Reversed Roles? Wage Effects of the Current Crisis

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Abstract

The main reason for the "German job miracle" (Krugman) may be the fact that in Germany only the export oriented industries like automotive or mechanical engineering are badly affected. In these sectors the proportion of qualified workers is quite high and hence the investments in human capital, which could explain labour hoarding at the firm level. Key tools for the implementation of such strategies are instruments like short-time work or working time accounts. Moreover the emerging skilled worker shortage caused by the demographic development, may give firms an incentive to train their employees within a period of low plant utilisation rather than to fire them. While the increase of unemployment in Germany thus is quite low, the effect of the crisis on the income or relative income distribution remains unclear. This point is the subject of our paper. Because mainly sectors with a high rate of qualified workers and high wages are hit by the global crisis, we expect the current downturn to have a reverse effect in contrast to the development observed during the last 30 years on the relative earnings position of more qualified in relation to less qualified employees.

In our analysis we focus on the 1st half of the years 2008 and 2009. First of all, we compare the development of the wages per employee between firms, which are subject to the global crisis and those which are not. Then we compare the differences in the development of the wages per employee and the development of the employment between establishments with a high and those with a low rate of qualified workers and between different sectors. Finally, we study the effects of short time work, working time accounts, company pacts for employment and competitiveness, and profit sharing on the development of wages and employment.

1. Introduction

Since the middle of 2008 many countries all over the world and also Germany are faced with the deepest recession since the Great Depression in 1929. In consideration of the severity of the crisis, economists estimated a potential job loss of 3.2 million employees in the 1st half of 2008 compared with the 1st half of 2009 for Germany (cf. Möller/Walwei 2009). The actual development on the labour market until now, however, remains fairly moderate. One reason for this phenomenon thereby may be the fact that in Germany, almost exclusively the export oriented industries like automotive or mechanical engineering, are badly affected. In these sectors the proportion of qualified workers is rather high and hence the firms' investments in human capital and the recruitment costs, which could explain labour hoarding at the firm level. Furthermore, the productivity in those sectors is quite high. Therefore, lowering the production there may cause a lower job loss than in other industries.

Key tools for the implementation of labour hoarding strategies are instruments like short-time work or working time accounts. Moreover, the emerging skilled worker shortage caused by the demographic development, may give firms an incentive to train their employees within a period of low plant utilization rather than to fire them (Möller 2010). While the increase of unemployment in Germany thus is quite low, the effect of the crisis on the income or relative income distribution remains unclear or with other words: Do the employees partly co-finance the labour hoarding strategies of their employers by making wage concessions, i.e. short time work? Because mainly sectors with a high rate of qualified workers and high wages are hit by the economic crisis, we expect the current downturn to have a reverse effect in contrast to the development observed during the last 30 years on the relative earnings position of more qualified in relation to less qualified employees (Atkinson 2007). Recently, Lemieux et al. (2009 and Andrews et al. (2009) investigated the impact of financial participation on workers' total compensation.

In our analysis we focus on the 1st half of the years 2008 and 2009. First of all, we compare the development of the wages per employee between firms which are subject to the global crisis (Stiglitz 2009) and those which are not. Whether or not an establishment is subject to the global crisis, we identify by a decrease in the firms business expectations expressed in the 1st half of 2008 and 2009 respectively. In our analysis a plant is subject to the global crisis if it reports negative business expectations in 2009 but not in 2008. The basic empirical research question is: Is the development of wages and employment due to the fact that the respective establishment is affected by the global crisis? In a next step, we compare the

differences in the development of the wages per employee and the development of the employment between establishments with a high and those with a low rate of qualified workers. The globalisation and the technological and organisational change as well as the industrial relations at the firm level are regarded as important determining factors for the earnings distribution (Atkinson 2007). Hence a revealed difference in the developments in wages between more and less qualified workers or different sectors at the firm level can be interpreted as evidence for a probable shift in the income distribution between more and less qualified workers. Finally, we study the effects of short time work, working time accounts, company pacts for employment and competitiveness, and profit sharing on the development of wages and employment. All our analysis is done within a multivariate framework.

