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## The impact of the 2004 EU-enlargement on enterprise performance and exports of service enterprises in the German eastern border region

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**The impact of the 2004 EU-enlargement on enterprise performance and exports of  
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Abstract:

We consider the impact of the 2004 EU-enlargement on enterprise performance and the exporting behavior of German service enterprises in Germany's eastern border region. Our results from regression adjusted difference-in-differences-estimators combined with matching and panel data from official statistics suggest that the EU-enlargement resulted in a decline by circa 1 percent in the turnover and the profitability of large enterprises in the border region, respectively. For small enterprises, we find an annual increase in turnover by 2.7% in both 2004 and 2005 and an annual decrease in profitability by 1.8 and 2.6 percentage points in 2004 and 2005 respectively.

Keywords: EU-enlargement, enterprise performance, exports

JEL Classification: F15, L80

\* All computations were done in the research data centre of the Statistical Office in Berlin using Stata 10.1. Many thanks to Ramona Pohl for building the data set and her help in many ways. The data used in this paper can be accessed via the research data centers of the Statistical Offices, see [www.forschungsdatenzentrum.de](http://www.forschungsdatenzentrum.de) for details. To facilitate replication all do-files are available from the authors on request.

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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 considers the impact of this enlargement on service enterprises in Germany's eastern border region close to Poland and the Czech Republic. Specifically, we use panel data from German official statistics for 2003 to 2005 and treat the EU-enlargement as an exogenous event for enterprises close to Germany's eastern border. Our results from regression-adjusted difference-in-differences-estimators on matched samples suggest a small negative on both the turnover and the profitability of large enterprises situated in a Federal State with an eastern border relative to enterprises in other Federal States. For small enterprises, we find an increase in turnover by 2.7% in both 2004 and 2005 and a reduction in profitability by 1.8 and 2.6 percentage points in 2004 and 2005 respectively.

There are a number of reasons why we might expect to find an effect of the enlargement on the performance of (service) enterprises. 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 and consequently the costs for both enterprises in the old and new membership 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 focus on service enterprises as strong legislative barriers existed in this sector before the expansion, for instance through residence and work permits as well as through the

approval of foreign degrees in occupations with minimum qualification requirements (see Scharr/ Untiedt 2001, p. 186).<sup>1</sup> The case would be 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, the effects of the EU-enlargement on trade in goods is likely to be quite small (see Scharr/ Untiedt 2001, p. 185).

Additionally, note that the effects of the EU-enlargement should be stronger for enterprises close to Germany's eastern border as services often require a personal contact between buyer and seller which is obviously cheaper to establish for both importers and exporters that are geographically close to the border. In our empirical investigation, we exploit this fact and compare differences over time within enterprises that are situated in a Federal State with a border to the new member states with differences over time within enterprises that are situated in a Federal State without such a border.

This paper is – to the best of our knowledge – the first study that considers the impact of the 2004 EU-enlargement on enterprise performance. There is, however, 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. 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

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<sup>1</sup> 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.

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 data from the German services statistics panel which has recently been released by the Federal Statistical Office and the statistical offices of the Federal States. The source surveys, the annual services statistics (*“Strukturerhebung im Dienstleistungsbereich”*), which were introduced through an initiative of the European Union (European Council, 1996), have been conducted since the year 2000 by the statistical offices of the Federal States and the German Federal Statistical Office. The data cover enterprises and professions (*“Freie Berufe”*) operating in the NACE divisions I (transport, storage and communication) and K (real estate, renting and business activities) with an annual turnover of €17,500 or more. Data collection is based on a stratified random sampling design where the stratification uses the federal states (*“Bundesländer”*), 4-digit industries and 12 size ranges for turnover and employees. As enterprises that were sampled in 2003 were also surveyed in 2004 and 2005, it is possible to merge the cross-sectional datasets to a panel dataset that covers the years 2003 to 2005 (cf. Pesch, 2007; Federal Statistical Office, 2007).

