, but reduces the importance of fields of studies in favor of employer characteristics. The results on the imporatnce of fields of studies are largely consistent with the (sparse) empirical literature on this subject.

What remains an open question are the reasons that cause women to chose different and apparently worse-paid fields than men. These differences might in principle reflect genuine differences in preferences for topics or employment opportunities. However, they may also be related to anticipated discrimination in typical men's fields. As far as preferences are formed e.g. during childhood and youth they might also be related to expectations of the youth's environment about the "proper" behavior of a women. Resolving this question, however, is left for future research.

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8 Tables

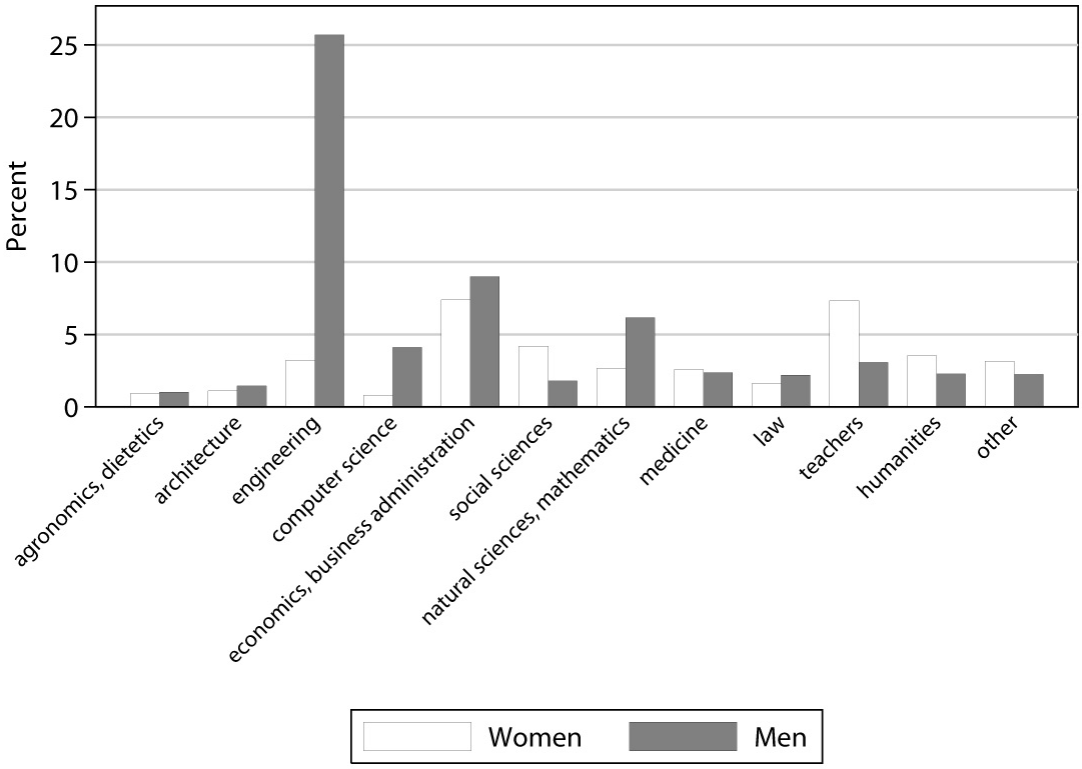

FIGURE 1: Distribution of fields of studies by gender

Share of individuals in respective samples. Numbers are calculated using the sample on labor market entrants. The distribution in the sample after five to six years is almost identical.