The rest of the paper is organised as follows. In the next section we will develop our hypotheses and review the relevant literature. Then, we will describe the IAB Establishment Panel Surve, the operationalisation of our key variables, and present our empirical analysis. Our last section concludes.

2. Hypotheses

Since the advent of the recession in 2008, many companies have faced a dramatic decline in demand for their products and services. How these companies respond depends not only on the severity of the recession but also on their short-term and long-term expectations. Measures adopted by the firms not only include its closure and sale but more often the cutting of costs (cf. Eurofound 2009, 71ff.). Strategies to reduce costs consist mainly of different measures to reduce production with the consequence of reduced working time and measures to decrease wage costs. Key tools for the implementation of such strategies are short-time work allowance programmes and working time accounts. Moreover the emerging shortage of skilled workers caused by the demographic change in many European countries give firms incentives both to hoard their employees and to train them within the time period of low plant utilization rather than to fire them. Additionally, the industrial relations framework, both in terms of the objective rules and the spirit of cooperation, influences the possible outcome. Of special interest are the so-called pacts for employment and competitiveness. These pacts are characterized by a reciprocal exchange: Employees accept lower wages and reduced working time without being fully compensated and employers guarantee jobs, promise investments, further training, and offer financial participation (cf. Zagelmeyer 2000, Eurofound 2000, Bellmann et al. 2008, Bellmann/Gerner 2009).

Regarding the effects on the income distribution the questions are the following:
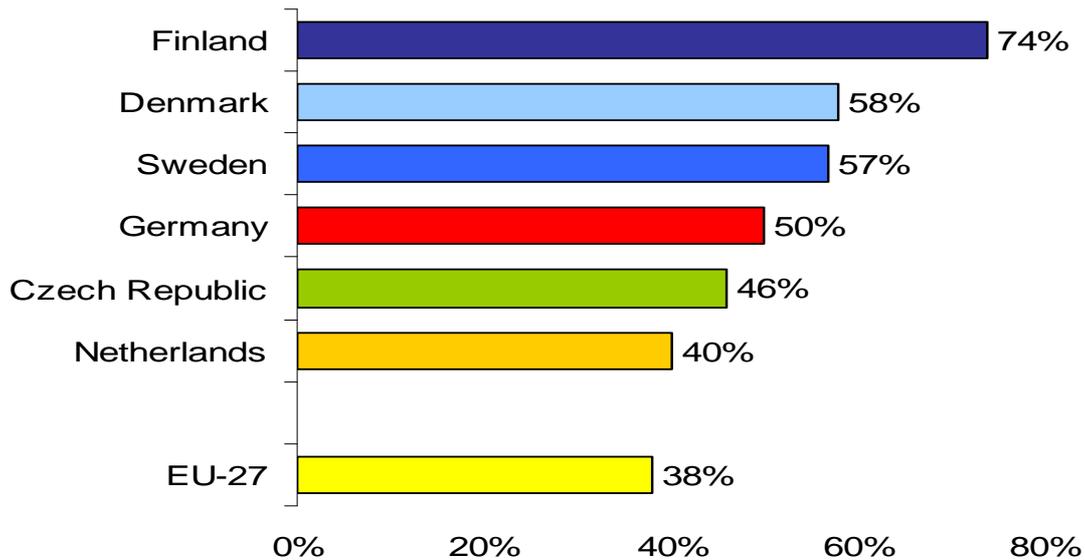
- How large are the labour market effects of the personnel measures adopted by the companies?

- Do the employees at least partly co-finance the labour hoarding strategies of their employers by making wage concessions?

As already mentioned, in the severity of the crisis, economists estimated a potential job loss of 3.2 million employees in the 1st half of 2008 compared with the 1st half of 2009 in Germany (Möller/Walwei 2009, 6). The actual development on the labour market until now, however, remains fairly moderate. One reason for this phenomenon thereby may be the fact that in Germany, especially the export oriented industries like automotive or mechanical engineering, are most badly affected. In these sectors the proportion of qualified workers is quite high and hence the investments in human capital, which could explain labour hoarding at the firm level. Table 1 shows that the economic sectors are affected very differently by the crisis.