The data include information about the economic sector, the number of employed persons (not including temporary workers), total turnover, salaries and wages, and variations in stocks. However, “small” enterprises with an annual turnover lower than €250,000 receive a smaller questionnaire, so important information, in particular concerning export activities, is

missing for these enterprises. Given this restriction, all analyses are conducted separately for “small” and “large” enterprises with exports being only analyzed for the latter. Note that the use of “small” and “large enterprises” throughout the paper always refers to this definition.

The enterprises’ export activities are measured by an export dummy (1 if exporting; 0 if not) and export intensity (percentage of exports in total turnover). Unfortunately, the dataset contains no information about the target countries for exports or other international activities such as partnerships, direct investments or imports. The number of employees is based on the number of employed persons and, because the information is not included in the dataset, not on full-time equivalents. This difference has to be considered while interpreting the labor productivity measurements value-added per employee (computed in line with the definition by the European Commission, 1998) and turnover per employee. The average wage of an enterprise is computed by the total amount of wages and salaries, divided by the number of wage and salary earners. The turnover profitability is generated as gross enterprise surplus, which is the surplus generated by operating activities after the labor factor input has been recompensed (see European Commission, 1998), divided by total turnover, minus the change in stocks of goods and services.

In this study we focus on enterprises in the two-digit industries 72 (e.g., hardware and software consultancy, data processing, software publishing and database activities), 73 (i.e., research and development) and 74 (e.g., business, management and tax consultancy, advertising, legal activities, market research, and architectural and engineering activities) from the NACE division K as these generally require a rather high level of personal or direct interaction between buyers and sellers and should consequently profit or suffer more from the EU enlargement than industries without this requirement. We ignore the industries 70 (real estate) and 71 (renting) from the NACE division K as these are generally characterized by a low level of internationalization which makes large effects of the EU-enlargement unlikely. Additionally, we do not consider enterprises in the NACE division I (transport, storage and

communication) as these may have already profited from the earlier trade agreements in a similar way as manufacturing enterprises. Note also that the distribution of industries is similar between small and large enterprises. Finally, we drop enterprises without any wage and salary earner, enterprises in the 1st or 99th percentile of the sales or profitability distribution and enterprises without a pre-treatment observation.

This procedure yields an unbalanced panel of 57,647 enterprise-year-observations for 22,683 large enterprises and 28,375 enterprise-year-observations for 12,676 small enterprises. In a second step we create a balanced sample by restricting the sample to those enterprises that are observed in all three years. The resulting sample consists of 47,292 enterprise-year-observations for 15,764 large enterprises and 19,305 enterprise-year-observations for 6,435 small enterprises. Finally, we create a matched sample of enterprises from the balanced panel by matching (without replacement) each observation from the treatment group to its nearest neighbor from the control group using propensity score matching. The propensity score is calculated by a probit regression of the eastern border dummy on the number of employees and its squared value, value-added per head, average wage per head, total turnover, an East Germany dummy, and a set of 4-digit industry dummy variables (all measured in 2003). This sample which maximizes similarities between treatment and control group in the year prior to the EU-enlargement consists of 24,654 enterprise-year-observations for 8,218 large enterprises and 11,490 enterprise-year-observations for 3,830 small enterprises. Descriptive statistics for all samples can be found in table 1.

[TABLE 1 ABOUT HERE.]

### **3. Empirical modeling**



Our analysis treats the EU-enlargement in 2004 as a 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 one of the federal states with an eastern border - Bavaria, Berlin/Brandenburg, Mecklenburg-Western Pomerania and Saxony - as the treatment group and use enterprises situated in any of the remaining federal states 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 2003. We then model impact of the EU-enlargement on turnover, profitability and, for large enterprises, exports using (regression-adjusted) difference-in-differences. More formally, we consider the following estimating equation

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

where  $y_{it}$  is the outcome of interest,  $X_{it}$  contains control variables described below,  $\varepsilon_{it}$  is a standard error term,  $\eta_i$  is a enterprise specific fixed-effect and  $T_{it}$  contains two time dummies for 2004 and 2005.  $\tau$  measures the divergence in average outcomes between the treatment and the control group in these two years which equals our effect of interest. As control variables we include a second order polynomial in the number of employees, value-added per head as measure of productivity and the average wage per head as a proxy for human capital.

