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How does economic integration influence employment and wages in border regions? The case of the EU-enlargement 2004 and Germany's eastern border

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Abstract:

This paper considers the (short run) employment and wage effects of the 2004 EU-enlargement on firms located close to Germany's Eastern border. We use a 50% sample of Germans plants and apply difference-in-differences-estimators combined with a matching approach. We evaluate changes in total employment, the employment shares of low-skilled and Eastern European workers and the wages for low-skilled, skilled and high-skilled workers in various sectors. Our results suggest negative (short-run) effects of the EU-enlargement on employment in construction and the business services sector, where we also find negative wage effects. Wages and employment in manufacturing, wholesale and retail trade, hotels and restaurants and social and personal service activities seem to have been relatively less affected.

Keywords: EU-enlargement, economic integration, employment, wages

JEL Classification: F15, L80

* All computations were done in the research data centre of the Federal Employment Agency in the Institute for Employment Research in Nuremberg using Stata 10.1. The data used in this paper can be accessed via this research data center, see http://fdz.iab.de for details. To facilitate replication all do-files are available from the first author on request. We thank Joachim Wagner for helpful comments and Peter Weiss from the German Confederation of

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1. Motivation

In May 2004, 10 countries, almost completely from the former Communist countries of Eastern Europe, joined the European Union in its hitherto largest expansion. This paper provides evidence on the short-run adjustment costs of the enlargement in Germany's eastern border region close to Poland and the Czech Republic, measured by changes in employment and wages. Specifically, we use plant level panel data aggregated from social security records and treat the EU-enlargement as an exogenous event for enterprises close to Germany's eastern border. We also conduct separate analyses for various industries as the effects of the enlargement may well depend on previous legislative barriers to trade. Specifically, we consider the effects for firms in manufacturing, construction, business services, social and personal service activities and, finally, wholesale and retail trade and hotels and restaurants.

The main factor why we might expect to find an effect of the enlargement on the employment situation in German firms is the elimination of barriers to trade and a subsequent increase in international trade. The main theoretical reasoning here follows standard textbook models on the elimination of tariffs and barriers to trade (see, e.g., Gandolfo, 1998, pp. 195-204): The integration of the eastern countries into the common market lowers previously existing trade barriers for both producers and customers and consequently the costs for both enterprises in the old and new member countries to engage in trade with the respective other country. This (possible) increase in international trade may influence enterprise performance and behavior through an increased competition on the respective domestic market as well as through the emergence of new economic possibilities in the new foreign market.

Note that the existence of trade barriers prior to the enlargement is a necessary condition for this effect to emerge as otherwise a decrease in trade costs is logically impossible. In this study, we conduct separate analyses for different industries as trade legislations and barriers

differed over sectors prior to the enlargement. The service sector, for instance, had relatively strong legal barriers before the expansion, caused by the necessity of residence and work permits and by the necessary approval of foreign degrees in occupations with minimum qualification requirements (see Scharr and Untiedt 2001, p. 186).[1] The case was different for manufacturing where free trade agreements with Poland and the Czech Republic had been established as early as 1992 (European Agreement 1993, 1994). While an increase in international trade could still emerge through less restrictive border controls and lower waiting times, one might expect the effects of the EU-enlargement on trade in goods to be quite small (see Schar and Untiedt 2001, p. 185). However, both the extent of border controls and waiting times might matter for customers frequenting retails stores on the other side of the border, e.g., Germans buying cigarettes in Poland, which makes an effect more likely for this industry compared to, e.g., manufacturing. For the construction sector, competition from East European workers working for German firms was a longer standing concern, which resulted in the introduction of minimum wages and work standards in the 1996 *Entsendegesetz* (see Möller and König, 2008; König and Möller 2009, for an analysis). Additionally, Germany (and Austria) adopted transitional restrictions for workers and firms from the new member countries, the "2 + 3 + 2" rule, that restricts the free movement of labor and possibilities of foreign firms to enter and conduct work in the German construction sector up to 2011.[2] However, in 2004 market barriers in the construction sector were lowered through changes in the *Handwerksordnung* which changed minimum qualification requirements for a number of

[1] It is worthwhile to note that one cannot expect that all trade barriers between the old and new member states of the European Union have been removed by the enlargement. The European Commission has documented several barriers to trade in services even among the old member states (European Commission 2002). The discussion following the publication of this report ultimately resulted in the passing of the EU services directive ("Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market"). However, for the purpose of this paper it is sufficient that some barriers have been removed by the enlargement.

[2] Note, however, that it is not entirely impossible for foreign firms to enter the German market. In particular, self employed individuals from the new member countries may conduct business in Germany, although they are generally not allowed to use their own workers. Under certain conditions, however, it is also possible for foreign firms to conduct business in Germany using parts of their own workforce (so called "key employees" who posses special skills) (see Brinkmann 2006, p. 370).

trades, e.g., pavers. Combined with the transitional restrictions, a possible effect of the EU-expansion could arise through entry of single-person entrepreneurs into the German market, either through immigrants setting up their businesses in Germany or through East European craftsman serving the German market from Poland or the Czech Republic.

Additionally, the effects of the EU-enlargement should be stronger for enterprises close to Germany's eastern border, in particular for firms offering products that are either hard to transport or require personal contact, e.g., services, or hotels and restaurants. However, even for firms that offer goods that are easy to transport a possible effect of the enlargement can be expected to depend on distance to the border, e.g., in the case of domestic demand shocks caused by local customers shifting their demand towards foreign producers – an effect that might be particularly relevant for retail trade.

In our empirical investigation, we allow for different effects of the EU-expansion over sectors and calculate different effects for a variety of sectors. We also exploit the fact that effects should be stronger for firms close to the border and compare differences over time within enterprises that are situated in a county (*Kreis*)[3] within the borderland to the new member states[4] with differences over time within enterprises that are situated in a Federal State without such a border. Note that this implies that we compare firms that are situated in the direct Eastern border region to firms with a considerable distance to that border. In our analysis, we use a 50% sample of the population of German plants, generated from aggregated social security records. In a first step, we match each border firm to a statistical

[3] A German *Kreis* is the third highest level of administration, placed above the communal level but below the Federal States (*Bundesländer*) and the country administration, the *Bund*. A county usually covers several towns or villages (*Kreis*) or one large city (*Kreisfreie Stadt*). In two cases, *Berlin* and *Hamburg*, it is also identical to the Federal State. The average population of a county (in 2003) according to official statistics is 192,502, with the smallest county being the city of *Zweibrücken* with a population of 35,677, and the largest county being *Berlin* with a population of 3,391,515 (see www.regionalstatisktik.de for a variety of official statistics on the county level).

[4] Our definition of the borderland to Poland and the Czech Republic follows the regulation on exceptions to the ban on recruiting foreign labour (Anwerbestoppausnahmeverordnung 1998, Appendix to §6). Covered are all counties that are directly at the border, as well as those that are either fully enclosed by a direct border county or "reasonably" close to the border as deemed by the legislative. See Appendix A for a full list.

twin from the group of non-border firms that experienced a similar development during the period 1992 to 2001 and is also similar in a large set of characteristics in 2002. In a second step, we use regression adjusted difference-in-differences-estimators to compare the development in the "border firms" over time to the development in firms farther away from the border. We also explicitly check for differences in the outcomes between these groups of firms in 2003 to investigate possible anticipation effects of the EU-enlargement. As outcomes, we consider total employment, employment of low-skilled workers and workers from Eastern Europe as well as total wages and wages for low-skilled, skilled and high-skilled workers.

To the best of our knowledge, there is only one other study that considers the impact of the 2004 EU-enlargement on enterprise performance. Braakmann and Vogel (2009) consider the effects of the enlargement on service firms situated in a Federal State with an Eastern border relative to the effects on firms in other Federal States. Their results from difference-in difference-estimators combined with matching on panel data from official statistics, the German Business Services Statistics Panel (see Vogel 2009), indicate a relatively minor influence of the expansion on larger enterprises and a positive effect for smaller firms.

In addition there is a small empirical literature that considers the economic consequences of the opening of borders. Hanson (1996) finds that the increasing economic integration of Mexico and the United States and the resulting expansion in Mexican exports has increased US manufacturing employment in several border cities. Feenstra and Hanson (1997) show how outsourcing from the United States to Mexico led to rising demand for skilled labor in the host country which went hand in hand with rising wages for Mexican workers. Hanson (1998) provides evidence for Mexican cities that in particular trade costs and linkages between producers and customers influence the regional employment structure. Egger and Egger (2002) find a significant relationship between trade in intermediate and final goods and industry wages in Eastern and Central European countries. Moritz and Gröger (2007) consider

the impact of the fall of the Iron Curtain on the wages of Bavarian workers close to the Czech border using a 2% sample from German social security and unemployment benefit records and find relatively minor effects on wages and the skill distribution in the border region. However, none of these studies deal with the economic consequences of the EU-enlargement.

The remainder of this paper is organized as follows: Section 2 describes the data, while our empirical modeling strategy is outlined in section 3. Results are presented in section 4. Section 5 concludes.

2. Data and descriptive statistics

This study uses a 50% sample of the population of German plants that employ at least one worker subject to social security contributions (effectively excluding only single person entrepreneurs and most government agencies), the *Establishment History Panel* (see Spengler, 2008, for details and Spengler, 2009, for the codebook and documentation). The data have been formed by aggregating social security records at the plant level and are provided and maintained by the research data center of the Federal Employment Agency in the Institute of Employment Research. Note that the data can be linked over time using plant identifiers, resulting in a panel data set from 1975 (West Germany) and 1992 (East Germany) onwards.