Table 1: Descriptive statistics

	Labor market entry					5-6 years after entry				
	Men		Women			Men		Women		
Variable	Mean	Std.dev.	Mean	Std.dev.	Prop(diff.)	Mean	Std.dev.	Mean	Std.dev.	Prop(diff.)
Monthly gross labor income (€)	2264.3660	828.0372	1786.9296	759.5127	0.0000	4088.7043	1316.8345	3103.0581	1204.0835	0.0000
Socio-demographics										
Has partner	0.4493	0.4975	0.5474	0.4979	0.0000	0.3338	0.4717	0.4223	0.4941	0.0000
Married	0.1784	0.3830	0.1570	0.3640	0.0971	0.4629	0.4987	0.3460	0.4759	0.0000
Has children	0.1194	0.3244	0.0756	0.2644	0.0000	0.3551	0.4787	0.2288	0.4202	0.0000
At least one parent has higher secondary schooling	0.3276	0.4694	0.3970	0.4895	0.0000	0.3268	0.4691	0.3835	0.4864	0.0005
At least one parent academic	0.2621	0.4399	0.3496	0.4770	0.0000	0.2666	0.4423	0.3317	0.4710	0.0000
Studies, pre-study experience										
Good high-school degree	0.4967	0.5001	0.5378	0.4988	0.0180	0.5044	0.5001	0.5288	0.4994	0.1507
Very good high-school degree	0.1529	0.3600	0.1600	0.3667	0.5734	0.1523	0.3594	0.1561	0.3631	0.7544
Worked in area of study during studies	0.6836	0.4652	0.6489	0.4775	0.0348	0.6728	0.4693	0.5957	0.4909	0.0000
Worked in other occupation	0.2449	0.4301	0.2615	0.4396	0.2731	0.2491	0.4326	0.3007	0.4587	0.0007
Obtained additional qualifications during studies	0.4010	0.4902	0.3963	0.4893	0.7810	0.4079	0.4916	0.4022	0.4905	0.7290
Finished vocational training	0.4057	0.4911	0.3659	0.4819	0.0184	0.3944	0.4888	0.3453	0.4756	0.0027
Work experience before studies (months)	8.9819	18.8459	9.8800	20.5148	0.1935	8.6257	18.5538	9.8791	21.4754	0.0711
Age at degreee	27.6115	2.5014	27.1326	3.2954	0.0000	27.5925	2.5147	27.1482	3.5336	0.0000
Duration of studies (semester)	11.2012	2.7243	11.1400	2.9132	0.5351	11.2788	2.7283	11.1633	2.7750	0.2181
Final grade university	2.0108	0.6281	2.0420	0.6282	0.1530	2.0109	0.6319	2.0548	0.6415	0.0428
Post-study experience										
Doctoral degree (1 = yes)	0.0144	0.1192	0.0200	0.1401	0.2237	0.1344	0.3411	0.1122	0.3158	0.0455
MBA or equivalent	0.0488	0.2155	0.0630	0.2430	0.0796	0.1065	0.3085	0.1374	0.3444	0.0060
Training while working (short)						0.9315	0.2527	0.9331	0.2499	0.8519
Training while working (long)						0.2164	0.4119	0.3151	0.4647	0.0000
No. of job changes						0.9943	1.1956	1.1547	1.4309	0.0005
Work experience after degree (months)						57.9106	14.3541	47.6727	17.1593	0.0000
Self employment experience after degree (months)						0.6379	4.2445	0.8799	5.3682	0.1525
Casual work after degree (months) or equivalent						2.3429	7.2367	4.4525	9.2923	0.0000
Family work after degree (months)						0.4127	3.2277	3.3612	9.6543	0.0000
Further education after degree (months)						15.6309	22.4458	19.6748	20.7793	0.0000
Unemployment after degree (months)						1.2160	3.2583	1.5633	3.5347	0.0029
Firm / industry information										
Employed in civil service (1 = yes)	0.3443	0.4753	0.5170	0.4999	0.0000	0.2862	0.4521	0.5302	0.4993	0.0000
Plant > 1000 employees (1 = yes)	0.2756	0.4469	0.2119	0.4088	0.0000	0.3835	0.4863	0.2540	0.4354	0.0000
Plant > 500 - 1000 employees (1 = yes)	0.0943	0.2924	0.0770	0.2667	0.0721	0.0951	0.2934	0.0698	0.2549	0.0058
Plant > 100 - 500 employees (1 = yes)	0.1924	0.3943	0.1904	0.3927	0.8831	0.1994	0.3996	0.1719	0.3775	0.0365
Plant > 20 - 100 employees (1 = yes)	0.2240	0.4170	0.2630	0.4404	0.0093	0.2033	0.4026	0.2842	0.4512	0.0000
Plant > 5 - 20 employees (1 = yes)	0.1645	0.3708	0.1948	0.3962	0.0240	0.0951	0.2934	0.1741	0.3793	0.0000
Plant < 5 employees (1 = yes)	0.0493	0.2165	0.0630	0.2430	0.0905	0.0236	0.1517	0.0460	0.2097	0.0005
Share workers with university degree >75%	0.3467	0.4760	0.3541	0.4784	0.6545	0.2723	0.4452	0.3446	0.4754	0.0000
Share workers with university degree 50 - 75%	0.1650	0.3712	0.1504	0.3576	0.2469	0.1885	0.3912	0.1871	0.3901	0.9141
Share workers with university degree >25 - 50%	0.1482	0.3554	0.1607	0.3674	0.3209	0.1850	0.3884	0.1777	0.3824	0.5771
Share workers with university degree >15 - 25%	0.1194	0.3244	0.1230	0.3285	0.7552	0.1601	0.3668	0.1324	0.3390	0.0197
Share workers with university degree >5 - 15%	0.1301	0.3365	0.1089	0.3116	0.0573	0.1392	0.3462	0.1086	0.3113	0.0057
Share workers with university degree up to 5%	0.0906	0.2871	0.1030	0.3040	0.2321	0.0550	0.2280	0.0496	0.2173	0.4786
No. of Obs.	2,152		1,350			2,292		1,390		

Table 2: Wage regressions, dependent variable: log gross labor earnings per month at labor market entry