Table 1 about here

According to the study of Bell/Blanchflower (2009) using OECD data Germany is hit by the crisis very hard, but the employment effects are relatively small compared to the decline of the GNP. The comparatively small employment effect was probably achieved by the use of working time accounts and the short-time work allowance programme of the Federal Government. In spring 2009 the European Foundation for the Improvement of Living and Working Conditions (2009b) conducted a large-scale representative survey addressed to managers and employee representatives. The focus of this survey was on the incidence of different forms of flexible working time arrangements. The proportion of companies with 10+ employees using working time accounts has reached 50 % in Germany, which is the fourth position in the international ranking shown in Figure 1. However, the possibility to accumulate credit hours for more than one year on long-term accounts is considerably less widespread in the other EU countries.

Fig. 1: Proportion of Companies with Working Time Accounts

|	
Finland	74%
Denmark	58%
Sweden	57%
Germany	50%
Czech Republic	46%
Netherlands	40%
EU-27	38%

0%   20%   40%   60%   80%

Source: European Foundation for the Improvement of Living and Working Conditions and own calculations

Further analyses with the data of the IAB Establishment Panel 2009 show that the proportion of exporting establishment adopting working time accounts is 40 %, whereas every third of all establishments used this instrument.

In the current crisis another important measure is the renewed short-time work allowance programme, which was used by 55,000 establishment and 1,250,000 employees during March 2009. The very expensive programme was financed by the German federal government. The basic idea of this policy instrument is that employers reduce the working time of their employees if they are faced with a strong negative demand shock for example. Simultaneously, the wages are reduced in proportion to the cut in hours worked. The employers get around 60 % of the difference between the net income before and the net income after the working time reduction from the German Federal Employment Agency. Basically, besides the gross earnings for the hours still worked, the employers have to pay the full social security contribution for the employees' income before the cut in working time has taken place. The maximum duration of short time work is 24 months. Since some firms pay a compensation for the employees' income loss when applying short time work, the income effect of this instrument remains unclear. The programme was innovative in the sense that incentives were introduced to combine short-time work with further training, also in order to reach the international standards. Until now Germany's rank in the respective league is in the midfield (Behringer et al. 2008) although the demographic change will confront Germany with a major challenge. The employment effect estimated by Crimmann/Wießner (2009) was 362,000 full-time equivalents.

Another important measure to moderate the employment consequences of the decline in product demand are company pacts for employment and competitiveness. The proportion of establishments, which concluded these pacts, was just over 2 % in 2006. However, among the larger establishments these pacts are very widespread (cr. Figure 2).

Figure 2: Proportion of Establishments with PECs in Germany 2006
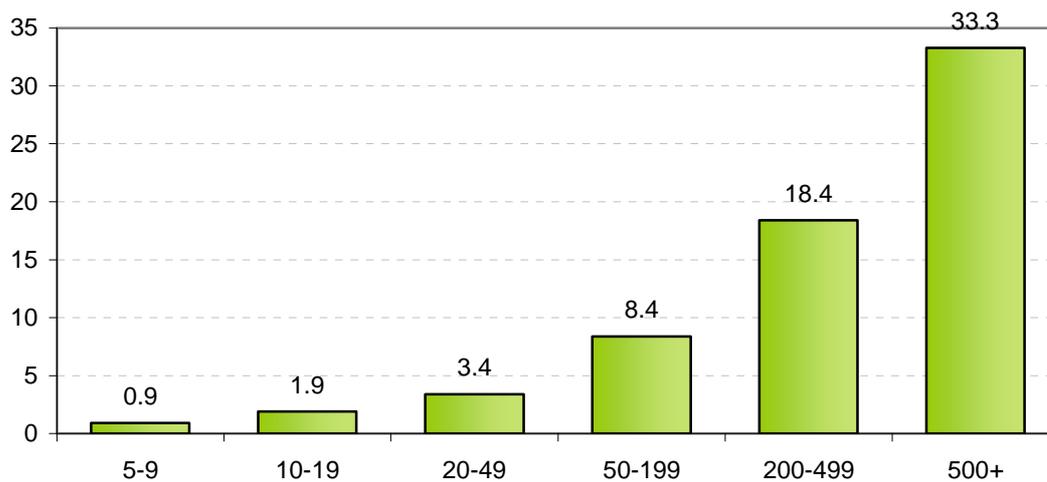
Source: Ellguth and Kohaut (2008)