The data contain detailed information on industry and the workforce composition of the plant, including, e.g., the shares of workers with certain educational degrees, with various occupational positions, in certain age groups or with a certain nationality (see Spengler, 2009, for a full list) as well as quartiles of the age and wage distribution. However, we do not have information on average wages as the wage data are top censored at the contribution limit to social security. We also do not have any information on firm performance variables, like

profitability, output, sales, exports or revenue. Additionally, the data does not contain information on physical capital.

For this study, we first select all plants with at least one worker subject to social security contributions in either 2002 to 2005, 2002 to 2004 or in 2002, 2003 and 2005, ending up with 604,314 plants in counties without a direct eastern border and 36,909 plants in a county directly at an eastern border. We then merge this data with aggregate information on the period 1992 to 2001, specifically the average number of employees, the average median daily gross wage, the average shares of full-time, unskilled, qualified and high-skilled employees, the average share of employees with unknown qualifications and the average growth of employment and median wages. Note that for enterprises that were not observed over the whole period these variables are calculated using the available years for the respective enterprise.

Finally, we create matched samples of enterprises operating in manufacturing, construction, business services, social and personal service activities and, finally, wholesale and retail trade and hotels and restaurants respectively by matching (without replacement and separately for each of the aforementioned industries) each observation located in a county within the eastern borderland (henceforth *treatment group*) to a firm that is situated in one of the federal states without such a border (henceforth *control group*) using nearest neighbor propensity score matching. The propensity score is calculated by a probit regression of the eastern border dummy on the age of the establishment, the share of employees aged 15 to 17, aged 18 to 29, aged 30 to 49, aged 50 to 59 and aged 60 and over, the total number of employees, the shares of female employees and German citizens, the 25%, 50% and 75% quartiles of the daily gross wage, the shares of unskilled, qualified and highly qualified employees, the share of employees with unknown qualification, the share of Eastern European employees, the shares of apprentices, part-time employees, white-collar employees, skilled workers, master

craftsmen and foremen and the share of non-formally qualified employees and the 25%, 50% and 75% quartiles of the daily gross wage of unskilled and high-skilled workers respectively (all measured in 2002) as well as on the aforementioned information for the period 1992 to 2001 and the 3-digit industry in which the firm operates in 2002. These samples which maximize similarities between treatment and control group in the years prior to the EU-enlargement consist of between 24,870 (business services, restricted to consulting, research and related) and 83,756 (wholesale and retail trade, hotel and restaurants) enterprise-year-observations for the period 2002 to 2005. Descriptive statistics for the unmatched samples can be found in Tables 1 (control variables) and 2, 3 and 4 (outcomes in 2003 to 2005). Mean comparisons for the various industries before and after matching can be found in Appendix B in Tables B1 to B6. Note that the balancing property, which requires an absence of statistically significant (and economically large) differences between the treatment group and the control group in the covariates after matching, is generally satisfied, although some statistically significant, but usually small differences exist for some samples and variables.

[TABLES 1,2, 3 AND 4 ABOUT HERE.]

3. Empirical modeling

Our analysis treats the EU-enlargement in 2004 as a quasi-natural experiment that affects enterprises near Germany's eastern border where the decrease in trade costs should be particularly strong. Specifically, we treat enterprises located in a county within the eastern borderland as the treatment group and use enterprises situated in any of the federal states without an Eastern border as the control group. To avoid issues with enterprises selecting into or out of the treatment group all definitions are based on the location in the pre-treatment year

2002. We then model the impact of the EU-enlargement on various outcomes using (regression-adjusted) difference-in-differences. More formally, we consider the following estimating equation

$$y_{it} = \eta_i + \delta * T_{it} + \tau * (D_i * T_{it}) + \varepsilon_{it}, \quad (1)$$

where y_{it} is the outcome of interest, ε_{it} is a standard error term, η_i is a enterprise specific fixed-effect, D_i is a dummy indicating the treatment group and T_{it} contains three time dummies for 2003, 2004 and 2005. τ measures the divergence in average outcomes between the treatment and the control group in these two years which equals our effect of interest. As outcomes, we focus on the total number of employees, the share of low-skilled workers as these might be particularly easy to offshore, the number of East European employees and the wages of low-skilled, skilled and high-skilled workers. As the data does not contain information on average wages due to the censoring problem described in the preceding section, we have to rely on the lower quartile (the 25% percentile) and the median wage. The wage estimates should then be interpreted as the average change in these distributional measures in the treatment group relative to the control group. We do not add control variables in the employment estimations as all employment variables that are available in the data may be influenced by the treatment. However, the preceding matching approach ensures that treatment and control group are identical with respect to the industry and the employment structure in 2002 and with respect to their development from 1992 to 2001. In the wage estimates, we add controls for the shares of German and female employees, the shares of workers with various education levels and occupational positions and the plant's age structure in the respective year as we are interested in "pure" wage effects that are not caused by changes in the employment structure.

Note that τ can be interpreted as a causal effect if (a) enterprises cannot select into or out of the treatment group, (b) enterprises cannot select into or out of the treatment period and (c) both treatment and control group would have experienced the same trends in the absence of

treatment. The first two concerns are more relevant for cross-sectional difference-in-differences and are alleviated through the panel design of this study, which enables us to base group definitions on pre-treatment-locations and to use both pre- and post-treatment-observations for each enterprise. Additionally, by including a dummy and an interaction term for 2003, we explicitly allow for different trends in treatment and control group in the year before the enlargement. Using a matched sample furthermore ensures that our control group mimics the characteristics of the treatment group which attenuates possible concerns regarding different trends. Finally, note that controlling for enterprise-specific fixed-effects further alleviates concerns regarding the validity of the common-trend-assumption.

4. Results

Consider first the results for the employment measures displayed in Tables 5a, 5b and 5c. The results for manufacturing displayed in the top panel of Table 5a suggest a relatively minor effect of the expansion, which is not unexpected given the already existing free-trade agreements between Germany, Poland and the Czech Republic mentioned in the introduction.

The case is somewhat different for the construction sector. As we can see from the lower panel of Table 5a, total employment in the treatment group relative to the control group dropped by roughly 0.5 employees in both 2004 and 2005. Compared with a mean firm size of 9.4 employees in 2002 this effect is clearly not small. Similarly, the share of unskilled workers dropped by over 1 percentage point in both 2004 and 2005 which is again not small compared to a base level of 15.0% in 2002. The results do not show any evidence for a direct substitution of Germans by East European workers. For both total employment and the share of low-skilled employees, we also find some evidence for a weaker drop in the year directly before the EU-enlargement. These results, while in line with common fears for the EU-enlargement, are somewhat surprising as foreign entry into the construction sector is still

regulated after the enlargement. Remember, however, that the results can in principle be caused by entries of single-person entrepreneurs entering the German market, in particular in the trades affected by the changes in the *Handwerksordnung* of 2004, e.g., pavers.

[TABLES 5a, 5b AND 5c ABOUT HERE.]

Turning to the results for wholesale and retail trade, hotels and restaurants displayed in the top panel of Table 5b, we notice that, similar to manufacturing, total employment and the employment of East Europeans remained unchanged by the enlargement as all coefficients are relatively small and insignificant. For the share of low-skilled employees, the results suggest a small decline for the treatment relative to the control grip in 2003 and 2004 and a slightly larger decline in 2005.

Slightly different results are obtained for the business service sector, where we find a significantly negative effect of the enlargement on employment in border firms in 2003 and 2005. These effects suggest declines in employment by about 0.4 to 0.5 workers per year which is not small compared to an average firm size of 7.3 workers in 2002. For the employment shares of low-skilled and East European workers, the results suggest relatively minor effects, although a small negative effect is noted in 2004.

Restricting the business service sector to consulting and research related activities changes the results considerably. As shown in the top panel of Table 5c, we observe relatively large relative employment drops between 0.6 and 0.8 workers in the treatment group in each year from 2003 to 2005. For the employment shares of low-skilled and East European workers the effects are again much smaller. For the former, we note small negative drops in 2003 and 2004, while the latter remain practically unchanged over the observation period.

Finally, consider the results for firms engaging in social and personal service activities displayed in the lower panel of Table 5c. Here, we find absolutely no effect on any of the outcome variables in any year. This result is somewhat contrary to common fears that in particular low-qualified service activities may be relocated to the new member states. A possible explanation might be that non-legal barriers, e.g., due to language differences, are particularly large when it comes to personal service activities (at least in the short run) as most of these service activities are non-standardized products that require some negotiations between producers and buyers. The difference to the business services sector could then be explained by the fact that English serves as a *lingua franca* in international business.

Consider now the results for gross daily wages displayed in Tables 6a, 6b and 6c. For manufacturing and construction, we do not observe any wage effects of the EU-expansion, except for a one Euro increase in the lower quartile and median wage of low-skilled workers. In wholesale and retail trade, hotels and restaurants, we find drops in the median wage of low-skilled workers in each year from 2003 to 2005 that lie between 0.7 and 0.9 Euro, which equals a 1.5 to 2 percent drop compared to the 2002 value, while the wages of skilled and high-skilled workers remain unchanged.

[TABLES 6a, 6b AND 6c ABOUT HERE.]

For business services, we find comparatively large negative wage effects for skilled and high-skilled workers that become more pronounced when restricting the sample to consulting, research and related firms. Note that the wage effects for low-skilled workers are very imprecisely estimated as only a small subset of firms in this sector employs these workers.