	Excluding firm characteristics		Including firm characteristics	
	Men	Women	Men	Women
Socio-demographics				
Has partner (1 = yes)	0.0264+	0.0139	0.0198	0.0190
	(0.0157)	(0.0195)	(0.0140)	(0.0184)
Married (1 = yes)	0.0872***	0.0468	0.0725**	0.0465
	(0.0247)	(0.0298)	(0.0222)	(0.0284)
Has children (1 = yes)	-0.0485	-0.0650	-0.0094	-0.0512
	(0.0304)	(0.0413)	(0.0263)	(0.0426)
At least one parent has higher secondary schooling (1 = yes)	-0.0125	0.0059	-0.0140	0.0087
	(0.0254)	(0.0332)	(0.0217)	(0.0307)
At least one parent academic (1 = yes)	-0.0410	-0.0046	-0.0288	-0.0080
	(0.0279)	(0.0339)	(0.0235)	(0.0319)
Studies, pre-study experience				
Good high-school degree (1 = yes)	0.0086	0.0735***	0.0149	0.0767***
	(0.0151)	(0.0202)	(0.0140)	(0.0197)
Very good high-school degree (1 = yes)	-0.0387	0.0214	0.0005	0.0613*
	(0.0248)	(0.0313)	(0.0220)	(0.0286)
Worked in area of study during studies (1 = yes)	0.0071	0.1076***	-0.0103	0.0587+
	(0.0247)	(0.0315)	(0.0232)	(0.0314)
Worked in other occupation (1 = yes)	-0.0277	0.0931**	-0.0512*	0.0429
	(0.0262)	(0.0334)	(0.0246)	(0.0329)
Obtained additional qualifications during studies (1 = yes)	0.0196	0.0130	-0.0101	0.0170
	(0.0145)	(0.0182)	(0.0129)	(0.0168)
Finished vocational training (1 = yes)	0.0209	0.0504*	0.0200	0.0577*
	(0.0189)	(0.0243)	(0.0173)	(0.0239)
Work experience before studies (months)	-0.0004	0.0002	-0.0001	0.0004
	(0.0005)	(0.0006)	(0.0004)	(0.0007)
Age at degree (years)	0.0080+	0.0079+	0.0067+	0.0054
	(0.0044)	(0.0044)	(0.0039)	(0.0048)
Duration of studies (semester)	-0.0047	-0.0002	-0.0056+	-0.0012
	(0.0037)	(0.0042)	(0.0034)	(0.0042)
Final grade university	-0.0303*	-0.0225	-0.0275*	-0.0242
	(0.0145)	(0.0185)	(0.0134)	(0.0173)
Post-study experience				
Doctoral degree (1 = yes)	0.1266*	0.0975*	0.1224*	0.1018*
	(0.0514)	(0.0480)	(0.0518)	(0.0498)
MBA or equivalent (1 = yes)	-0.0138	-0.0989*	-0.0335	-0.0606
	(0.0353)	(0.0450)	(0.0342)	(0.0452)
Firm / industry information				
Employed in civil service (1 = yes)			-0.0429	0.0129
			(0.0323)	(0.0336)
Plant > 1000 employees (1 = yes)			0.0504**	0.0539*
			(0.0186)	(0.0259)
Plant > 500 - 1000 employees (1 = yes)			0.0420+	0.0702*
			(0.0244)	(0.0343)
Plant > 100 - 500 employees (1 = yes)			0.0146	0.0050
			(0.0196)	(0.0255)
Plant > 5 - 20 employees (1 = yes)			-0.0441*	0.0085
			(0.0216)	(0.0270)
Plant < 5 employees (1 = yes)			-0.1454***	-0.0655
			(0.0396)	(0.0487)
Share workers with university degree >75%			-0.0349+	-0.0158
			(0.0189)	(0.0290)
Share workers with university degree >25 - 50%			-0.0454*	-0.0521+
			(0.0216)	(0.0296)
Share workers with university degree >15 - 25%			-0.0441+	-0.1030**
			(0.0234)	(0.0346)
Share workers with university degree >5 - 15%			-0.0758**	-0.0850*
			(0.0235)	(0.0340)
Share workers with university degree up to 5%			-0.1923***	-0.1394***
			(0.0306)	(0.0410)
Constant	7.4378***	7.7166***	7.4904***	7.8335***
	(0.1854)	(0.1273)	(0.2233)	(0.3458)
Field of study fixed effects	(included)	(included)	(included)	(included)
Industry fixed effects	(excluded)	(excluded)	(included)	(included)
No. of obs.	2,152	1,350	2,152	1,350
R^2	0.4565	0.5101	0.5875	0.6054
Sig.(model)	0.0000	0.0000	0.0000	0.0000

Coefficients, robust standard errors in parentheses. ***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively.

Table 3: Wage regressions, dependent variable: log gross labor earnings per month 5 to 6 years after labor market entry

