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Effects of reciprocal concessions on employment and real capital

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Abstract

Using a three-stage least squares estimator, this paper analyzes within a three equation model the effects of company-level pacts involving reciprocal concessions in Germany. We find that such agreements between employers and employees commonly fail to achieve their primary objective to stabilize or to extend the employment but the agreements do result in increased investments relative to the real capital stock. A matching estimator confirms this result. We furthermore distinguish between different collective bargaining regimes. We find that in establishments without any kind of collective bargaining the negative employment and the positive investment effects are stronger than in firms with industry-level bargaining. In firms with company-level bargaining we cannot find significant investment effects. The employment effects are similar to those of industry-level bargaining establishments.

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1. Introduction

The German labour market miracle in the Great Recession and during the current European financial crisis can be partially explained through the efficiency-enhancing structural reforms, particularly in the labour market, that have resulted in increasing flexibility and decentralisation. Nevertheless, wages are typically still determined by employer associations and unions through collective bargaining, and employers solely determine the number of employees and level of investment. However, despite industry-wide wage agreements, an increasing number of company agreements and contracts are not bound by a collective agreement. In addition, when firms experience financial difficulties or anticipate becoming less competitive in the future, employers and employees can enter into an agreement outlining important parameters that will govern the firm in the future. The number of employees and a firm's level of investment are two factors central to this type of agreement. These pacts exist in approximately 5-10% of all German companies, but they differ in the agreed-upon details. Employees offer temporary concessions in order to reduce costs. In return, employers promise to implement measures to improve their current economic status. The primary objective of these employer-employee agreements is to stabilise employment, avoid layoffs, and protect the future of the firm or location. A secondary objective is a modernisation and extension of the capital stock in order to increase the firm's competitiveness.

These employer-employee agreements are known as company-level pacts (CLPs). The pacts differ from concession bargaining, which is a type of agreement that was commonly used in the United States in the 1980s. Bell (1995) found that concessions were most likely to occur in small firms paying high wages with relatively low union coverage. The distinguishing factor of concession bargaining is its unilateral nature—employees are the only ones making concessions. Employers are not conventionally required to promise anything. In addition, concession bargaining is primarily used by firms with obvious economic problems.

In Germany, works councils can agree to company-specific pacts with management if there is no collective bargaining agreement (CBA). However, the conventional case is a two tier system where working conditions are negotiated at the industry level between the relevant union and employer's association (Flächentarifvertrag). The resulting industry-level bargaining contracts are usually binding. Nevertheless, the majority of CBAs include opening clauses that allow firms' and employees' representatives to make exceptions for certain stipulations in the CBA; these are usually necessary to conclude a CLP. Management and works councils must gain the permission of the employer association and the trade union representatives if they agree on conditions that are less favourable for the employees than those stipulated in the relevant contract at the industry level. As for work time, wages and work organisation, management and the works council must agree on the amount and the conditions. Some pacts explicitly outline investments for a specific location, while others are silent on this issue or include only general agreements regarding the modernisation or updating of a firm's capital stock.

Agreements are also possible between the relevant union and the individual employer (Firmentarifvertrag), similar to the Anglo-Saxon pattern. The decentralisation from the industry-level to the firm-level allows for more flexibility. Establishments under a company-level regime occupy an intermediate position between those under an industry-level or uncovered regime. Gerlach and Stephan (2006) found this in the dispersion of wages. Nevertheless, more similarities are observed between firms under firm- and industry-level

contracts due to the collective character of the agreements. Therefore, many empirical investigations do not separate between these two types of plants e.g. Addison et al. 2014).

It is possible that recorded CLPs are determined within the framework of specific company declarations or in employee labour contracts, or that only an oral acknowledgement serves as the basis of the CLP. As the formulations are not always exact, compliance with specific CLP agreements is not enforceable. Furthermore, unforeseen market developments may prevent employers from keeping their pledges. It is thus uncertain whether these pacts are successful.

Empirical studies by Hübler (2005) and Bellmann and Gerner (2012) yielded ambiguous results concerning the short-term stabilising effects of these agreements on employment. One can surmise, however, that the investment objective of the CLPs is achieved. Preliminary empirical investigations reveal slightly positive effects of CLPs on investments (Bellmann et al. 2014), while the employment effects are neglected. To date, a simultaneous analysis of the effects of CLPs on employment and investment has not been performed; this is the first study that investigates the problem. Exploring these two effects in conjunction with one another allows us to investigate whether the effects of the CLP are driven by a substitutive or complementary relationship between capital and labour. We should be able to demonstrate whether CLPs have contributed to the relatively strong economic position of Germany.

We outline the data and begin the empirical analysis with a series of t-tests that demonstrate how many pre-determined characteristics of firms with a CLP differ from those without such a pact. We then sketch the modelling and the applied methods, and present 3SLS estimates and some robustness checks. We end the paper with our conclusions.

2. Data and descriptive results

The data used in this study come from the German IAB Establishment Panel (Fischer et al. 2009). This panel is a representative survey in which 16,000 firms are queried annually about a wide range of labour market topics. Table I displays the statistically significant differences of firm characteristics between CLP and non-CLP firms.