Note that  $\tau$  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. Unfortunately, we cannot use pre-treatment trend comparisons or pseudo-interventions to “test” the common-trend assumption as data coverage begins only one year prior to the real intervention. Note, however, that using a matched

sample ensures that we compare only plants that were identical with respect to the number of employees, value-added per head, average wage per head and total turnover in the year prior to the EU-enlargement. Additionally, the matching procedure ensures that the distributions of East and West German firms and 4-digit industries are identical in the treatment and the control group. Finally, note that controlling for enterprise-specific fixed-effects further alleviates concerns regarding the validity of the common-trend-assumption.

## **4. Results**

Consider the results for the difference-in-differences-estimates based on the matched sample displayed in table 2. Results using unmatched samples for both the balanced and the unbalanced panel can be found in the appendix. Note that the pattern of results regarding e.g. the signs of the coefficients is generally identical, while some differences are found for the size and the significance of the effects.

Before turning to the parameters of interest, note that the apparently large differences in the effects of enterprise size on log turnover and turnover profitability between small and large enterprises are directly related to the differences in enterprise size. Using simulations of the effects over realistic enterprise size ranges in both groups reveals that the effects are economically sensible. In particular, while the estimates for the effect of enterprise size on the (log) turnover of small enterprises look unrealistically large at a first glance, the simulations suggest realistic changes in the outcome over the range of 1 to 50 employees. As almost all enterprises in the data set are smaller than the maximum of the respective quadratic equation, the results should be interpreted as a positive relationship (with slightly degressive character) between size and turnover or turnover profitability respectively for both small and large enterprises. The coefficients of the remaining control variables are as expected.

[TABLE 2 ABOUT HERE.]

Turn now to the parameters of interest. For large enterprises, we observe a lower profitability and both a higher turnover and a higher share of exporters in 2004 and 2005 relative to 2003. The pattern is somewhat different for small enterprises where - compared to 2003 - turnover is lower in 2004 and 2005, while profitability remains unchanged over these years.

Similarly, differences between large and small enterprises are also found for the interaction terms that describe the effect of the EU-enlargement on enterprises close to Germany's eastern border. For large enterprises, we find decline in both turnover and profitability in 2005, while exports remain unchanged by the economic integration of the eastern countries. Both effects are also no negligible in economics terms as turnover declines by circa 1.5% while turnover profitability is reduced by roughly one percentage point.

The case is somewhat different for small enterprises. Here, we obtain positive and significant effects that suggest increases in turnover of circa 2.7% for the treatment group in both 2004 and 2005. At the same time profitability in this group drops by circa 1.8 percentage points in 2004 and by another 2.6 percentage points in 2005 which is not negligible compared to a mean profitability of 33 percent. Unfortunately, we cannot test whether these results are caused by an eastward expansion that increases turnover but at the same time reduces profitability through start-up costs as we do not have information on the exporting behavior of these enterprises

Taken together, these results imply that the EU-enlargement in 2004 had a small negative impact on large enterprises close to the border with declines relative to firm farther away from the border being observed in both turnover and profitability after the expansion. For small enterprises we observe an increase in turnover and a drop in profitability in both years after the enlargement which is consistent with the idea that these enterprises have expanded into the eastern market which increases turnover but reduces (current) profitability through startup-costs.