Finally, and again contrary to our intuition, we find no wage effects for low-skilled and skilled workers in social and personal services and wage increases at the lower quartile of the daily wages of high-skilled workers.

To sum up, our results suggest relatively minor effects of the 2004 EU-enlargement on (total) employment in manufacturing, wholesale and retail trade, hotels and restaurants and social and personal service activities and negative employment effects for the construction and business services sector. For wholesale and retail trade, hotels and restaurants we find a decline in the employment of low-skilled workers. Looking at wages reveals no consistent pattern over skill groups and industries. However, in particular business service jobs in consulting, research and related activities seem to lose.

While the strong effects for both employment and wages in the (high-qualified) business service sector seem counterintuitive at first, they are in line with the argument raised by Blinder (2006) that advances in information technology makes offshoring of high-qualified service activities possible. Furthermore the advancement of English as a *lingua franca* for business activities means that the non-legal barriers, e.g., transaction costs, to such offshoring might be quite low. In contrast, the (also counterintuitive) finding that personal service activities seem to have been relatively unaffected by the enlargement may be related to higher transaction costs due to communication problems. Obviously many personal service activities, e.g., haircuts, require a high-level of personal communication between buyers and sellers, which makes language problems (at least in the short run) particularly prevalent. If this explanation holds, we might expect larger effects in the near future when, e.g., Polish businesses manage to overcome these problems.

5. Conclusion

This paper considered the impact of the 2004 EU-enlargement on service enterprises close to Germany's eastern border. Relying on firm-level panel data for 2002 to 2005 aggregated from German social security records, we combine matching with regression-adjusted difference-in-differences estimators. Our results suggest negative (short-run) effects of the EU-enlargement on employment in construction and the business services sector, where we also find negative wage effects. Wages and employment in manufacturing, wholesale and retail trade, hotels and restaurants and social and personal service activities seem to have been relatively less affected.

Taken together, our results suggest mixed effects for the effect of the EU-enlargement on employment and wages in German border firms. The results also highlight the fact that even relatively high-qualified service activities might be influenced by international integration, which has already been emphasized by Blinder (2006). On a political level, the results suggest that the common fears of many Germans regarding globalization and its consequences[5], in particular the fear that low-qualified jobs might be lost, may not be warranted with respect to the EU-enlargement.

[5] See for instance the 2004 to 2006 surveys "Perspectives on Trade and Poverty Reduction," by the German Marshall Fund where about 50% of German respondents in each year had a unfavorable view of globalization and about one third reported an unfavorable view of the common market. For an econometric analysis on the relationship between international outsourcing and job loss fears see Fritjers and Geishecker (2008).

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Tables and Figures

Table 1
Descriptive Statistics for matching variables of the control and treatment group (all industries, unmatched sample)

	Control group		Treatment group (located at Germany's eastern border)		p-value
	Mean	Std.Dev.	Mean	Std.Dev.	
Averages establishment characteristics 1992-2001					
Average total number of employees	18.9	153.3	15.2	61.6	0.000
Average median daily gross wage	60.1	23.4	50.5	19.1	0.000
Average share of full-time employees	0.747	0.219	0.769	0.215	0.000
Average share of unskilled employees	0.138	0.195	0.131	0.189	0.000
Average share of qualified employees	0.630	0.311	0.703	0.292	0.000
Average share of highly qualified employees	0.046	0.137	0.043	0.136	0.000
Average share of employees with unknown qualification	0.184	0.292	0.123	0.248	0.000
Average growth of employees	0.308	5.074	0.254	1.986	0.036
Average growth of the median daily gross wage	0.110	17.3	0.189	19.1	0.382
Establishment characteristics in 2002					
Age of the establishment	14.7	8.9	12.0	7.7	0.000
Share of employees aged 15 to 17	0.015	0.055	0.017	0.057	0.000
Share of employees aged 18 to 29	0.224	0.239	0.222	0.247	0.251
Share of employees aged 30 to 49	0.526	0.276	0.537	0.281	0.000
Share of employees aged 50 to 59	0.167	0.219	0.169	0.220	0.023
Share of employees aged 60 and over	0.068	0.137	0.055	0.122	0.000
Total number of employees	20.9	153.5	16.1	61.6	0.000
Share of female employees	0.543	0.360	0.540	0.368	0.109
Share of German citizens employed	0.943	0.155	0.983	0.087	0.000
1st Quartile of the daily gross wage	56.1	25.7	49.0	21.2	0.000
Median daily gross wage (Median)	64.8	27.4	54.9	22.5	0.000
3rd Quartile of the daily gross wage	74.1	31.6	61.4	26.0	0.000
Share of unskilled employees	0.125	0.204	0.117	0.198	0.000
Share of qualified employees	0.586	0.339	0.680	0.323	0.000
Share of highly qualified employees	0.044	0.139	0.043	0.141	0.015
Share of employees with unknown qualification	0.245	0.334	0.160	0.287	0.000
Share of Eastern European employees	0.004	0.038	0.006	0.049	0.000
Share of apprentices	0.052	0.110	0.052	0.111	0.708
Share of minor part-time employees	0.177	0.219	0.144	0.200	0.000
Share of major part-time employees	0.079	0.155	0.088	0.176	0.000
Share of white-collar employees	0.355	0.336	0.317	0.333	0.000
Share of skilled workers	0.193	0.290	0.285	0.340	0.000
Share of master craftsmen and foremen	0.013	0.066	0.011	0.062	0.000
Share of non-formally qualified employees	0.130	0.249	0.102	0.221	0.000
1st Quartile of the daily gross wage (unskilled employees)	57.4	24.1	50.8	20.9	0.000
Median daily gross wage (unskilled employees)	61.6	24.5	53.9	21.4	0.000
1st Quartile of the daily gross wage (qualified employees)	59.3	25.1	50.3	20.6	0.000
Median daily gross wage (qualified employees)	67.2	26.4	55.6	21.7	0.000
1st Quartile of the daily gross wage (highly qualified employees)	99.7	34.0	84.5	31.7	0.000
Median daily gross wage (highly qualified employees)	107.3	33.7	90.7	32.0	0.000
Number of observations	604,314		39,609		

Notes: In the last column the p-values of mean comparisons (t-tests) between the control and the treatment group are presented.

Table 2
Descriptive Statistics for the dependent variables in 2003
(all industries, unmatched sample)

	Control group		Treatment group (located at Germany's eastern border)		p-value
	Mean	Std.Dev.	Mean	Std.Dev.	
Total number of employees	20.7	154.7	15.9	60.8	0.000
Share of non-formally qualified employees	0.128	0.247	0.101	0.219	0.000
Share of Eastern European employees	0.004	0.037	0.006	0.049	0.000
Number of observations	604,314	604,314	39,609	39,609	
1st Quartile of the daily gross wage	57.5	26.5	50.0	22.1	0.000
Median daily gross wage	66.4	28.6	56.0	23.5	0.000
Number of observations	583,550	583,550	38,290	38,290	
1st Quartile of the daily gross wage (unskilled employees)	58.9	24.5	52.0	21.2	0.000
Median daily gross wage (unskilled employees)	63.0	25.0	55.1	21.7	0.000
Number of observations	125,079	125,079	6,612	6,612	
1st Quartile of the daily gross wage (qualified employees)	60.6	26.0	51.3	21.3	0.000
Median daily gross wage (qualified employees)	68.6	27.6	56.6	22.5	0.000
Number of observations	489,906	489,906	33,982	33,982	
1st Quartile of the daily gross wage (highly qualified employees)	103.1	38.0	87.8	34.5	0.000
Median daily gross wage (highly qualified employees)	112.3	38.5	94.7	35.4	0.000
Number of observations	100,694	100,694	6,064	6,064	

Notes: In the last column the p-values of mean comparisons (t-tests) between the control and the treatment group are presented.

Table 3
Descriptive Statistics for the dependent variables in 2004
(all industries, unmatched sample)

	Control group		Treatment group (located at Germany's eastern border)		p-value
	Mean	Std.Dev.	Mean	Std.Dev.	
Total number of employees	20.8	151.2	15.9	60.3	0.000
Share of non-formally qualified employees	0.124	0.241	0.098	0.214	0.000
Share of Eastern European employees	0.004	0.037	0.005	0.045	0.000
Number of observations	601,285	601,285	39,400	39,400	
1st Quartile of the daily gross wage	58.0	27.0	50.5	22.7	0.000
Median daily gross wage	66.9	28.9	56.6	24.0	0.000
Number of observations	566,530	566,530	37,052	37,052	
1st Quartile of the daily gross wage (unskilled employees)	59.5	24.7	52.4	21.8	0.000
Median daily gross wage (unskilled employees)	63.7	25.2	55.5	22.3	0.000
Number of observations	119,802	119,802	6,365	6,365	
1st Quartile of the daily gross wage (qualified employees)	61.1	26.3	51.7	21.8	0.000
Median daily gross wage (qualified employees)	69.2	27.9	57.2	23.0	0.000
Number of observations	474,886	474,886	32,835	32,835	
1st Quartile of the daily gross wage (highly qualified employees)	103.3	38.7	87.9	35.3	0.000
Median daily gross wage (highly qualified employees)	112.7	39.3	95.2	36.4	0.000
Number of observations	99,550	99,550	5,941	5,941	

Notes: In the last column the p-values of mean comparisons (t-tests) between the control and the treatment group are presented.