In the study of Hübler (2005a, 2005b) these pacts have positive employment effects in the short-run, in the medium term they are negative employment and in the long run the development of employment again shows positive effects. Based on the IAB Establishment Panel Survey of the year 2004 to 2007 Bellmann, Gerlach and Meyer (2008) investigated the effects on the actual and expected employment development. Applying conditional difference-in-difference matching they did not find evidence that these pacts help to stabilise or increase employment.

Not only within company pacts for employment and competitiveness different kinds of financial participation of employees are adopted. The European Foundation for the Improvement of Living and Working Conditions (2007) has provided information that especially profit sharing has gained more and more importance. Table 4 shows the development in the EU between 2000/2001 and 2005.

Table 4: Development of Profit Sharing in the EU (private sector)
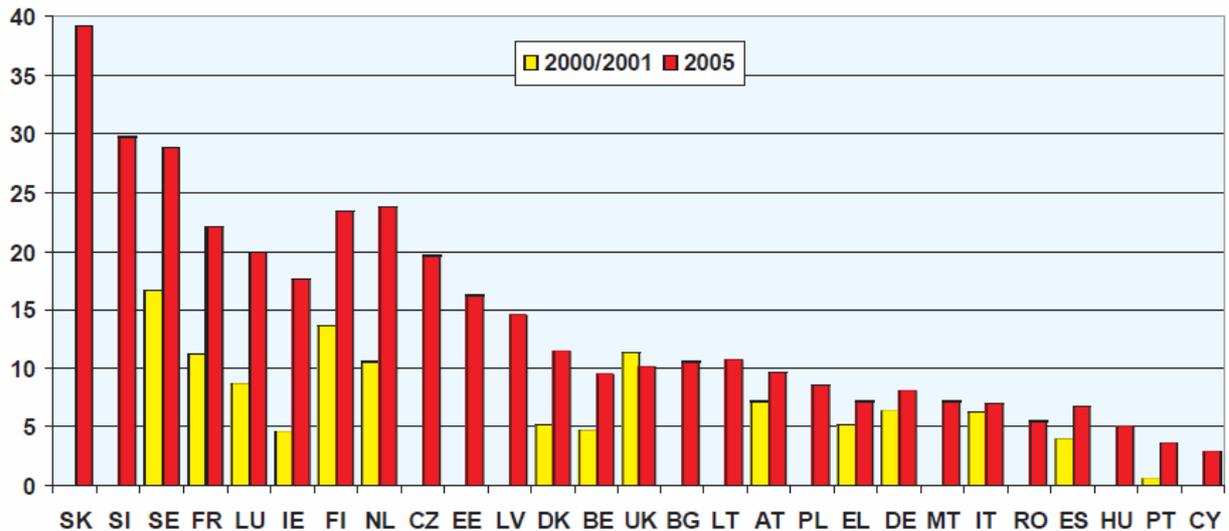
Source: *European Working Conditions Surveys, 2000/2001 and 2005*

Data concerning share ownership are also available, but share ownership is less relevant. Bellmann/Möller (2010) investigated the effects of profit-sharing on hirings, layoffs and quits as well as on the total number of separations and labour turnover. On the basis of the IAB-Establishment Panel Survey they find a significantly positive effect of profit sharing on hirings and a significantly negative effect on layoffs in their cross-section time-series regressions, whereas the results obtained by the matching estimators are not significant.