	Excluding firm characteristics		Including firm characteristics	
	Men	Women	Men	Women
Socio-demographics				
Has partner (1 = yes)	0.0412*	0.0135	0.0230	0.0266
	(0.0189)	(0.0244)	(0.0171)	(0.0229)
Married (1 = yes)	0.0843***	0.0141	0.0645***	0.0121
	(0.0205)	(0.0263)	(0.0185)	(0.0254)
Has children (1 = yes)	0.0099	-0.2535***	0.0177	-0.2243***
	(0.0173)	(0.0363)	(0.0157)	(0.0363)
At least one parent has higher secondary schooling (1 = yes)	0.0007	0.0308	0.0082	0.0329
	(0.0231)	(0.0384)	(0.0210)	(0.0364)
At least one parent academic (1 = yes)	0.0168	-0.0182	0.0012	-0.0111
	(0.0244)	(0.0401)	(0.0220)	(0.0374)
Studies, pre-study experience				
Good high-school degree (1 = yes)	-0.0286*	0.0315	-0.0159	0.0291
	(0.0138)	(0.0215)	(0.0124)	(0.0210)
Very good high-school degree (1 = yes)	-0.0675**	-0.0239	-0.0235	0.0301
	(0.0226)	(0.0340)	(0.0213)	(0.0309)
Worked in area of study during studies (1 = yes)	0.0374	0.0505	0.0253	0.0128
	(0.0227)	(0.0323)	(0.0213)	(0.0313)
Worked in other occupation (1 = yes)	0.0097	0.0137	0.0054	-0.0192
	(0.0253)	(0.0347)	(0.0231)	(0.0336)
Obtained additional qualifications during studies (1 = yes)	-0.0061	0.0054	-0.0165	-0.0057
	(0.0131)	(0.0204)	(0.0120)	(0.0194)
Finished vocational training (1 = yes)	-0.0359*	-0.0545+	-0.0300*	-0.0507*
	(0.0159)	(0.0281)	(0.0143)	(0.0257)
Work experience before studies (months)	-0.0002	-0.0012+	-0.0000	-0.0009
	(0.0004)	(0.0007)	(0.0004)	(0.0007)
Age at degree (years)	0.0045	0.0249***	0.0050	0.0226***
	(0.0035)	(0.0050)	(0.0033)	(0.0050)
Duration of studies (semester)	-0.0093*	-0.0128**	-0.0105**	-0.0102*
	(0.0037)	(0.0049)	(0.0035)	(0.0048)
Final grade university	-0.0380**	-0.0139	-0.0375**	-0.0200
	(0.0126)	(0.0191)	(0.0115)	(0.0182)
Post-study experience				
Doctoral degree (1 = yes)	0.1229***	-0.0288	0.0580+	-0.0109
	(0.0317)	(0.0491)	(0.0301)	(0.0462)
MBA or equivalent (1 = yes)	0.0313	-0.0238	0.0265	-0.0327
	(0.0221)	(0.0287)	(0.0212)	(0.0267)
Further training while working (short, 1 = yes)	0.0946***	0.0115	0.0735**	0.0290
	(0.0283)	(0.0383)	(0.0279)	(0.0352)
Further training while working (long, 1 = yes)	0.0274	0.0495*	-0.0116	0.0416*
	(0.0169)	(0.0216)	(0.0163)	(0.0205)
No. of job changes	0.0038	-0.0005	0.0026	0.0020
	(0.0059)	(0.0063)	(0.0053)	(0.0059)
Work experience after degree (months)	0.0023**	0.0038***	0.0025**	0.0042***
	(0.0009)	(0.0010)	(0.0008)	(0.0010)
Self employment experience after degree (months)	0.0019	-0.0002	0.0024+	-0.0024
	(0.0016)	(0.0025)	(0.0014)	(0.0026)
Casual work after degree (months) or equivalent	-0.0029*	-0.0051***	-0.0023+	-0.0043**
	(0.0012)	(0.0014)	(0.0012)	(0.0014)
Further education after degree (months)	-0.0035***	-0.0014	-0.0014**	-0.0007
	(0.0005)	(0.0008)	(0.0005)	(0.0008)
Family work after degree (months)	-0.0010	-0.0059***	0.0013	-0.0052***
	(0.0020)	(0.0015)	(0.0018)	(0.0016)
Unemployment after degree (months)	-0.0065*	-0.0077**	-0.0051*	-0.0054*
	(0.0025)	(0.0029)	(0.0023)	(0.0027)
Firm / industry information				
Employed in civil service (1 = yes)			-0.0462	0.0034
			(0.0286)	(0.0325)
Plant > 1000 employees (1 = yes)			0.0802***	0.0987**
			(0.0177)	(0.0310)
Plant > 500 - 1000 employees (1 = yes)			0.0305	0.1260**
			(0.0222)	(0.0395)
Plant > 100 - 500 employees (1 = yes)			0.0281	0.0752**
			(0.0193)	(0.0291)
Plant > 5 - 20 (1 = yes)			-0.0882***	-0.0970**
			(0.0245)	(0.0302)
Plant < 5 employees (1 = yes)			-0.2064***	-0.1444*
			(0.0468)	(0.0583)
Share workers with university degree >75%			-0.0354+	-0.0123
			(0.0185)	(0.0333)
Share workers with university degree >25 - 50%			-0.0550**	-0.0260
			(0.0200)	(0.0354)
Share workers with university degree >15 - 25%			-0.0530*	-0.0054
			(0.0210)	(0.0393)
Share workers with university degree >5 - 15%			-0.0816***	-0.0121
			(0.0224)	(0.0414)
Share workers with university degree up to 5%			-0.1061**	-0.0494
			(0.0352)	(0.0474)
Constant	8.0171***	7.7059***	7.8152***	6.9156***
	(0.1379)	(0.1538)	(0.1693)	(0.2564)
Field of study fixed effects	(included)	(included)	(included)	(included)
Industry fixed effects	(excluded)	(excluded)	(included)	(included)
No. of obs.	2,292	1,390	2,292	1,390
R^2	0.3103	0.4050	0.4674	0.5075
Sig.(model)	0.0000	0.0000	0.0000	0.0000

Coefficients, robust standard errors in parentheses. ***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively.

Table 4: Decomposition results: endowment effect, Oaxaca-Blinder-Decomposition, wages at labor market entry

	Weighted by male coefficients		Weighted by female coefficients	
	Firm characteristics		Firm characteristics	
	excluded	included	excluded	included
Raw difference	-0.2484***	-0.2484***	-0.2484***	-0.2484***
Total explained	-0.1919***	-0.2244***	-0.1927***	-0.2038***
Total unexplained	-0.0565**	-0.0240	-0.0557***	-0.0446**
Detailed decomposition				
Socio-demographics				
Marital Status	-0.0004	0.0005	0.0007	0.0001
Children	0.0031+	0.0020	0.0022+	0.0003
Parental education	0.0008	0.0011	-0.0047**	-0.0036*
Studies, pre-study experience				
High school degree	0.0020	0.0029*	-0.0003	0.0007
Work experience during/before studies	-0.0033+	-0.0026	-0.0015	-0.0014
Of which: worked in area of study during studies	-0.0041+	-0.0018	-0.0006	-0.0000
Of which: worked in other occupation	0.0016	0.0005	-0.0004	-0.0007
Of which: finished vocational training	-0.0010	-0.0019	-0.0002	-0.0005
Of which: work experience before studies (months)	0.0002	0.0006	-0.0004	-0.0001
Obtained additional qualifications during studies	-0.0001	-0.0001	-0.0001	0.0000
Age at degree	-0.0047+	-0.0020	-0.0053*	-0.0039+
Duration of studies (semester)	0.0001	0.0001	0.0003	0.0004
Final grade university	-0.0008	-0.0009	-0.0010	-0.0010
Field of study	-0.1877***	-0.1369***	-0.1835***	-0.1171***
Post-study experience				
Doctoral degree	0.0006	0.0006	0.0007	0.0007
MBA or equivalent	-0.0014	-0.0009	-0.0002	-0.0005
Firm / industry information				
Employment structure / industry firm		-0.0843***		-0.0636***
Industry		-0.0777***		-0.0551***
Employed in civil service		0.0000		-0.0108*
Firmsize		-0.0058**		-0.0079***
Share of university graduates at firm		-0.0007		-0.0007
Bundesland firm		-0.0037		-0.0040

***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively. Negative signs denote an advantage for men. Detailed results can be found in tables 6 and 7.