Table 4
Descriptive Statistics for the dependent variables in 2005
(all industries, unmatched sample)

	Control group		Treatment group (located at Germany's eastern border)		p-value
	Mean	Std.Dev.	Mean	Std.Dev.	
Total number of employees	20.9	153.6	15.8	61.2	0.000
Share of non-formally qualified employees	0.123	0.240	0.098	0.216	0.000
Share of Eastern European employees	0.005	0.0385	0.0050	0.0441	0.000
Number of observations	552,595	552,595	36,301	36,301	
1st Quartile of the daily gross wage	59.0	27.6	51.4	23.3	0.000
Median daily gross wage	68.0	29.6	57.5	24.6	0.000
Number of observations	10,005	510,005	33,384	33,384	
1st Quartile of the daily gross wage (unskilled employees)	60.6	25.0	53.8	21.9	0.000
Median daily gross wage (unskilled employees)	64.8	25.5	56.8	22.3	0.000
Number of observations	106,654	106,654	5,623	5,623	
1st Quartile of the daily gross wage (qualified employees)	62.1	26.6	52.6	22.3	0.000
Median daily gross wage (qualified employees)	70.3	28.2	58.1	23.5	0.000
Number of observations	426,894	426,894	29,496	29,496	
1st Quartile of the daily gross wage (highly qualified employees)	104.4	38.9	88.7	35.9	0.000
Median daily gross wage (highly qualified employees)	113.9	39.6	96.2	37.0	0.000
Number of observations	93,242	93,242	5,487	5,487	

Notes: In the last column the p-values of mean comparisons (t-tests) between the control and the treatment group are presented.

Table 5a
Impact of EU-enlargement 2004 on employment, DiD-estimates using within-estimators on a matched sample, 2002-2005

	Total number of employees	Share of low skilled employees	Share of East European employees
	Manufacturing (WZ 15-37)		
Year=2003	0.0658	0.0032*	-0.0013**
	(0.441)	(0.002)	(0.000)
Treatment=1 & Year=2003	-0.1202	-0.0034	0.0006
	(0.459)	(0.002)	(0.001)
Year=2004	-0.3413	0.0007	-0.0022***
	(0.560)	(0.002)	(0.001)
Treatment=1 & Year=2004	0.0097	-0.0035	0.0006
	(0.612)	(0.003)	(0.001)
Year=2005	-2.2003*	0.0052*	-0.0021**
	(0.893)	(0.003)	(0.001)
Treatment=1 & Year=2005	0.4854	-0.0055+	0.0007
	(0.956)	(0.003)	(0.001)
Number of observations	43,721	43,721	43,721
	Construction (WZ 45)		
Year=2003	-0.1452**	0.0061**	-0.0007+
	(0.053)	(0.002)	(0.000)
Treatment=1 & Year=2003	-0.1997*	-0.0046+	-0.0001
	(0.082)	(0.003)	(0.001)
Year=2004	-0.3698***	0.0101***	-0.0007
	(0.081)	(0.003)	(0.001)
Treatment=1 & Year=2004	-0.4139***	-0.0114***	-0.0002
	(0.113)	(0.003)	(0.001)
Year=2005	-0.9817***	0.0143***	-0.0014**
	(0.099)	(0.003)	(0.001)
Treatment=1 & Year=2005	-0.6299***	-0.0139***	0.0005
	(0.139)	(0.004)	(0.001)
Number of observations	41,182	41,182	41,182

Note: Coefficients, standard errors adjusted for intra-firm clustering in parentheses. +/*/**/*** denote significance on the 10%, 5%, 1% and 0.1% level respectively. Results are based on a matched sample where each firm in a county with a direct eastern border was merged to a control firm from another county. Matching was done as single-nearest-neighbour-matching without replacement on the following variables: Firm-level averages from 1992 to 2001 of the number of employees, the median daily wage and of the shares of low-skilled, skilled and high-skilled employees; the average growth rate of employment and median daily wages from 1991 to 2001, firm age in 2002, quantiles of the wage distribution in 2002, total number of employees in 2002, the shares of German and female employees in 2002, the shares of workers with various education levels and occupational positions in 2002, the plant's age structure in 2002, and the industry affiliation in 2002.

Table 5b
Impact of EU-enlargement 2004 on employment, DiD-estimates using within-estimators on a matched sample, 2002-2005

	Total number of employees	Share of low skilled employees	Share of East European employees
Wholesale and retail trade/ Hotels and restaurants (WZ 50-55)			
Year=2003	-0.0912+	0.0009	-0.0011*
	(0.053)	(0.001)	(0.001)
Treatment=1 & Year=2003	-0.0377	-0.0039*	0.0007
	(0.069)	(0.002)	(0.001)
Year=2004	0.1781*	0.0005	-0.0017**
	(0.070)	(0.002)	(0.001)
Treatment=1 & Year=2004	-0.1282	-0.0076***	0
	(0.090)	(0.002)	(0.001)
Year=2005	-0.2163+	0.0031+	-0.0021***
	(0.115)	(0.002)	(0.001)
Treatment=1 & Year=2005	-0.1576	-0.0106***	0
	(0.135)	(0.003)	(0.001)
Number of observations	83,756	83,756	83,756
Business Services Sector (WZ 70-74)			
Year=2003	0.1169	0.0013	0.0002
	(0.110)	(0.002)	(0.001)
Treatment=1 & Year=2003	-0.3978*	-0.0019	-0.0008
	(0.191)	(0.002)	(0.001)
Year=2004	0.1193	0.0027	0.0008
	(0.321)	(0.002)	(0.001)
Treatment=1 & Year=2004	-0.2195	-0.0064*	-0.0016+
	(0.371)	(0.003)	(0.001)
Year=2005	-0.0752	0.0004	0.0007
	(0.215)	(0.003)	(0.001)
Treatment=1 & Year=2005	-0.5256+	-0.0013	-0.0012
	(0.303)	(0.004)	(0.001)
Number of observations	30,062	30,062	30,062

Note: Coefficients, standard errors adjusted for intra-firm clustering in parentheses. +/*/**/*** denote significance on the 10%, 5%, 1% and 0.1% level respectively. Results are based on a matched sample where each firm in a county with a direct eastern border was merged to a control firm from another county. Matching was done as single-nearest-neighbour-matching without replacement on the following variables: Firm-level averages from 1992 to 2001 of the number of employees, the median daily wage and of the shares of low-skilled, skilled and high-skilled employees; the average growth rate of employment and median daily wages from 1991 to 2001, firm age in 2002, quantiles of the wage distribution in 2002, total number of employees in 2002, the shares of German and female employees in 2002, the shares of workers with various education levels and occupational positions in 2002, the plant's age structure in 2002, and the industry affiliation in 2002.

Table 5c
Impact of EU-enlargement 2004 on employment, DiD-estimates using within-estimators on a matched sample, 2002-2005

	Total number of employees	Share of low skilled employees	Share of East European employees
Business Services Sector, only consulting, research and related (WZ 72-74)			
Year=2003	0.2455+	0.0035*	0.0004
	(0.140)	(0.002)	(0.001)
Treatment=1 & Year=2003	-0.5920*	-0.0054*	-0.0012
	(0.234)	(0.002)	(0.001)
Year=2004	0.6494*	0.0038+	0.0000
	(0.268)	(0.002)	(0.001)
Treatment=1 & Year=2004	-0.7829*	-0.0072**	-0.0007
	(0.348)	(0.003)	(0.001)
Year=2005	0.022	0.0031	-0.0005
	-0.2831	-0.0024	-0.0006
Treatment=1 & Year=2005	-0.6464+	-0.0037	-0.0001
	(0.380)	(0.003)	(0.001)
Number of observations	24,870	24,870	24,870
Social and personal service activities (WZ 80 – 93)			
Year=2003	-0.306	0.0002	-0.0005
	(0.319)	(0.001)	(0.000)
Treatment=1 & Year=2003	0.2792	-0.0002	0.0007
	(0.332)	(0.001)	(0.001)
Year=2004	-0.1769	0.0016	0.0001
	(0.430)	(0.001)	(0.000)
Treatment=1 & Year=2004	0.2507	-0.0021	-0.0001
	(0.454)	(0.002)	(0.001)
Year=2005	-1.2263*	0.0029+	0.0003
	(0.524)	(0.002)	(0.001)
Treatment=1 & Year=2005	0.4548	-0.0009	-0.0003
	(0.557)	(0.002)	(0.001)
Number of observations	57,295	57,295	57,295

Note: Coefficients, standard errors adjusted for intra-firm clustering in parentheses. +/*/**/*** denote significance on the 10%, 5%, 1% and 0.1% level respectively. Results are based on a matched sample where each firm in a county with a direct eastern border was merged to a control firm from another county. Matching was done as single-nearest-neighbour-matching without replacement on the following variables: Firm-level averages from 1992 to 2001 of the number of employees, the median daily wage and of the shares of low-skilled, skilled and high-skilled employees; the average growth rate of employment and median daily wages from 1991 to 2001, firm age in 2002, quantiles of the wage distribution in 2002, total number of employees in 2002, the shares of German and female employees in 2002, the shares of workers with various education levels and occupational positions in 2002, the plant's age structure in 2002, and the industry affiliation in 2002.