3. Data and Descriptive Results

For our analysis we use information from the IAB Establishment Panel. The basis for its sampling is the establishment file of the Federal Employment Agency in Germany, where all German establishments are recorded which have at least one employee covered by social security. The IAB Establishment Panel surveys approximately 16,000 establishments on an annual basis. The personal interviews are conducted with high-ranked managers of the firms by TNS Infratest Munich on behalf of the Institute for Employment Research (IAB). The annual questionnaire (2009: 94 questions) covers for example information about the development and the structure of the workforce, the business development and the sum of the earnings. Since we study the development of the average wages and the number of the employees on the firm level, we use a balanced panel for the survey years 2008 and 2009. Descriptive statistics for key variables can be found in table 2.

Table 2 about here

Table 2 shows clear differences with respect to the employment structure, the main characteristics, and the hoarding strategies adopted between establishments, which are

subject to the global crisis, and the others. The typical establishments affected by the crisis are larger, more export oriented, more productive, more often with sectoral and firm-level collective bargaining, more often located in Western Germany, and have more works councils. The employees of the crisis establishments are better qualified, work less often as part-timers and on a temporary basis. The crisis establishments use working time accounts, short time work, pacts for employment, and profit sharing, but these labour hoarding strategies are adopted not only by establishments, which are hit by the global crisis. Another important issue, which can also be found in our data, is the fact that the economic crisis is not equally distributed over the industries. For example: While around 60 % of the automotive or mechanical industry is subject to the crisis, this holds for around 30 % of the plants in the other industries of our sample only.

4. Results form Multivariate Analysis

In the first step of our multivariate analysis we compare the change in the wages per employee and the number of employees from the 1st half 2008 to the 1st half 2009 between firms, which are subject to the global economic crisis and those which are not. This is done by applying a simple difference-in-difference estimator of the following form (Meyer 1995):

(1) $$\log(Y_{it}) = \beta_0 + \beta_1 C_i + \beta_2 T_{2009} + \beta_3 C_i T_{2009} + x_{it}'\gamma + \varepsilon_{it} \qquad t : 2008, 2009$$

Y_{it} is the outcome variable (average wages and number of employees) in firm i, year t. C_i is a dummy, which takes one if the firm is subject to the crisis in 2009. T_{2009} is a time dummy for the year 2009. Furthermore, $C_i T_{2009}$ is an interaction term of the crisis dummy and the time dummy. Therefore, β_3 gives the difference in the change of the outcome variables between crisis plants and non-crisis plants. Finally, x_{it}' is a vector of control variables and ε_{it} is an error term. Estimation is done by OLS.

Table 3 shows the regression results for (1). It indicates no significant differences in the development of the average wages (column 1) between crisis and non-crisis establishments, but a significant difference of 6 % in the development of the number of employees. Whereas the number of employees does not change significantly in non-crisis firms, we find in crisis firms a significant decrease of 6 %.

Table 3 about here

To identify probable differences in the effect of the global crisis on the outcome variables between firms with a high and those with a low proportion of qualified workers, we divide our dataset into the quartiles of the proportion of qualified workers in 2008. The findings for the different outcome variables are listed in table 4 and table 5 respectively.

Table 4 about here

The conclusion for the development in the average wags remains: There are no significant differences between crisis plants and non-crisis establishments. However, we can infer from table 5 that the development in the number of employees differs between establishments affected by the crisis and not. This is, we find the strongest effect of the crisis (-13.2 percent) in firms with the lowest proportion of qualified workers.

Table 5 about here

Finally we investigate the role of instruments like working time accounts, short time work, employment pacts, and profit sharing schemes in moderating the impact of the crisis on the development of our outcome variables. To do so, we firstly estimate for example the crisis effect in firms with working time accounts and in firms without working time accounts. Then we compare the effects by applying a simple generalized Hausman-Test based on the Seemingly-Unrelated Cluster-Adjusted Sandwich-Estimator proposed by Weesie (1999). We follow the same estimation strategy for the other instruments. Table 6 – table 9 show the results for the two outcome variables. Again there are no significant effects regarding differences in the development of the average wages between crisis plants and non-crisis plants, except for firms, which adopt profit sharing schemes. For this case, we find the expected negative effect on the development of the average wages. However, if we apply a generalized Hausman-Test, we find no significant difference in the adjustment behavior between firms with and such without profit sharing.