Table 5: Decomposition results: endowment effect, Oaxaca-Blinder-Decomposition, wages 5 to 6 years after labor market entry

	Weighted by male coefficients		Weighted by female coefficients	
	Firm characteristics		Firm characteristics	
	excluded	included	excluded	included
Raw difference	-0.3012***	-0.3012***	-0.3012***	-0.3012***
Total explained	-0.1518***	-0.1489***	-0.1415***	-0.1582***
Total unexplained	-0.1494***	-0.1523***	-0.1597***	-0.1430***
Detailed decomposition				
Socio-demographics				
Marital status	0.0010	0.0018	-0.0059**	-0.0052**
Children	0.0307***	0.0278***	-0.0003	-0.0020
Parental education	-0.0004	0.0003	0.0010	0.0004
Studies, pre-study experience				
High school degree	0.0003	0.0007	-0.0012	-0.0005
Work experience during/before studies	-0.0028	-0.0014	-0.0007	-0.0003
Of which: worked in area of study during studies	-0.0043+	-0.0012	-0.0045*	-0.0030+
Of which: worked in other occupation	0.0005	-0.0011	0.0015	0.0011
Of which: finished vocational training	0.0025+	0.0021	0.0026*	0.0018+
Of which: work experience before studies (months)	-0.0015	-0.0012	-0.0004	-0.0002
Obtained additional qualifications during studies	-0.0000	0.0000	0.0000	0.0001
Age at degree	-0.0101**	-0.0092**	-0.0031+	-0.0032+
Duration of studies (semester)	0.0015	0.0012	0.0011	0.0013
Final grade university	-0.0011	-0.0010	-0.0023+	-0.0020+
Field of study	-0.0986***	-0.0319	-0.0780***	-0.0012
Post-study experience				
Doctoral degree	0.0003	-0.0003	-0.0023+	-0.0010
MBA or equivalent	-0.0012	-0.0013	0.0010	0.0006
Labor market career after studies:	-0.0715***	-0.0683***	-0.0507***	-0.0399***
Of which: no. of job changes	-0.0002	0.0001	0.0008	0.0005
Of which: further training while working (short)	0.0000	0.0000	0.0002	0.0001
Of which: further training while working (long)	0.0038+	0.0029	0.0035*	0.0001
Of which: work experience after degree (months)	-0.0373***	-0.0401***	-0.0299***	-0.0307***
Of which: self employment experience after degree (months)	-0.0002	-0.0006	0.0004	0.0005
Of which: casual work after degree (months) or equivalent	-0.0102***	-0.0094***	-0.0051*	-0.0041*
Of which: further education after degree (months)	-0.0064*	-0.0034	-0.0152***	-0.0059**
Of which: family work after degree (months)	-0.0181***	-0.0156***	-0.0035	0.0013
Of which: unemployment after degree (months)	-0.0028*	-0.0023*	-0.0020*	-0.0017*
Firm / industry information				
Employee structure / industry		-0.0563***		-0.0861***
Of which: Industry		-0.0247		-0.0670***
Of which: firmsize		-0.0334***		-0.0246***
Of which: Share of university graduates at firm		0.0018		0.0055**
Employed in civil service		-0.0032		-0.0116*
Bundesland firm		-0.0078**		-0.0076**

***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively. Negative signs denote an advantage for men. Detailed results can be found in tables 8 and 9.

9 Appendix: Detailed decomposition results

Table 6: Decomposition results: endowment effect, Oaxaca-Blinder-Decomposition, wages at labor market entry

	Weighted by male coefficients		Weighted by female coefficients	
	Firm characteristics		Firm characteristics	
	excluded	included	excluded	included
Raw difference	-0.2484***	-0.2484***	-0.2484***	-0.2484***
	(0.0145)	(0.0146)	(0.0145)	(0.0146)
Total explained	-0.1919***	-0.2244***	-0.1927***	-0.2038***
	(0.0183)	(0.0193)	(0.0144)	(0.0148)
Total unexplained	-0.0565**	-0.0240	-0.0557***	-0.0446**
	(0.0188)	(0.0185)	(0.0151)	(0.0140)
Detailed decomposition				
Socio-demographics				
Marital Status	-0.0004	0.0005	0.0007	0.0001
	(0.0019)	(0.0017)	(0.0017)	(0.0015)
Children	0.0031+	0.0020	0.0022+	0.0003
	(0.0018)	(0.0016)	(0.0012)	(0.0010)
Parental education	0.0008	0.0011	-0.0047**	-0.0036*
	(0.0017)	(0.0015)	(0.0017)	(0.0014)
Studies, pre-study experience				
High school degree	0.0020	0.0029*	-0.0003	0.0007
	(0.0014)	(0.0013)	(0.0009)	(0.0007)
Work experience during/before studies	-0.0033+	-0.0026	-0.0015	-0.0014
	(0.0018)	(0.0018)	(0.0012)	(0.0012)
Of which: worked in area of study during studies	-0.0041+	-0.0018	-0.0006	-0.0000
	(0.0022)	(0.0013)	(0.0010)	(0.0009)
Of which: worked in other occupation	0.0016	0.0005	-0.0004	-0.0007
	(0.0016)	(0.0007)	(0.0006)	(0.0008)
Of which: obtained additional qualifications during studies	-0.0001	-0.0001	-0.0001	0.0000
	(0.0003)	(0.0003)	(0.0004)	(0.0001)
Of which: finished vocational training	-0.0010	-0.0019	-0.0002	-0.0005
	(0.0010)	(0.0012)	(0.0007)	(0.0007)
Of which: work experience before studies (months)	0.0002	0.0006	-0.0004	-0.0001
	(0.0006)	(0.0007)	(0.0005)	(0.0004)
Age at degree	-0.0047+	-0.0020	-0.0053*	-0.0039+
	(0.0024)	(0.0021)	(0.0023)	(0.0020)
Duration of studies (semester)	0.0001	0.0001	0.0003	0.0004
	(0.0003)	(0.0003)	(0.0006)	(0.0007)
Final grade university	-0.0008	-0.0009	-0.0010	-0.0010
	(0.0008)	(0.0008)	(0.0009)	(0.0008)
Field of study	-0.1877***	-0.1369***	-0.1835***	-0.1171***
	(0.0177)	(0.0173)	(0.0138)	(0.0140)
Post-study experience				
Doctoral degree	0.0006	0.0006	0.0007	0.0007
	(0.0006)	(0.0006)	(0.0007)	(0.0007)
MBA or equivalent	-0.0014	-0.0009	-0.0002	-0.0005
	(0.0009)	(0.0007)	(0.0005)	(0.0005)
Firm / industry information				
Employment structure / industry firm		-0.0843***		-0.0636***
		(0.0136)		(0.0127)
Industry		-0.0777***		-0.0551***
		(0.0139)		(0.0127)
Employed in civil service		0.0000		-0.0108*
		(0.0048)		(0.0043)
Firmsize		-0.0058**		-0.0079***
		(0.0022)		(0.0022)
Share of university graduates at firm		-0.0007		-0.0007
		(0.0017)		(0.0019)
Bundesland firm		-0.0037		-0.0040
		(0.0026)		(0.0025)