Table 6a
Impact of EU-enlargement 2004 on gross daily wages, DiD-estimates using within-estimators on a matched sample, 2002-2005

	Low skilled workers		Skilled workers		High-skilled workes	
	p25	Median	p25	median	p25	median
Manufacturing (WZ 15-37)						
Year=2003	0.8623***	0.7023***	0.3294*	0.3637***	2.3674***	4.7231***
	(0.208)	(0.181)	(0.134)	(0.105)	(0.54)	(0.439)
Treatment=1 & Year=2003	0.1249	0.0554	0.3868*	0.1371	0.8653	0.5154
	(0.294)	(0.235)	(0.173)	(0.136)	(0.698)	(0.587)
Year=2004	1.0069***	0.8662***	0.6312***	0.5785***	3.7773***	5.8145***
	(0.293)	(0.255)	(0.163)	(0.13)	(0.643)	(0.535)
Treatment=1 & Year=2004	0.3437	0.2938	-0.0924	-0.0805	-0.5327	0.555
	(0.366)	(0.313)	(0.204)	(0.165)	(0.866)	(0.726)
Year=2005	1.0600**	0.7537**	0.7516***	0.6777***	4.5899***	6.7202***
	(0.333)	(0.286)	(0.192)	(0.163)	(0.856)	(0.645)
Treatment=1 & Year=2005	0.9887*	0.9654**	-0.0385	-0.1391	-0.8341	0.238
	(0.422)	(0.364)	(0.245)	(0.207)	(1.08)	(0.861)
Number of observations	11,969	11,969	38,774	38,774	7,410	7,410
Construction (WZ 45)						
Year=2003	1.1357***	1.2392***	0.5879***	0.8563***	1.7132*	2.0826***
	(0.333)	(0.285)	(0.134)	(0.102)	(0.681)	(0.589)
Treatment=1 & Year=2003	0.1854	-0.3485	0.1405	-0.1518	0.8711	0.0637
	(0.438)	(0.373)	(0.175)	(0.131)	(0.983)	(0.820)
Year=2004	1.5494***	1.5761***	0.9728***	1.2668***	1.7485*	2.5180***
	(0.423)	(0.330)	(0.163)	(0.127)	(0.877)	(0.754)
Treatment=1 & Year=2004	-0.2299	-0.5615	0.1672	-0.0894	1.8162	0.7482
	(0.583)	(0.485)	(0.210)	(0.161)	(1.327)	(1.131)
Year=2005	1.5449**	1.3358**	1.0887***	1.3016***	2.6269*	3.5601***
	(0.573)	(0.462)	(0.188)	(0.153)	(1.063)	(0.910)
Treatment=1 & Year=2005	0.6698	-0.1122	0.1793	-0.1947	0.3657	-0.086
	(0.801)	(0.675)	(0.243)	(0.195)	(1.524)	(1.312)
Number of observations	6,587	6,587	36,235	36,235	3,276	3,276

Note: Coefficients, standard errors adjusted for intra-firm clustering in parentheses. +/*/**/*** denote significance on the 10%, 5%, 1% and 0.1% level respectively. Results are based on a matched sample where each firm in a county with a direct eastern border was merged to a control firm from another county. Matching was done as single-nearest-neighbour-matching without replacement on the following variables: Firm-level averages from 1992 to 2001 of the number of employees, the median daily wage and of the shares of low-skilled, skilled and high-skilled employees; the average growth rate of employment and median daily wages from 1991 to 2001, firm age in 2002, quantiles of the wage distribution in 2002, total number of employees in 2002, the shares of German and female employees in 2002, the shares of workers with various education levels and occupational positions in 2002, the plant's age structure in 2002 and the industry affiliation in 2002. All estimates are calculated including controls for the shares of German and female employees, the shares of workers with various education levels and occupational positions and the plant's age structure in the respective year.

Table 6b
Impact of EU-enlargement 2004 on gross daily wages, DiD-estimates using within-estimators on a matched sample, 2002-2005

	Low skilled workers		Skilled workers		High-skilled workes	
	p25	Median	p25	median	p25	median
Wholesale and retail trade/ Hotels and restaurants (WZ 50-55)						
Year=2003	0.8883**	0.9442***	0.2856**	0.4929***	2.0964**	2.9330***
	(0.274)	(0.216)	(0.102)	(0.084)	(0.643)	(0.536)
Treatment=1 & Year=2003	-0.3694	-0.6753*	0.1717	-0.0752	0.3663	-0.0387
	(0.355)	(0.281)	(0.137)	(0.112)	(0.830)	(0.691)
Year=2004	1.4652***	1.3892***	0.4154**	0.6721***	1.8072+	3.0186***
	(0.315)	(0.262)	(0.132)	(0.111)	(0.935)	(0.725)
Treatment=1 & Year=2004	-0.4837	-0.8248*	0.0343	-0.2174	0.8059	0.1811
	(0.415)	(0.347)	(0.170)	(0.142)	(1.144)	(0.905)
Year=2005	2.0890***	1.8943***	0.9164***	1.0439***	3.4197**	4.2228***
	(0.380)	(0.326)	(0.156)	(0.135)	(1.091)	(0.877)
Treatment=1 & Year=2005	-0.6521	-0.8731*	-0.1167	-0.2751	-0.0959	-0.1054
	(0.532)	(0.443)	(0.200)	(0.173)	(1.334)	(1.087)
Number of observations	11,689	11,689	67,442	67,442	5,611	5,611
Business Services Sector (WZ 70-74)						
Year=2003	1.8270**	1.5339**	1.0420***	0.9801***	1.8689***	2.1970***
	(0.690)	(0.500)	(0.251)	(0.202)	(0.550)	(0.466)
Treatment=1 & Year=2003	-1.2049	-1.1904	-0.5083	-0.4967+	-0.397	-0.1617
	(1.013)	(0.765)	(0.311)	(0.257)	(0.717)	(0.599)
Year=2004	1.5237+	1.0199	1.3309***	1.5418***	1.3389*	2.4564***
	(0.842)	(0.641)	(0.309)	(0.256)	(0.658)	(0.591)
Treatment=1 & Year=2004	-1.1923	-0.8793	-0.8423*	-1.0512**	-0.0133	-0.5185
	(1.217)	(0.949)	(0.383)	(0.320)	(0.855)	(0.758)
Year=2005	1.5988	1.1617	1.9764***	1.9207***	2.3723**	3.7636***
	(1.048)	(0.962)	(0.370)	(0.312)	(0.798)	(0.715)
Treatment=1 & Year=2005	0.9055	0.4612	-0.6955	-0.8051*	0.4479	-0.5308
	(1.578)	(1.309)	(0.456)	(0.382)	(0.992)	(0.897)
Number of observations	2,559	2,559	23,124	23,124	7,459	7,459

Note: Coefficients, standard errors adjusted for intra-firm clustering in parentheses. +/*/**/*** denote significance on the 10%, 5%, 1% and 0.1% level respectively. Results are based on a matched sample where each firm in a county with a direct eastern border was merged to a control firm from another county. Matching was done as single-nearest-neighbour-matching without replacement on the following variables: Firm-level averages from 1992 to 2001 of the number of employees, the median daily wage and of the shares of low-skilled, skilled and high-skilled employees; the average growth rate of employment and median daily wages from 1991 to 2001, firm age in 2002, quantiles of the wage distribution in 2002, total number of employees in 2002, the shares of German and female employees in 2002, the shares of workers with various education levels and occupational positions in 2002, the plant's age structure in 2002 and the industry affiliation in 2002. All estimates are calculated including controls for the shares of German and female employees, the shares of workers with various education levels and occupational positions and the plant's age structure in the respective year.

Table 6c
Impact of EU-enlargement 2004 on gross daily wages, DiD-estimates using within-estimators on a matched sample, 2002-2005

	Low skilled workers		Skilled workers		High-skilled workes	
	p25	Median	p25	median	p25	median
Business Services Sector, only consulting, research and related (WZ 72-74)						
Year=2003	0.2025	0.2791	1.2065***	1.1803***	2.7389***	2.6216***
	(0.647)	(0.569)	(0.260)	(0.200)	(0.619)	(0.518)
Treatment=1 & Year=2003	0.0628	-0.3388	-0.6824*	-0.7646**	-1.4739+	-1.0556
	(1.087)	(0.886)	(0.327)	(0.266)	(0.799)	(0.664)
Year=2004	1.4696+	1.2531*	1.4595***	1.4389***	3.0288***	3.3070***
	(0.770)	(0.598)	(0.328)	(0.261)	(0.736)	(0.654)
Treatment=1 & Year=2004	-1.1203	-1.2433	-0.8354*	-0.9322**	-1.7459+	-1.8892*
	(1.259)	(0.976)	(0.406)	(0.332)	(0.960)	(0.836)
Year=2005	2.2088*	2.2243**	2.3818***	2.1866***	3.4460***	4.7468***
	(0.856)	(0.734)	(0.387)	(0.326)	(0.866)	(0.790)
Treatment=1 & Year=2005	0.2231	-0.9655	-1.0933*	-1.1090**	-0.8484	-2.2523*
	(1.605)	(1.217)	(0.486)	(0.408)	(1.078)	(0.973)
Number of observations	2,147	2,147	19,425	19,425	6,501	6,501
Social and personal service activities (WZ 80 – 93)						
Year=2003	0.3013	0.5807+	0.3321**	0.5306***	2.8845***	3.9020***
	(0.417)	(0.311)	(0.12)	(0.098)	(0.471)	(0.391)
Treatment=1 & Year=2003	0.5681	0.5393	0.1727	0.0219	1.0133+	0.4089
	(0.586)	(0.446)	(0.16)	(0.128)	(0.612)	(0.505)
Year=2004	0.4202	0.6585+	0.6054***	0.8270***	3.2568***	4.3978***
	(0.458)	(0.373)	(0.147)	(0.122)	(0.585)	(0.486)
Treatment=1 & Year=2004	-0.1064	0.1402	0.0534	-0.1173	2.0029**	1.4053*
	(0.629)	(0.498)	(0.195)	(0.161)	(0.75)	(0.634)
Year=2005	0.2843	0.7864	1.0111***	1.2360***	4.1027***	5.8126***
	(0.596)	(0.497)	(0.172)	(0.142)	(0.698)	(0.564)
Treatment=1 & Year=2005	1.0386	0.8525	-0.0824	-0.3269+	1.6397+	0.6375
	(0.768)	(0.639)	(0.227)	(0.187)	(0.872)	(0.725)
Number of observations	5,610	5,610	47,258	47,258	9,366	9,366