Table 6 and table 7 about here

When we look at the development of the number of employees, firms with working time accounts (table 8, column 2) seem to suffer from a stronger crisis effect than those without this instrument (table 8, column 1). First of all, an explanation for this counter-intuitive result may be that firms without working time accounts are hit by the economic crisis less seriously, so perhaps we are identifying some kind of selection effect. Second, a generalized

Hausman-Test accepts the hypotheses of equal crisis effects in firms with and without working time accounts. Hence, we can conclude that we do not find evidence for working time accounts playing a moderating role in the arising economic crisis between the 1st half 2008 and the 1st half 2009.

Table 8 about here

In contrast to these results, the estimations carried out to identify different crisis effects with respect to the application of short time work or pacts for employment show first of all the expected results. While firms, which apply short time work, exhibit no significant crisis effects, firms, which do not use this instrument, reveal a significant negative crisis effect. However, a generalized Hausman-Test indicates again no significant difference in the effects. It may be also of interest that short time work plants show strong time effects, which could be interpreted as a strong selection effect of firms which apply short time work within the crisis.

Also the estimates considering differences in the crisis effects between firms with and those without employment pacts show the expected results at the first step (see table 9). The crisis effect in plants with an employment pact is weaker than in plants without this institution. But also in this case, again a generalized Hausman-Test accepts the hypothesis of equal crisis effects. The results for the moderating effect of the profit sharing schemes go in the same direction like the estimates for the working time accounts. We find a stronger crisis effect in plants which apply profit sharing whereby the difference is not significant.

Table 9 about here

Therefore, we can summarise: In our analysis we only find weak evidence for a moderating effect of the instruments like short time work, pacts for employment, and profit sharing. Wages are lowered by profit sharing schemes, whereas short time work and employment pacts reduce the decline of employment between the 1st half 2008 and the 1st half 2009.

5. Conclusions

First of all, we do not find evidence for an impact of the global economic crisis on the development of average wages, except in firms which apply profit sharing schemes. On the other hand the effect on the development of the number of employees seems to be rather strong. In our estimations, firms, which are faced with the economic crisis, cut their number

of employees from the 1st half 2008 to the 1st half 2009 around 6 % while there is no employment adjustment in non-crisis firms at the same time. Furthermore, the largest negative employment effects, we find in plants with relatively low proportions of qualified workers. This result indicates that there is no reversal trend favouring the lower qualified in the global crisis. Finally, we find no evidence for working time accounts playing a moderating role in the current situation and only weak evidence for short time work and pacts for employment and competitiveness in this regard. In this context however, we need international comparative research efforts in order to identify the effects of widely adopted instruments like working time accounts. After all, there is another reason for the "German Job Miracle" apart from labour hoarding at the plant level. Maybe it is the fact that the crisis is not equally distributed over the industries. Especially high productive industries are hit by the current economic crisis. A production decline in these sectors probably causes a lower job loss than in other industries.

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Table 1: Gross Value Added (in Euro per Employee) and Development of the Labour productivity (index: Basic year: 2000)

	1st Quarter 2008	*2nd Quarter 2008*	*1st Quarter 2009*	*2nd Quarter 2009*
Agriculture, Forestry, Fishing				
Gross Value Added	6155	5792	5334	5045
Labour productivity	115,82	111,48	115,08	110,28
Industry				
Gross Value Added	17688	18806	13940	14594
Labour productivity	123,05	127,25	98,70	99,89
Manufacturing				
Gross Value Added	16784	17889	12854	13549
Labour productivity	124,93	129,70	98,16	100,54
Construction				
Gross Value Added	10178	10957	10145	11088
Labour productivity	98,29	107,26	92,65	104,09
Hotels and restaurants, wholesale and retail trade, Transport				
Gross Value Added	9501	9991	8974	9298
Labour productivity	108,75	114,62	101,91	106,35
Financial intermediation, renting and business activities				
Gross Value Added	23681	23382	24024	23909
Labour productivity	97,91	97,40	96,87	96,91
Community, social and personal service activities				
Gross Value Added	9923	9931	10185	10152
Labour productivity	100,25	101,16	99,04	99,83
Total				
Gross Value Added	15333	15570	14507	14666
Labour productivity	107,30	108,73	99,96	101,05

Source: Statistisches Bundesamt, Germany.