Standard errors in paretheses. ***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively. Negative signs denote an advantage for men.

Table 7: Decomposition results: coefficient effect, Oaxaca-Blinder-Decomposition, wages at labor market entry

	Weighted by male endowments		Weighted by female endowments	
	Firm characteristics		Firm characteristics	
	excluded	included	excluded	included
Raw difference	-0.3012***	-0.3012***	-0.3012***	-0.3012***
	(0.0132)	(0.0133)	(0.0132)	(0.0133)
Total explained	-0.1518***	-0.1489***	-0.1415***	-0.1582***
	(0.0210)	(0.0215)	(0.0126)	(0.0127)
Total unexplained	-0.1494***	-0.1523***	-0.1597***	-0.1430***
	(0.0223)	(0.0218)	(0.0158)	(0.0147)
Detailed decomposition				
Socio-demographics				
Marital status	-0.0125	-0.0038	-0.0135	-0.0035
	(0.0150)	(0.0137)	(0.0167)	(0.0153)
Children	-0.0023	-0.0044	-0.0015	-0.0028
	(0.0054)	(0.0050)	(0.0034)	(0.0032)
Parental education	0.0189*	0.0162*	0.0244*	0.0210*
	(0.0077)	(0.0071)	(0.0096)	(0.0088)
Studies, pre-study experience				
High school degree	0.0284+	0.0287*	0.0307+	0.0309*
	(0.0156)	(0.0145)	(0.0167)	(0.0156)
Work experience during/before studies	0.1135**	0.0753*	0.1117**	0.0741*
	(0.0392)	(0.0359)	(0.0384)	(0.0352)
Of which: worked in area of study during studies	0.0695*	0.0358	0.0660*	0.0340
	(0.0283)	(0.0259)	(0.0268)	(0.0246)
Of which: worked in other occupation	0.0293**	0.0182+	0.0313**	0.0194+
	(0.0109)	(0.0100)	(0.0117)	(0.0107)
Of which: finished vocational training	0.0086	0.0141	0.0078	0.0127
	(0.0118)	(0.0110)	(0.0106)	(0.0100)
Of which: work experience before studies (months)	0.0060	0.0073	0.0066	0.0080
	(0.0069)	(0.0064)	(0.0076)	(0.0070)
Obtained additional qualifications during studies	-0.0031	0.0101	-0.0031	0.0100
	(0.0091)	(0.0083)	(0.0090)	(0.0082)
Age at degree	-0.0348	-0.1108	-0.0342	-0.1089
	(0.1716)	(0.1583)	(0.1686)	(0.1556)
Duration of studies (semester)	0.0344	0.0520	0.0342	0.0517
	(0.0629)	(0.0582)	(0.0625)	(0.0579)
Final grade university	0.0144	0.0071	0.0146	0.0072
	(0.0445)	(0.0417)	(0.0452)	(0.0423)
Field of study	-0.2632	-0.1053	-0.2675	-0.1251
	(0.2157)	(0.2021)	(0.2171)	(0.2039)
Post-study experience				
Doctoral degree	-0.0004	-0.0004	-0.0005	-0.0006
	(0.0014)	(0.0012)	(0.0019)	(0.0017)
MBA or equivalent	-0.0041+	-0.0014	-0.0054+	-0.0018
	(0.0023)	(0.0021)	(0.0030)	(0.0027)
Firm / industry information				
Employee structure / industry		0.4548*		0.4341*
		(0.2139)		(0.2124)
Of which: industry		0.4245*		0.4019+
		(0.2135)		(0.2119)
Of which: firmsize		0.0261		0.0282
		(0.0191)		(0.0180)
Of which: Share of university graduates at firm		0.0042		0.0041
		(0.0177)		(0.0175)
Employed in civil service		0.0216+		0.0325+
		(0.0127)		(0.0190)
Bundesland firm		0.1452		0.1454
		(0.1135)		(0.1135)
Constant	0.0543	-0.6087+	0.0543	-0.6087+
	(0.2682)	(0.3533)	(0.2682)	(0.3533)

Standard errors in paretheses. ***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively. Negative signs denote an advantage for men.