Note: Coefficients, standard errors adjusted for intra-firm clustering in parentheses. +/*/**/*** denote significance on the 10%, 5%, 1% and 0.1% level respectively. Results are based on a matched sample where each firm in a county with a direct eastern border was merged to a control firm from another county. Matching was done as single-nearest-neighbour-matching without replacement on the following variables: Firm-level averages from 1992 to 2001 of the number of employees, the median daily wage and of the shares of low-skilled, skilled and high-skilled employees; the average growth rate of employment and median daily wages from 1991 to 2001, firm age in 2002, quantiles of the wage distribution in 2002, total number of employees in 2002, the shares of German and female employees in 2002, the shares of workers with various education levels and occupational positions in 2002, the plant's age structure in 2002 and the industry affiliation in 2002. All estimates are calculated including controls for the shares of German and female employees, the shares of workers with various education levels and occupational positions and the plant's age structure in the respective year.

Appendix A

Following the eastern borderland definition of the *regulation on exceptions to the ban on recruiting foreign labour* (*Anwerbestoppausnahmeverordnung* 1998, Appendix to §6) our treatment group consists of the following counties in the borderland to Poland (official county codes in parentheses):

a) in Mecklenburg-Western Pomerania: Ostvorpommern (13059), Uecker-Randow (13062)
b) in Brandenburg: Uckermark (12073), Barnim (12060), Märkisch-Oderland (12064), Oder-Spree (12067), Spree-Neiße (12071), Frankfurt/Oder (12053), Cottbus (12052)
c) in Saxony: Niederschlesischer Oberlausitzkreis (14284), Löbau-Zittau (14286), Görlitz (14263),

as well as the following counties in the borderland to the Czech Republic**:**

a) in Bavaria: Passau (09275), Neustadt a.d. Waldnaab (09374), Deggendorf (09271), Tirschenreuth (09377), Freyung-Grafenau (09272), Bayreuth (09462, 09472), Straubing-Bogen (09278), Wunsiedel i. Fichtelgebirge (09479), Regen (09276), Hof (09475, 09464), Cham (09372), Kulmbach (09477), Schwandorf (09376), Kronach (09476), Amberg-Sulzbach (09371), Passau (09275, 09262), Weiden i.d. Opf. (09363), Straubing (09263), Amberg (09361)
b) in Saxony: Löbau-Zittau (14286), Mittlerer Erzgebirgskreis (14181), Bautzen (14272), Annaberg (14171), Sächsische Schweiz (14287), Aue-Schwarzenberg (14191), Weißeritzkreis (14290), Vogtlandkreis (14178), Plauen (14166), Freiberg (14177).

Appendix B

Table A1
Balancing Property - Manufacturing (WZ 15-37)

	Unmatched sample			Matched sample		
	Control group	Treat-ment group	p-value	Control group	Treat-ment group	p-value
Average total number of employees	28.2	40.7	0.007	28.2	31.4	0.759
Average median daily gross wage	49.9	65.7	0.000	49.9	49.5	0.254
Average share of full-time employees	0.808	0.803	0.060	0.808	0.806	0.675
Average share of unskilled employees	0.172	0.181	0.001	0.172	0.174	0.602
Average share of qualified employees	0.705	0.657	0.000	0.705	0.700	0.303
Average share of highly qualified employees	0.026	0.028	0.085	0.026	0.027	0.586
Average share of employees with unknown qualification	0.097	0.134	0.000	0.097	0.099	0.571
Average growth of employees	0.271	0.356	0.372	0.271	0.236	0.538
Average growth of the median daily gross wage	0.276	0.038	0.002	0.276	0.051	0.356
Age of the establishment	14.2	17.3	0.000	14.2	14.0	0.303
Share of employees aged 15 to 17	0.022	0.017	0.000	0.022	0.023	0.387
Share of employees aged 18 to 29	0.213	0.196	0.000	0.213	0.212	0.822
Share of employees aged 30 to 49	0.531	0.537	0.084	0.531	0.528	0.547
Share of employees aged 50 to 59	0.169	0.169	0.929	0.169	0.172	0.433
Share of employees aged 60 and over	0.064	0.081	0.000	0.064	0.064	0.923
Total number of employees	30.0	42.1	0.006	30.0	33.1	0.761
Share of female employees	0.419	0.386	0.000	0.419	0.424	0.407
Share of German citizens employed	0.983	0.942	0.000	0.983	0.983	0.805
1st Quartile of the daily gross wage	47.9	60.5	0.000	47.9	47.4	0.227
Median daily gross wage (Median)	54.0	70.7	0.000	54.0	53.5	0.249
3rd Quartile of the daily gross wage	61.1	82.5	0.000	61.1	60.5	0.176
1st Quartile of the daily gross wage (unskilled employees)	50.1	61.0	0.000	50.1	49.5	0.428
Median daily gross wage (unskilled employees)	53.6	66.4	0.000	53.6	53.0	0.342
3rd Quartile of the daily gross wage (unskilled employees)	57.3	72.0	0.000	57.3	56.5	0.315
1st Quartile of the daily gross wage (qualified employees)	49.4	64.2	0.000	49.4	49.6	0.607
Median daily gross wage (qualified employees)	55.2	74.2	0.000	55.2	55.6	0.332
3rd Quartile of the daily gross wage (qualified employees)	61.8	85.4	0.000	61.8	62.1	0.576
1st Quartile of the daily gross wage (highly qualified employees)	89.9	112.2	0.000	89.9	86.2	0.016
Median daily gross wage (highly qualified employees)	97.9	121.5	0.000	97.9	94.6	0.040
3rd Quartile of the daily gross wage (highly qualified employees)	104.5	126.7	0.000	104.5	101.5	0.070
Share of unskilled employees	0.156	0.167	0.000	0.156	0.156	0.998
Share of qualified employees	0.689	0.609	0.000	0.689	0.687	0.790
Share of highly qualified employees	0.025	0.028	0.005	0.025	0.025	0.868
Share of employees with unknown qualification	0.131	0.196	0.000	0.131	0.132	0.794
Share of Eastern European employees	0.008	0.003	0.000	0.008	0.007	0.103
Share of apprentices	0.067	0.055	0.000	0.067	0.068	0.873
Share of minor part-time employees	0.133	0.159	0.000	0.133	0.128	0.192
Share of major part-time employees	0.048	0.043	0.000	0.048	0.049	0.677
Share of white-collar employees	0.188	0.238	0.000	0.188	0.203	0.002
Share of skilled workers	0.401	0.301	0.000	0.401	0.389	0.046
Share of master craftsmen and foremen	0.020	0.025	0.000	0.020	0.019	0.540
Share of non-formally qualified employees	0.141	0.179	0.000	0.141	0.142	0.871

Notes: In the columns three and six the p-values of mean comparisons (t-tests) between the control and the treatment group are presented for the unmatched and matched sample respectively.

Table A2
Balancing Property - Construction (WZ 45)

	Unmatched sample			Matched sample		
	Control group	Treat-ment group	p-value	Control group	Treat-ment group	p-value
Average total number of employees	12.4	11.0	0.001	12.4	9.4	0.000
Average median daily gross wage	54.4	66.8	0.000	54.4	53.9	0.047
Average share of full-time employees	0.840	0.811	0.000	0.840	0.845	0.141
Average share of unskilled employees	0.146	0.182	0.000	0.146	0.150	0.302
Average share of qualified employees	0.746	0.682	0.000	0.746	0.739	0.141
Average share of highly qualified employees	0.012	0.010	0.009	0.012	0.012	0.768
Average share of employees with unknown qualification	0.096	0.126	0.000	0.096	0.100	0.338
Average growth of employees	0.203	0.171	0.003	0.203	0.206	0.863
Average growth of the median daily gross wage	0.030	0.090	0.661	0.030	0.029	0.484
Age of the establishment	11.8	15.8	0.000	11.8	11.6	0.291
Share of employees aged 15 to 17	0.022	0.017	0.000	0.022	0.024	0.437
Share of employees aged 18 to 29	0.272	0.270	0.577	0.272	0.273	0.864
Share of employees aged 30 to 49	0.552	0.524	0.000	0.552	0.554	0.715
Share of employees aged 50 to 59	0.121	0.133	0.000	0.121	0.119	0.525
Share of employees aged 60 and over	0.033	0.056	0.000	0.033	0.031	0.364
Total number of employees	10.9	10.7	0.741	10.9	8.6	0.000
Share of female employees	0.166	0.195	0.000	0.166	0.172	0.109
Share of German citizens employed	0.991	0.943	0.000	0.991	0.990	0.489
1st Quartile of the daily gross wage	52.7	62.5	0.000	52.7	51.9	0.009
Median daily gross wage (Median)	57.5	70.8	0.000	57.5	56.6	0.007
3rd Quartile of the daily gross wage	62.0	77.8	0.000	62.0	61.1	0.008
1st Quartile of the daily gross wage (unskilled employees)	56.1	64.2	0.000	56.1	55.2	0.313
Median daily gross wage (unskilled employees)	58.8	68.0	0.000	58.8	57.5	0.140
3rd Quartile of the daily gross wage (unskilled employees)	61.1	71.3	0.000	61.1	59.8	0.155
1st Quartile of the daily gross wage (qualified employees)	53.6	64.9	0.000	53.6	53.5	0.662
Median daily gross wage (qualified employees)	58.1	72.5	0.000	58.1	58.0	0.708
3rd Quartile of the daily gross wage (qualified employees)	62.2	79.1	0.000	62.2	61.7	0.250
1st Quartile of the daily gross wage (highly qualified employees)	78.8	101.7	0.000	78.8	80.4	0.456
Median daily gross wage (highly qualified employees)	84.5	107.4	0.000	84.5	85.0	0.797
3rd Quartile of the daily gross wage (highly qualified employees)	87.7	110.7	0.000	87.7	88.5	0.727
Share of unskilled employees	0.120	0.163	0.000	0.120	0.124	0.267
Share of qualified employees	0.753	0.660	0.000	0.753	0.746	0.181
Share of highly qualified employees	0.014	0.011	0.000	0.014	0.014	0.925
Share of employees with unknown qualification	0.113	0.166	0.000	0.113	0.117	0.462
Share of Eastern European employees	0.004	0.003	0.095	0.004	0.004	0.970
Share of apprentices	0.074	0.089	0.000	0.074	0.072	0.389
Share of minor part-time employees	0.080	0.101	0.000	0.080	0.077	0.328
Share of major part-time employees	0.024	0.025	0.331	0.024	0.023	0.588
Share of white-collar employees	0.109	0.126	0.000	0.109	0.124	0.000
Share of skilled workers	0.591	0.482	0.000	0.591	0.575	0.012
Share of master craftsmen and foremen	0.021	0.030	0.000	0.021	0.022	0.456
Share of non-formally qualified employees	0.102	0.147	0.000	0.102	0.107	0.240