Table 2: Descriptive Statistics

	Not Subject to the Global Crisis		Subject to the Global Crisis	
	2008	*2009*	*2008*	*2009*
ln(N)	2.985	2.988	3.629	3.575
Exporting Firm	0.187	0.202	0.390	0.406
% Sales Exported	0.052	0.053	0.125	0.128
Eastern German	0.442		0.409	
Sectoral Collective Bargaining	0.369	0.361	0.392	0.389
Firm-level collective Bargaining	0.063	0.066	0.072	0.078
Works Council	0.233	0.233	0.316	0.316
% qualified	0.669	0.669	0.703	0.702
% part-time	0.232	0.215	0.143	0.136
% temporary	0.011	0.010	0.026	0.011
Weekly working time	39.387	39.329	39.188	39.113
Working time accounts	0.489		0.626	
Short time work	0.085		0.323	
Pacts for Employment	0.052		0.104	
Profit sharing	0.167		0.241	
Number of observations	4,640		1,955	

Source: IAB Establishment Panel 2008 and 2009

Table 3: Difference-in-Difference Estimates on the development of average wages and the number of Employees

	Dependent Variable	
	ln(wages/Employee)$_{it}$	*ln(Number of Employees)$_{it}$*
Crisis	0.032***	0.175***
Year 2009	-0.007	-0.004
*Crisis*Year 2009*	-0.014	-0.060***
% qualified	0.644***	0.698***
% part-time	-0.771***	0.045
Weekly working time	0.004	-0.007
Exporting Firm	0.112***	0.664***
Eastern Germany	-0.243***	-0.249***
Sectoral collective Bargaining	0.076***	0.382***
Firm-level collective Bargaining	0.076***	0.452***
Works Council	0.180***	1.880***
9 Establishment size Dummies	***	-
39 Sector Dummies	***	***
R²	0.591	0.523
Number of observations	13,190	13,190

a) ***/**, significant on the 1/5/10 % level

Source: IAB Establishment Panel 2008 and 2009

Table 4: Difference-in-Difference Estimates on the development of average wages for different proportions of qualified workers before the crisis[a]

	Dependent Variable: ln(w)$_{it}$, proportion of qualified workers...			
	< 25 % quantile	*> 25% quantile < 50% quantile*	*> 50 % quantile < 75 % quantile*	*> 75 % quantile*
Crisis, Dummy, 1 if yes	0.102***	0.011	0.020	-0.003
Year 2009 Dummy, 1 if yes	-0.017	-0.027**	0.006	0.004
*Crisis*Year 2009*	0.021	-0.027	-0.022	-0.025
Number of observations	3,456	3,530	2,916	3,288
R²	0.491	0.512	0.503	0.499

b) also included: % part-time, weekly working time, exporting firm, Eastern Germany, sectoral collective bargaining, firm-level collective bargaining, works council, 9 establishment size dummies and 39 sector dummies.

***/**, significant on the 1/5 % level

Source: IAB Establishment Panel 2008 and 2009

Table 5: Difference-in-Difference Estimates on the development of the number of employees for different proportions of qualified workers before the crisis

	Dependent Variable: ln(N)ₓₜ, proportion of qualified workers...			
	< 25 % quantile	*> 25% quantile < 50% quantile*	*> 50 % quantile < 75 % quantile*	*> 75 % quantile*
Crisis, Dummy, 1 if yes	0.361***	0.120**	0.144**	0.101
Year 2009 Dummy, 1 if yes	0.016	-0.007	-0.019**	-0.000
*Crisis*Year 2009*	-0.132***	-0.048***	-0.031**	-0.042***
Number of observations	3,456	3,530	2,916	3,288
R²	0.575	0.579	0.514	0.429

c) also included: % qualified, % part-time, weekly working time, exporting firm, Eastern Germany, sectoral collective bargaining, firm-level collective bargaining, works council, 9 establishment size dummies and 39 sector dummies.
***/**, significant on the 1/5 % level