## 5. Conclusion

This paper considered the impact of the 2004 EU-enlargement on service enterprises close to Germany's eastern border. Relying on panel data for 2003 to 2005 from German official statistics, we use regression-adjusted difference-in-differences estimator. Our results suggest a small negative impact of the EU-enlargement on the turnover and profitability of large enterprises with an annual turnover of more than 250,000 €. We also find no effect on the exporting behavior of these enterprises. For small enterprises close to Germany's eastern border, however, we find an increase in average turnover by 2.7% and a decrease in profitability by roughly 1.8 percentage points in 2004 and by an additional 2.6 percentage points in 2005 relative to other small enterprises. The latter finding is consistent with the idea that small enterprises expand to the east thereby increasing turnover but facing a reduction in profitability due to start-up costs. Unfortunately, this idea cannot be tested with the available data.

Taken together, our results suggest mixed effects for the effect of the EU-enlargement on German service enterprises with small firms gaining in some aspect, while larger firms were somewhat less affected. The results also provide some support for the idea that in particular small enterprises were able to expand into the new eastern markets.

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## Tables and Figures

Table 1

### Descriptive Statistics

Variable	Unbalanced panel		Balanced panel		Matched sample	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
<u>“Large” enterprises with a turnover greater than €250,000</u>						
Total Turnover (in € 1,000)	3232.26	6548.00	3469.25	6799.01	3957.50	7885.21
Turnover Profitability	0.1840	0.2282	0.1808	0.2222	0.1635	0.2167
Average wage (in € 1,000)	31.70	27.60	31.70	26.74	34.64	30.61
Number of Employees	60.70	191.38	66.33	203.38	61.83	183.75
Value added per employee (in € 1,000)	55.24	50.47	54.33	47.99	56.90	50.68
Export intensity (in %)	2.90	11.86	2.91	11.70	3.51	12.84
Export participation (Dummy)	0.1762	0.3810	0.1859	0.3890	0.2045	0.4034
Enterprise located in a federal state with a border to Poland or the Czech Republic (Dummy)	0.2739	0.4460	0.2606	0.4389	0.500	.500
Number of observations	57,647		47,292		24,654	
Number of enterprises	22,683		15,764		8,218	
<u>“Small” enterprises with a turnover lower or equal than €250,000</u>						
Total Turnover (in € 1,000)	124.10	60.40	121.44	55.66	126.83	55.79
Turnover Profitability	0.3208	0.3301	0.3419	0.3030	0.3295	0.2983
Average wage (in € 1,000)	16.41	15.63	15.87	14.42	17.06	14.55
Number of Employees	3.53	4.43	3.44	3.01	3.36	3.09
Value added per employee (in € 1,000)	30.26	21.32	30.06	20.22	31.83	21.06
Enterprise located in a federal state with a border to Poland or the Czech Republic (Dummy)	0.3059	0.4608	0.2975	0.4572	0.500	.500
Number of observations	28,375		19,305		11,490	
Number of enterprises	12,676		6,435		3,830	

Note: The unbalanced panel costs of all enterprises that are observed in all three years (2003, 2004 and 2005) or that are observed in the first two years (2003 and 2004). The latter are dropped for the balanced sample. Finally, the matched sample is created from the balanced panel by matching (without replacement) each observation from the treatment group to its nearest neighbor from the control group using propensity score matching. The propensity score is calculated by a probit regression of the eastern border dummy on the number of employees and its squared value, value-added per head, average wage per head, total turnover, an East Germany dummy, and a set of 4-digit industry dummy variables (all measured in 2003). Enterprises with no wage and salary earner and enterprises in the 1<sup>st</sup> or 99<sup>th</sup> percentile of the sales or profitability distribution are excluded from all computations.

Table 2:

*Difference-in-differences estimates, based on within-estimator (matched sample/ balanced panel)*