Table 8: Decomposition results: endowment effect, Oaxaca-Blinder-Decomposition, wages 5 to 6 years after labor market entry

	Weighted by male coefficients		Weighted by female coefficients	
	Firm characteristics excluded	Firm characteristics included	Firm characteristics excluded	Firm characteristics included
Raw difference	-0.3012***	-0.3012***	-0.3012***	-0.3012***
	(0.0132)	(0.0133)	(0.0132)	(0.0133)
Total explained	-0.1518***	-0.1489***	-0.1415***	-0.1582***
	(0.0210)	(0.0215)	(0.0126)	(0.0127)
Total unexplained	-0.1494***	-0.1523***	-0.1597***	-0.1430***
	(0.0223)	(0.0218)	(0.0158)	(0.0147)
Detailed decomposition				
Socio-demographics				
Marital status	0.0010	0.0018	-0.0059**	-0.0052**
	(0.0024)	(0.0023)	(0.0021)	(0.0018)
Children	0.0307***	0.0278***	-0.0003	-0.0020
	(0.0052)	(0.0048)	(0.0020)	(0.0018)
Parental education	-0.0004	0.0003	0.0010	0.0004
	(0.0013)	(0.0012)	(0.0010)	(0.0008)
Studies, pre-study experience				
High school degree	0.0003	0.0007	-0.0012	-0.0005
	(0.0007)	(0.0007)	(0.0010)	(0.0004)
Work experience during/before studies	-0.0028	-0.0014	-0.0007	-0.0003
	(0.0026)	(0.0024)	(0.0018)	(0.0015)
Of which: worked in area of study during studies	-0.0043+	-0.0012	-0.0045*	-0.0030+
	(0.0026)	(0.0023)	(0.0020)	(0.0017)
Of which: worked in other occupation	0.0005	-0.0011	0.0015	0.0011
	(0.0017)	(0.0017)	(0.0014)	(0.0012)
Of which: finished vocational training	0.0025+	0.0021	0.0026*	0.0018+
	(0.0015)	(0.0014)	(0.0012)	(0.0009)
Of which: work experience before studies (months)	-0.0015	-0.0012	-0.0004	-0.0002
	(0.0011)	(0.0010)	(0.0006)	(0.0005)
Obtained additional qualifications during studies	-0.0000	0.0000	0.0000	0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Age at degree	-0.0101**	-0.0092**	-0.0031+	-0.0032+
	(0.0032)	(0.0030)	(0.0018)	(0.0017)
Duration of studies (semester)	0.0015	0.0012	0.0011	0.0013
	(0.0014)	(0.0011)	(0.0010)	(0.0011)
Final grade university	-0.0011	-0.0010	-0.0023+	-0.0020+
	(0.0010)	(0.0009)	(0.0013)	(0.0011)
Field of study	-0.0986***	-0.0319	-0.0780***	-0.0012
	(0.0197)	(0.0209)	(0.0111)	(0.0126)
Post-study experience				
Doctoral degree	0.0003	-0.0003	-0.0023+	-0.0010
	(0.0008)	(0.0008)	(0.0013)	(0.0007)
MBA or equivalent	-0.0012	-0.0013	0.0010	0.0006
	(0.0010)	(0.0009)	(0.0007)	(0.0006)
Labor market career after studies:	-0.0715***	-0.0683***	-0.0507***	-0.0399***
	(0.0088)	(0.0084)	(0.0088)	(0.0076)
Of which: no. of job changes	-0.0002	0.0001	0.0008	0.0005
	(0.0010)	(0.0010)	(0.0009)	(0.0008)
Of which: further training while working (short)	0.0000	0.0000	0.0002	0.0001
	(0.0001)	(0.0002)	(0.0008)	(0.0006)
Of which: further training while working (long)	0.0038+	0.0029	0.0035*	0.0001
	(0.0021)	(0.0020)	(0.0017)	(0.0015)
Of which: work experience after degree (months)	-0.0373***	-0.0401***	-0.0299***	-0.0307***
	(0.0086)	(0.0085)	(0.0066)	(0.0061)
Of which: self employment experience after degree (months)	-0.0002	-0.0006	0.0004	0.0005
	(0.0004)	(0.0006)	(0.0005)	(0.0005)
Of which: casual work after degree (months) or equivalent	-0.0102***	-0.0094***	-0.0051*	-0.0041*
	(0.0026)	(0.0025)	(0.0020)	(0.0018)
Of which: further education after degree (months)	-0.0064*	-0.0034	-0.0152***	-0.0059**
	(0.0027)	(0.0025)	(0.0031)	(0.0018)
Of which: family work after degree (months)	-0.0181***	-0.0156***	-0.0035	0.0013
	(0.0040)	(0.0037)	(0.0056)	(0.0051)
Of which: unemployment after degree (months)	-0.0028*	-0.0023*	-0.0020*	-0.0017*
	(0.0013)	(0.0012)	(0.0010)	(0.0009)
Firm / industry information				
Employee structure / industry		-0.0563***		-0.0861***
		(0.0159)		(0.0123)
Of which: Industry		-0.0247		-0.0670***
		(0.0165)		(0.0123)
Of which: firmsize		-0.0334***		-0.0246***
		(0.0053)		(0.0036)
Of which: Share of university graduates at firm		0.0018		0.0055**
		(0.0023)		(0.0017)
Employed in civil service		-0.0032		-0.0116*
		(0.0075)		(0.0059)
Bundesland firm		-0.0078**		-0.0076**
		(0.0029)		(0.0029)

Standard errors in paretheses. ***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively. Negative signs denote an advantage for men.