Source: IAB Establishment Panel 2008 and 2009

Table 6: Difference-in-Difference Estimates on the development of the average wages for plants with and without working time accounts and plants with and without short time workers in 2009

	Dependent Variable: ln(w)ₓₜ, plants...			
	Without working time account	*With working time account*	*Without short time workers*	*With short time workers*
Crisis, Dummy, 1 if yes	0.042**	0.022	0.035***	0.011
Year 2009 Dummy, 1 if yes	-0.018**	0.006	-0.004	-0.039***
*Crisis*Year 2009*	-0.018	-0.018	0.006	-0.033
Number of observations	6,206	6,984	11,138	2,052
R²	0.535	0.562	0.584	0.570

d) also included: % qualified, % part-time, weekly working time, exporting firm, Eastern Germany, sectoral collective bargaining, firm-level collective bargaining, works council, 9 establishment size dummies and 39 sector dummies.
***/**, significant on the 1/5/ % level

Source: IAB Establishment Panel 2008 and 2009

Table 7: Difference-in-Difference Estimates on the development of the average wages for plants with and without a Pact for Employment in 2008 and plants with and without Profit Sharing in 2009

	Dependent Variable: $ln(w)_{it}$, plants...			
	Without a Pact for Employment	*With a Pact for Employment*	*Without Profit Sharing*	*With Profit Sharing*
Crisis, Dummy, 1 if yes	0.029**	0.068**	0.030**	0.026
Year 2009 Dummy, 1 if yes	-0.007	-0.002	-0.010*	0.008
*Crisis*Year 2009*	-0.013	-0.026	-0.009	-0.033**
Number of observations	12,300	890	10,580	2,470
R²	0.580	0.581	0.564	0.582

    e)   also included: % qualified, % part-time, weekly working time, exporting firm, Eastern Germany, sectoral collective bargaining, firm-level collective bargaining, works council, 9 establishment size dummies and 39 sector dummies.
        ***/**, significant on the 1/5 % level

Source: IAB Establishment Panel 2008 and 2009

Table 8: Difference-in-Difference Estimates on the development of the number of employees for plants with and without working time accounts and plants with and without short time workers in 2009

	Dependent Variable: $ln(N)_{it}$, plants...			
	Without working time account	*With working time account*	*Without short time workers*	*With short time workers*
Crisis, Dummy, 1 if yes	0.171***	0.140***	0.117***	0.109
Year 2009 Dummy, 1 if yes	-0.002	-0.003	0.004	-0.089***
*Crisis*Year 2009*	-0.049***	-0.068***	-0.057***	-0.011
Number of observations	6,206	6,984	11,138	2,052
R²	0.391	0.501	0.477	0.609

    f)   also included: % qualified, % part-time, weekly working time, exporting firm, Eastern Germany, sectoral collective bargaining, firm-level collective bargaining, works council, 9 establishment size dummies and 39 sector dummies.
        ***/**, significant on the 1/5 % level

Source: IAB Establishment Panel 2008 and 2009

Table 9: Difference-in-Difference Estimates on the development of the number of employees for plants with and without a Pact for Employment in 2008 and plants with and without profit sharing in 2009

	Dependent Variable: $ln(N)_{it}$, plants...			
	Without a Pact for Employment	*With a Pact for Employment*	*Without Profit Sharing*	*With Profit Sharing*
Crisis, *Dummy, 1 if yes*	0.178***	0.065	0.164***	0.128*
Year 2009 *Dummy, 1 if yes*	-0.004	-0.001	-0.004	0.002
*Crisis*Year 2009*	-0.062***	-0.046**	-0.059***	-0.064***
Number of *observations*	12,300	890	10,580	2,470
R²	0.486	0.506	0.499	0.487

    g)   also included: % qualified, % part-time, weekly working time, exporting firm, Eastern Germany, sectoral collective bargaining, firm-level collective bargaining, works council, 9 establishment size dummies and 39 sector dummies.

        ***/**, significant on the 1/5 % level

Source: IAB Establishment Panel 2008 and 2009