	Large enterprises (turnover greater than 250,000 € per year)				Small enterprises (turnover lower or equal to 250,000 € per year)	
	Log of turnover	Turnover Profitability	Export intensity	Export status	Log of turnover	Turnover Profitability
Year=2004	0.0131*** (0.0042)	-0.0048* (0.0027)	0.1641 (0.1793)	0.0104* (0.0056)	-0.0282*** (0.0060)	-0.0018 (0.0047)
Treatment=1 & Year=2004	-0.0052 (0.0058)	-0.0058 (0.0037)	-0.1438 (0.2403)	-0.0002 (0.0076)	0.0272*** (0.0084)	-0.0179*** (0.0068)
Year=2005	0.0178*** (0.0055)	-0.0064** (0.0029)	0.2516 (0.1886)	0.0222*** (0.0061)	-0.0516*** (0.0070)	0.0064 (0.0049)
Treatment=1 & Year=2005	-0.0153** (0.0075)	-0.0082** (0.0039)	0.3293 (0.2631)	0.0018 (0.0082)	0.0276*** (0.0098)	-0.0261*** (0.0071)
Size	0.0027*** (0.0004)	0.0002*** (0.0001)	-0.0032 (0.0033)	0.0001 (0.0001)	0.1029*** (0.0090)	0.0233*** (0.0035)
Size squared [in 1000]	-0.0005*** (0.0001)	0.0000*** (0.0000)	0.0005 (0.0007)	0.0000 (0.0000)	-1.0661*** (0.1377)	-0.2630*** (0.0561)
Value added per worker [1000 €]	0.0019*** (0.0001)	0.0031*** (0.0001)	-0.0032 (0.0026)	-0.0002** (0.0001)	0.0087*** (0.0003)	0.0105*** (0.0003)
Average wage [in 1000 €]	0.0002 (0.0001)	-0.0014*** (0.0004)	-0.0008 (0.0030)	-0.0001 (0.0001)	0.0029*** (0.0005)	-0.0105*** (0.0005)
Number of observations	24,654	24,654	24,654	24,654	11,490	11,490
Number of enterprises	8,218	8,218	8,218	8,218	3,830	3,830

Note: Presented are the estimated coefficients, standard errors adjusted for clustering on the enterprise level in parenthesis and the level of significance (\*\*\* significant at the 1% level, \*\* significant at the 5% level, \* significant at the 10% level). Results are based on a matched sample of enterprises created from the balanced panel by matching (without replacement) each observation from the treatment group to its nearest neighbor from the control group using propensity score matching. The propensity score is calculated by a probit regression of the eastern border dummy on the number of employees and its squared value, value-added per head, average wage per head, total turnover, an East Germany dummy, and a set of 4-digit industry dummy variables (all measured in 2003). Enterprises with no wage and salary earner and enterprises in the 1<sup>st</sup> or 99<sup>th</sup> percentile of the sales or profitability distribution are excluded from all computations.

## Appendix: Results based on unmatched samples

Table A.1:  
*Difference-in-differences estimates, based on within-estimator (unbalanced panel)*

	Large enterprises (turnover greater than 250,000 € per year)				Small enterprises (turnover lower or equal to 250,000 € per year)	
	Log of turnover	Turnover Profitability	Export intensity	Export status	Log of turnover	Turnover Profitability
Year=2004	0.0033*** (0.0024)	-0.0074*** (0.0014)	0.2690*** (0.0939)	0.0101*** (0.0030)	-0.0153*** (0.0039)	-0.0080*** (0.0030)
Treatment=1 & Year=2004	-0.0020 (0.0046)	-0.0045 (0.0028)	-0.2871 (0.1750)	-0.0004 (0.0056)	0.0171** (0.0068)	-0.0142*** (0.0054)
Year=2005	0.0113*** (0.0031)	-0.0108*** (0.0016)	0.3460*** (0.1004)	0.0195*** (0.0033)	-0.0370*** (0.0045)	-0.0014 (0.0033)
Treatment=1 & Year=2005	-0.0079 (0.0058)	-0.0042 (0.0030)	0.1858 (0.2034)	0.0043 (0.0062)	0.0091 (0.0079)	-0.0162*** (0.0058)
Size	0.0019*** (0.0002)	0.0001*** (0.0000)	-0.0018 (0.0015)	0.0000 (0.0001)	0.1045*** (0.0062)	0.0237*** (0.0025)
Size squared [in 1000]	-0.0003*** (0.0001)	0.0000*** (0.0000)	0.0003 (0.0003)	0.0000 (0.0000)	-1.1871*** (0.1598)	-0.3020*** (0.0597)
Value added per worker [1000 €]	0.0020*** (0.0001)	0.0031*** (0.0001)	-0.0026** (0.0020)	-0.0001*** (0.0001)	0.0096*** (0.0002)	0.0110*** (0.0002)
Average wage [in 1000 €]	0.0001 (0.0001)	-0.0017*** (0.0003)	0.0000 (0.0023)	-0.0001 (0.0001)	0.0026*** (0.0004)	-0.0112*** (0.0004)
Number of observations	57,647	57,647	57,647	57,647	28,375	28,375
Number of enterprises	22,683	22,683	22,683	22,683	12,676	12,676