Table 9: Decomposition results: coefficient effect, Oaxaca-Blinder-Decomposition, wages 5 o 6 years after labor market entry

	Weighted by male endowments		Weighted by female endowments	
	Firm characteristics excluded	Firm characteristics included	Firm characteristics excluded	Firm characteristics included
Difference	-0.3012***	-0.3012***	-0.3012***	-0.3012***
	(0.0132)	(0.0133)	(0.0132)	(0.0133)
Total explained	-0.1518***	-0.1489***	-0.1415***	-0.1582***
	(0.0210)	(0.0215)	(0.0126)	(0.0127)
Total unexplained	-0.1494***	-0.1523***	-0.1597***	-0.1430***
	(0.0223)	(0.0218)	(0.0158)	(0.0147)
Detailed decomposition				
Socio-demographics				
Marital status	-0.0470*	-0.0249	-0.0401+	-0.0179
	(0.0217)	(0.0202)	(0.0206)	(0.0191)
Children	-0.0871***	-0.0837***	-0.0561***	-0.0539***
	(0.0120)	(0.0114)	(0.0081)	(0.0076)
Parental education	-0.0045	0.0003	-0.0059	0.0001
	(0.0077)	(0.0072)	(0.0091)	(0.0085)
Studies, pre-study experience				
High school degree	0.0359*	0.0265+	0.0374*	0.0276+
	(0.0155)	(0.0148)	(0.0161)	(0.0155)
Work experience during/before studies	-0.0028	-0.0014	-0.0007	-0.0003
	(0.0026)	(0.0024)	(0.0018)	(0.0015)
Of which: worked in area of study during studies	-0.0020	-0.0156	-0.0018	-0.0138
	(0.0262)	(0.0246)	(0.0232)	(0.0217)
Of which: worked in other occupation	-0.0049	-0.0107	-0.0059	-0.0129
	(0.0103)	(0.0096)	(0.0125)	(0.0116)
Of which: finished vocational training	0.0009	-0.0029	0.0008	-0.0025
	(0.0116)	(0.0109)	(0.0101)	(0.0096)
Of which: work experience before studies (months)	-0.0078	-0.0069	-0.0090	-0.0079
	(0.0065)	(0.0061)	(0.0075)	(0.0070)
Obtained additional qualifications during studies	0.0056	0.0028	0.0055	0.0028
	(0.0092)	(0.0086)	(0.0091)	(0.0085)
Age at degree	0.4320**	0.3753*	0.4251**	0.3693*
	(0.1622)	(0.1525)	(0.1596)	(0.1501)
Duration of studies (semester)	-0.0373	0.0058	-0.0369	0.0057
	(0.0648)	(0.0609)	(0.0642)	(0.0603)
Final grade university	0.0575	0.0446	0.0588	0.0456
	(0.0438)	(0.0412)	(0.0448)	(0.0421)
Field of study	-0.2923	-0.2120	-0.3128	-0.2427
	(0.2113)	(0.1977)	(0.2181)	(0.2050)
Post-study experience				
Doctoral degree	-0.0161**	-0.0046	-0.0134**	-0.0039
	(0.0058)	(0.0055)	(0.0049)	(0.0046)
MBA or equivalent	-0.0074*	-0.0064+	-0.0096*	-0.0083+
	(0.0036)	(0.0034)	(0.0047)	(0.0043)
Labor market career after studies:	-0.0274	0.0073	-0.0481	-0.0211
	(0.0752)	(0.0717)	(0.0711)	(0.0678)
Of which: no. of job changes	-0.0066	-0.0023	-0.0077	-0.0027
	(0.0082)	(0.0076)	(0.0095)	(0.0088)
Of which: further training while working (short)	-0.0856*	-0.0455	-0.0857*	-0.0455
	(0.0411)	(0.0386)	(0.0412)	(0.0387)
Of which: further training while working (long)	0.0005	0.0062	0.0007	0.0090
	(0.0057)	(0.0054)	(0.0083)	(0.0078)
Of which: work experience after degree (months)	0.0423	0.0529	0.0348	0.0435
	(0.0596)	(0.0570)	(0.0491)	(0.0470)
Of which: self employment experience after degree (months)	-0.0016	-0.0029*	-0.0022	-0.0040*
	(0.0015)	(0.0014)	(0.0020)	(0.0020)
Of which: casual work after degree (months) or equivalent	-0.0056+	-0.0059+	-0.0107+	-0.0112+
	(0.0033)	(0.0031)	(0.0062)	(0.0059)
Of which: further education after degree (months)	0.0339**	0.0094	0.0427**	0.0118
	(0.0110)	(0.0109)	(0.0138)	(0.0138)
Of which: family work after degree (months)	-0.0020*	-0.0024*	-0.0167*	-0.0193**
	(0.0010)	(0.0009)	(0.0077)	(0.0072)
Of which: unemployment after degree (months)	-0.0027	-0.0022	-0.0034	-0.0028
	(0.0041)	(0.0038)	(0.0053)	(0.0049)
Firm / industry information				
Employee structure / industry		0.2128		0.2426
		(0.1819)		(0.1825)
Of which: industry		0.1486		0.1909
		(0.1798)		(0.1801)
Of which: firmsize		0.0359+		0.0270
		(0.0210)		(0.0182)
Of which: Share of university graduates at firm		0.0283		0.0247
		(0.0222)		(0.0198)
Employed in civil service		0.0098		0.0182
		(0.0111)		(0.0206)
Bundesland firm		0.0241		0.0239
		(0.0991)		(0.0986)
Constant	-0.1475	-0.4939	-0.1475	-0.4939
	(0.2758)	(0.3317)	(0.2758)	(0.3317)

Standard errors in paretheses. ***/**/*/+ denote significance on the 0.1%, 1%, 5% and 10% level respectively. Negative signs denote an advantage for men.

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