Notes: In the columns three and six the p-values of mean comparisons (t-tests) between the control and the treatment group are presented for the unmatched and matched sample respectively.

Table A3

Balancing Property - Wholesale and retail trade/ Hotels and restaurants (WZ 50-55)

	Unmatched sample			Matched sample		
	Control group	Treat-ment group	p-value	Control group	Treat-ment group	p-value
Average total number of employees	8.6	11.7	0.000	8.6	8.1	0.092
Average median daily gross wage	45.5	55.7	0.000	45.5	45.2	0.168
Average share of full-time employees	0.743	0.725	0.000	0.743	0.747	0.210
Average share of unskilled employees	0.125	0.134	0.000	0.125	0.127	0.388
Average share of qualified employees	0.702	0.624	0.000	0.702	0.699	0.403
Average share of highly qualified employees	0.019	0.021	0.003	0.019	0.019	0.796
Average share of employees with unknown qualification	0.154	0.220	0.000	0.154	0.156	0.682
Average growth of employees	0.243	0.257	0.513	0.243	0.241	0.894
Average growth of the median daily gross wage	0.159	0.094	0.696	0.159	0.600	0.434
Age of the establishment	11.5	14.8	0.000	11.5	11.3	0.095
Share of employees aged 15 to 17	0.019	0.018	0.410	0.019	0.019	0.510
Share of employees aged 18 to 29	0.232	0.222	0.000	0.232	0.228	0.350
Share of employees aged 30 to 49	0.536	0.518	0.000	0.536	0.540	0.332
Share of employees aged 50 to 59	0.165	0.172	0.002	0.165	0.165	0.859
Share of employees aged 60 and over	0.049	0.070	0.000	0.049	0.047	0.258
Total number of employees	10.0	13.9	0.000	10.0	9.5	0.177
Share of female employees	0.621	0.577	0.000	0.621	0.621	0.959
Share of German citizens employed	0.970	0.917	0.000	0.970	0.967	0.031
1st Quartile of the daily gross wage	44.1	51.7	0.000	44.1	44.1	0.857
Median daily gross wage (Median)	49.4	60.2	0.000	49.4	49.1	0.303
3rd Quartile of the daily gross wage	55.5	69.8	0.000	55.5	55.1	0.195
1st Quartile of the daily gross wage (unskilled employees)	44.3	51.8	0.000	44.3	45.0	0.312
Median daily gross wage (unskilled employees)	46.9	55.6	0.000	46.9	47.8	0.226
3rd Quartile of the daily gross wage (unskilled employees)	49.2	59.4	0.000	49.2	50.5	0.099
1st Quartile of the daily gross wage (qualified employees)	46.3	56.4	0.000	46.3	46.6	0.456
Median daily gross wage (qualified employees)	51.3	64.4	0.000	51.3	51.4	0.640
3rd Quartile of the daily gross wage (qualified employees)	56.8	73.3	0.000	56.8	57.0	0.750
1st Quartile of the daily gross wage (highly qualified employees)	79.6	99.2	0.000	79.6	80.7	0.544
Median daily gross wage (highly qualified employees)	83.0	105.2	0.000	83.0	85.8	0.133
3rd Quartile of the daily gross wage (highly qualified employees)	85.7	109.0	0.000	85.7	89.4	0.058
Share of unskilled employees	0.117	0.126	0.000	0.117	0.118	0.797
Share of qualified employees	0.662	0.555	0.000	0.662	0.664	0.760
Share of highly qualified employees	0.018	0.021	0.003	0.018	0.018	0.853
Share of employees with unknown qualification	0.203	0.298	0.000	0.203	0.200	0.582
Share of Eastern European employees	0.010	0.005	0.000	0.010	0.008	0.129
Share of apprentices	0.053	0.043	0.000	0.053	0.052	0.369
Share of minor part-time employees	0.167	0.220	0.000	0.167	0.161	0.076
Share of major part-time employees	0.105	0.089	0.000	0.105	0.105	0.841
Share of white-collar employees	0.312	0.352	0.000	0.312	0.314	0.697
Share of skilled workers	0.246	0.143	0.000	0.246	0.246	0.900
Share of master craftsmen and foremen	0.012	0.013	0.019	0.012	0.012	0.819
Share of non-formally qualified employees	0.105	0.139	0.000	0.105	0.111	0.054

Notes: In the columns three and six the p-values of mean comparisons (t-tests) between the control and the treatment group are presented for the unmatched and matched sample respectively.

Table A4
Balancing Property - Business Services Sector (WZ 70-74)

	Unmatched sample			Matched sample		
	Control group	Treat-ment group	p-value	Control group	Treat-ment group	p-value
Average total number of employees	9.5	13.1	0.000	9.5	7.3	0.000
Average median daily gross wage	54.5	67.2	0.000	54.5	54.3	0.712
Average share of full-time employees	0.780	0.754	0.000	0.780	0.776	0.423
Average share of unskilled employees	0.090	0.094	0.118	0.090	0.090	0.999
Average share of qualified employees	0.644	0.607	0.000	0.644	0.646	0.771
Average share of highly qualified employees	0.111	0.105	0.090	0.111	0.108	0.549
Average share of employees with unknown qualification	0.156	0.194	0.000	0.156	0.157	0.903
Average growth of employees	0.333	0.386	0.261	0.333	0.305	0.391
Average growth of the median daily gross wage	0.054	0.066	0.115	0.054	0.059	0.518
Age of the establishment	9.7	13.0	0.000	9.7	9.4	0.036
Share of employees aged 15 to 17	0.011	0.010	0.425	0.011	0.011	0.823
Share of employees aged 18 to 29	0.214	0.219	0.265	0.214	0.216	0.808
Share of employees aged 30 to 49	0.542	0.538	0.380	0.542	0.536	0.369
Share of employees aged 50 to 59	0.168	0.162	0.078	0.168	0.171	0.690
Share of employees aged 60 and over	0.064	0.071	0.006	0.064	0.066	0.473
Total number of employees	11.3	17.5	0.000	11.3	9.3	0.003
Share of female employees	0.584	0.584	0.912	0.584	0.586	0.748
Share of German citizens employed	0.990	0.956	0.000	0.990	0.989	0.541
1st Quartile of the daily gross wage	50.9	61.2	0.000	50.9	51.0	0.821
Median daily gross wage (Median)	58.5	72.7	0.000	58.5	58.6	0.879
3rd Quartile of the daily gross wage	67.1	84.5	0.000	67.1	66.8	0.725
1st Quartile of the daily gross wage (unskilled employees)	46.1	54.2	0.000	46.1	46.1	0.989
Median daily gross wage (unskilled employees)	49.2	58.4	0.000	49.2	49.0	0.952
3rd Quartile of the daily gross wage (unskilled employees)	51.5	62.3	0.000	51.5	51.8	0.886
1st Quartile of the daily gross wage (qualified employees)	51.4	62.9	0.000	51.4	52.6	0.037
Median daily gross wage (qualified employees)	57.5	72.7	0.000	57.5	59.0	0.013
3rd Quartile of the daily gross wage (qualified employees)	64.3	82.7	0.000	64.3	65.2	0.243
1st Quartile of the daily gross wage (highly qualified employees)	78.1	98.8	0.000	78.1	83.5	0.000
Median daily gross wage (highly qualified employees)	84.2	107.0	0.000	84.2	90.3	0.000
3rd Quartile of the daily gross wage (highly qualified employees)	89.8	112.9	0.000	89.8	95.8	0.000
Share of unskilled employees	0.083	0.086	0.351	0.083	0.084	0.876
Share of qualified employees	0.621	0.560	0.000	0.621	0.621	0.971
Share of highly qualified employees	0.106	0.100	0.068	0.106	0.100	0.287
Share of employees with unknown qualification	0.191	0.255	0.000	0.191	0.195	0.547
Share of Eastern European employees	0.004	0.004	0.741	0.004	0.004	0.825
Share of apprentices	0.042	0.045	0.062	0.042	0.040	0.314
Share of minor part-time employees	0.155	0.180	0.000	0.155	0.159	0.462
Share of major part-time employees	0.058	0.060	0.380	0.058	0.059	0.845
Share of white-collar employees	0.536	0.559	0.000	0.536	0.546	0.246
Share of skilled workers	0.128	0.070	0.000	0.128	0.115	0.034
Share of master craftsmen and foremen	0.007	0.007	0.624	0.007	0.008	0.447
Share of non-formally qualified employees	0.074	0.078	0.186	0.074	0.074	0.955

Notes: In the columns three and six the p-values of mean comparisons (t-tests) between the control and the treatment group are presented for the unmatched and matched sample respectively.