Note: Presented are the estimated coefficients, standard errors adjusted for clustering on the enterprise level in parenthesis and the level of significance (\*\*\*) significant at the 1% level, \*\* significant at the 5% level, \* significant at the 10% level). Results are based on enterprises that are observed in all three years (2003, 2004 and 2005) or that are observed in the first two years (2003 and 2004). Enterprises with no wage and salary earner and enterprises in the 1<sup>st</sup> or 99<sup>th</sup> percentile of the sales or profitability distribution are excluded from all computations.



Table A.2:

*Difference-in-differences estimates, based on within-estimator (balanced panel)*

	Large enterprises (turnover greater than 250,000 € per year)				Small enterprises (turnover lower or equal to 250,000 € per year)	
	Log of turnover	Turnover Profitability	Export intensity	Export status	Log of turnover	Turnover Profitability
Year=2004	0.0115*** (0.0024)	-0.0069*** (0.0015)	0.2750*** (0.0971)	0.0115*** (0.0032)	-0.0145*** (0.0041)	-0.0072** (0.0033)
Treatment=1 & Year=2004	-0.0029 (0.0046)	-0.0035 (0.0030)	-0.2590 (0.1870)	-0.0012 (0.0061)	0.0144** (0.0071)	-0.0121** (0.0059)
Year=2005	0.0145*** (0.0032)	-0.0100*** (0.0016)	0.3570*** (0.1024)	0.0204*** (0.0034)	-0.0328*** (0.0047)	-0.0006 (0.0034)
Treatment=1 & Year=2005	-0.0104* (0.0060)	-0.0044 (0.0031)	0.2171 (0.2103)	0.0038 (0.0065)	0.0108 (0.0084)	-0.0181*** (0.0061)
Size	0.0020*** (0.0002)	0.0001*** (0.0000)	-0.0022 (0.0017)	0.0001 (0.0001)	0.1051*** (0.0073)	0.0241*** (0.0030)
Size squared [in 1000]	-0.0003*** (0.0001)	0.0000*** (0.0000)	0.0003 (0.0003)	0.0000 (0.0000)	-1.1826*** (0.1953)	-0.3090*** (0.0779)
Value added per worker [1000 €]	0.0020*** (0.0001)	0.0032*** (0.0001)	-0.0045** (0.0020)	-0.0001*** (0.0001)	0.0095*** (0.0003)	0.0111*** (0.0002)
Average wage [in 1000 €]	0.0001 (0.0001)	-0.0016*** (0.0003)	-0.0008 (0.0023)	-0.0001 (0.0001)	0.0023*** (0.0004)	-0.0111*** (0.0004)
Number of observations	47,292	47,292	47,292	47,292	19,305	19,305
Number of enterprises	15,764	15,764	15,764	15,764	6,435	6,435

Note: Presented are the estimated coefficients, standard errors adjusted for clustering on the enterprise level in parenthesis and the level of significance (\*\*\*) significant at the 1% level, \*\* significant at the 5% level, \* significant at the 10% level). Results are based on enterprises that are observed in all three years (2003, 2004 and 2005). Enterprises with no wage and salary earner and enterprises in the 1<sup>st</sup> or 99<sup>th</sup> percentile of the sales or profitability distribution are excluded from all computations.

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