Table A5

Balanced Balancing - Business Services Sector, only consulting, research and related (WZ 72-74)

	Unmatched sample			Matched sample		
	Control group	Treat-ment group	p-value	Control group	Treat-ment group	p-value
Average total number of employees	9.8	14.2	0.000	9.8	9.3	0.629
Average median daily gross wage	54.4	67.9	0.000	54.4	53.6	0.153
Average share of full-time employees	0.769	0.746	0.000	0.769	0.765	0.453
Average share of unskilled employees	0.093	0.095	0.445	0.093	0.097	0.410
Average share of qualified employees	0.643	0.607	0.000	0.643	0.647	0.615
Average share of highly qualified employees	0.119	0.116	0.450	0.119	0.111	0.154
Average share of employees with unknown qualification	0.145	0.182	0.000	0.145	0.146	0.960
Average growth of employees	0.339	0.408	0.212	0.339	0.327	0.766
Average growth of the median daily gross wage	0.056	0.066	0.240	0.056	0.062	0.554
Age of the establishment	9.8	13.0	0.000	9.8	9.8	0.863
Share of employees aged 15 to 17	0.012	0.011	0.203	0.012	0.015	0.118
Share of employees aged 18 to 29	0.236	0.237	0.826	0.236	0.240	0.560
Share of employees aged 30 to 49	0.545	0.543	0.753	0.545	0.541	0.657
Share of employees aged 50 to 59	0.154	0.148	0.109	0.154	0.150	0.493
Share of employees aged 60 and over	0.052	0.060	0.001	0.052	0.054	0.737
Total number of employees	11.9	19.1	0.000	11.9	11.8	0.981
Share of female employees	0.609	0.600	0.162	0.609	0.617	0.328
Share of German citizens employed	0.990	0.956	0.000	0.990	0.989	0.762
1st Quartile of the daily gross wage	50.5	61.8	0.000	50.5	49.5	0.118
Median daily gross wage (Median)	58.3	73.6	0.000	58.3	57.1	0.063
3rd Quartile of the daily gross wage	67.0	85.9	0.000	67.0	65.7	0.067
1st Quartile of the daily gross wage (unskilled employees)	45.3	53.5	0.000	45.3	42.2	0.114
Median daily gross wage (unskilled employees)	48.5	57.8	0.000	48.5	45.3	0.108
3rd Quartile of the daily gross wage (unskilled employees)	51.1	61.8	0.000	51.1	48.0	0.147
1st Quartile of the daily gross wage (qualified employees)	50.6	62.7	0.000	50.6	50.9	0.711
Median daily gross wage (qualified employees)	56.8	72.8	0.000	56.8	57.3	0.438
3rd Quartile of the daily gross wage (qualified employees)	63.8	83.1	0.000	63.8	63.8	0.962
1st Quartile of the daily gross wage (highly qualified employees)	76.8	97.9	0.000	76.8	80.0	0.036
Median daily gross wage (highly qualified employees)	82.9	106.2	0.000	82.9	86.2	0.032
3rd Quartile of the daily gross wage (highly qualified employees)	88.7	112.4	0.000	88.7	91.4	0.093
Share of unskilled employees	0.085	0.086	0.617	0.085	0.092	0.122
Share of qualified employees	0.623	0.563	0.000	0.623	0.629	0.513
Share of highly qualified employees	0.115	0.110	0.230	0.115	0.104	0.051
Share of employees with unknown qualification	0.177	0.241	0.000	0.177	0.175	0.794
Share of Eastern European employees	0.004	0.004	0.539	0.004	0.003	0.297
Share of apprentices	0.049	0.051	0.290	0.049	0.051	0.397
Share of minor part-time employees	0.151	0.176	0.000	0.151	0.151	0.960
Share of major part-time employees	0.061	0.063	0.340	0.061	0.061	0.947
Share of white-collar employees	0.559	0.578	0.002	0.559	0.561	0.856
Share of skilled workers	0.115	0.063	0.000	0.115	0.105	0.098
Share of master craftsmen and foremen	0.007	0.008	0.491	0.007	0.008	0.299
Share of non-formally qualified employees	0.057	0.061	0.314	0.057	0.062	0.336

Notes: In the columns three and six the p-values of mean comparisons (t-tests) between the control and the treatment group are presented for the unmatched and matched sample respectively.

Table A6

Balancing Property - Social and personal service activities (WZ 80 – 93)

	Unmatched sample			Matched sample		
	Control group	Treat-ment group	p-value	Control group	Treat-ment group	p-value
Average total number of employees	14.9	16.8	0.118	14.9	13.8	0.414
Average median daily gross wage	48.0	54.0	0.000	48.0	47.0	0.004
Average share of full-time employees	0.675	0.636	0.000	0.675	0.677	0.716
Average share of unskilled employees	0.121	0.134	0.000	0.121	0.124	0.336
Average share of qualified employees	0.685	0.642	0.000	0.685	0.688	0.516
Average share of highly qualified employees	0.073	0.056	0.000	0.073	0.065	0.021
Average share of employees with unknown qualification	0.121	0.168	0.000	0.121	0.123	0.706
Average growth of employees	0.254	0.266	0.735	0.254	0.229	0.184
Average growth of the median daily gross wage	0.492	0.301	0.687	0.492	0.702	0.793
Age of the establishment	11.9	15.0	0.000	11.9	11.7	0.236
Share of employees aged 15 to 17	0.019	0.017	0.000	0.019	0.021	0.248
Share of employees aged 18 to 29	0.251	0.267	0.000	0.251	0.256	0.305
Share of employees aged 30 to 49	0.500	0.510	0.001	0.500	0.499	0.936
Share of employees aged 50 to 59	0.173	0.148	0.000	0.173	0.168	0.183
Share of employees aged 60 and over	0.056	0.058	0.248	0.056	0.056	0.865
Total number of employees	17.0	20.0	0.030	17.0	16.1	0.554
Share of female employees	0.841	0.850	0.003	0.841	0.840	0.809
Share of German citizens employed	0.987	0.952	0.000	0.987	0.982	0.000
1st Quartile of the daily gross wage	46.9	49.8	0.000	46.9	46.1	0.046
Median daily gross wage (Median)	52.9	58.0	0.000	52.9	51.8	0.008
3rd Quartile of the daily gross wage	59.4	66.9	0.000	59.4	58.0	0.003
1st Quartile of the daily gross wage (unskilled employees)	46.0	49.8	0.000	46.0	43.9	0.041
Median daily gross wage (unskilled employees)	49.2	53.9	0.000	49.2	46.9	0.032
3rd Quartile of the daily gross wage (unskilled employees)	51.8	57.6	0.000	51.8	49.6	0.065
1st Quartile of the daily gross wage (qualified employees)	46.6	51.7	0.000	46.6	46.7	0.689
Median daily gross wage (qualified employees)	51.7	58.8	0.000	51.7	51.8	0.801
3rd Quartile of the daily gross wage (qualified employees)	57.0	66.1	0.000	57.0	56.9	0.932
1st Quartile of the daily gross wage (highly qualified employees)	87.8	94.6	0.000	87.8	86.1	0.195
Median daily gross wage (highly qualified employees)	94.2	102.2	0.000	94.2	92.1	0.112
3rd Quartile of the daily gross wage (highly qualified employees)	99.5	107.9	0.000	99.5	96.9	0.066
Share of unskilled employees	0.106	0.115	0.000	0.106	0.106	0.991
Share of qualified employees	0.646	0.581	0.000	0.646	0.654	0.152
Share of highly qualified employees	0.076	0.055	0.000	0.076	0.069	0.042
Share of employees with unknown qualification	0.172	0.249	0.000	0.172	0.171	0.845
Share of Eastern European employees	0.004	0.004	0.809	0.004	0.004	0.458
Share of apprentices	0.056	0.069	0.000	0.056	0.056	0.707
Share of minor part-time employees	0.180	0.239	0.000	0.180	0.177	0.273
Share of major part-time employees	0.151	0.126	0.000	0.151	0.148	0.365
Share of white-collar employees	0.453	0.421	0.000	0.453	0.455	0.747
Share of skilled workers	0.108	0.084	0.000	0.108	0.110	0.749
Share of master craftsmen and foremen	0.004	0.005	0.029	0.004	0.004	0.856
Share of non-formally qualified employees	0.047	0.056	0.000	0.047	0.051	0.191

Notes: In the columns three and six the p-values of mean comparisons (t-tests) between the control and the treatment group are presented for the unmatched and matched sample respectively.

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