We find that collective wage bargaining occurs more often in firms with a CLP. Relatively speaking, more CLP firms have company agreements. Unlike concession bargaining in the United States, we find that the adoption of a CLP in Germany is more likely to occur in larger firms than in smaller ones. This fact can also explain that, on average, CLP firms have greater total sales, investments and wages than other establishments. Furthermore, it is more likely that large firms have a company agreement. The study reveals that firms with a bad profit situation are more likely to adopt a CLP. We must show that these relationships also hold in a multivariate analysis.

3. Modelling, methods, estimates and robustness checks

We utilise a three-equation model in this study. The equations include a probability function for whether a CLP exists, an employment function, and an investment function. An interdependent model is assumed, with the first equation being specified as a linear probability model. Because firms committed to collective bargaining agreements (CBAs) require opening clauses in order to conclude CLPs and firms with a company agreement (CA) have a greater propensity for a CLP than those without such an agreement, these two variables—a dummy for the existence of an opening clause as well as that of a CA—are incorporated as regressors in the CLP probability function. Firm size is also included as a

regressor because we expect that a large firm has a greater tendency to adopt a CLP than a small firm. Moreover, we expect that firms with CLPs pay higher wages and make larger investments than do firms without CLPs, resulting in higher levels of employment and sales. Finally, we consider the influence of a firm's profits. We expect that the higher the profits, the less likely a firm agrees to a CLP.

The employment function is based on an error correction model following Bond and van Reenen (2008, p. 4478). This is a particular parameterisation of an autoregressive distributed lag model. This form can be explicitly justified in a dynamic optimising framework under quadratic adjustment costs (Nickell 1985). The determinants are the growth in sales (=changes in log of sales), the growth rate of wages (=changes in log of wages), and the error correction term. The latter is calculated as the lagged difference between the log of labour productivity and the weighted log of real wages. The endogenous variable is measured by taking the difference of the logarithm in the number of employees between two periods. Furthermore, some firm characteristics, measured by dummies, are incorporated: a company-level pact (CLP), profit sharing (PS), foreign investment (FI), a works council (WOCO), and a collective bargaining agreement (CBA). Under collective bargaining, the firms have less flexibility to adjust their employment due to demand shocks. If wages are agreed to by collective bargaining, this affects employment. Changes of wages are obviously incorporated in the employment function as a determinant, but if the collective bargaining dummy is not considered we cannot separate between the direct wage effects and the indirect collective bargaining effects via wages; *a priori*, the signs of the coefficients are ambiguous. For example, a works council may hinder lay-offs when the demand for products decreases, but the council does not support an employment expansion at the firm if this leads to an internal downward wage competition.

The investment rate function is specified according to Mairesse et al. (1999); this approach is described in more detail in Bellmann et al. (2014). The growth rate of the real capital stock is the dependent variable. The pure Mairesse model contains the lagged growth rate of capital, the current and lagged growth in sales, the log of sales and the error correction term as determinants. The latter is measured by the log of the capital-output ratio. The investment function is also extended by some additional firm characteristics. We control for whether the firm is active in research and development (R&D), whether the firm invests abroad (IA), whether the technical state (TS) of the firm is state-of-the-art and whether the firm has positive returns (PR). Finally, the CLP dummy and the number of employees are incorporated. We expect that R&D leads to more investment activity, IA is a substitute for domestic investments and positive returns are used for further investments. The influence of the technical status is not so obvious. If TS is state-of-the-art then there is less necessity to reinvest. However, a good technical status indicates that the firm is dynamic and driven by modernisation due to strong competition. Firms are free to make investment decisions unless they are under a CLP; it does not matter whether a firm is bound by a collective bargaining. Therefore, the CBA dummy is not incorporated in the investment function, except in a robustness check. We also demonstrate whether an opening clause has a direct effect on employment and investments.

A simultaneous 3SLS estimation is applied where also separate estimates for firms covered by industry-level bargaining, firm-level bargaining and firms without collective bargaining are determined. The 3SLS approach is preferred because it allows for correlations between the disturbance terms in all three equations. This can be the case if relevant determinants are unobserved that have influence on all three dependent variables, e.g., management attitude. The 3SLS method increases asymptotic efficiency compared with 2SLS estimates,

particularly if all equations are not precisely identified (Schmidt 1976, p. 209). The standard errors are smaller. OLS estimates are inconsistent under endogeneity. Nevertheless, we also display the OLS and 2SLS estimates, the exogeneity test and whether the instruments are weak. In addition, heteroscedasticity-robust standard errors are presented. Finally, a matching approach is applied as a robustness check by means of Mahalanobis metric matching (Rubin 1980).

Our most important result becomes evident in the employment and investment rate functions in Table II—we find a substitutive relationship between capital and labour. Specifically, a CLP leads to significantly less employment and more investment. This result is remarkable because the pacts are typically developed as "pacts for employment." In this sense, we conclude that these are "bluff" packages. However, employees can expect medium-term improvements in their situations if cost reductions from CLPs are used to support investments. When greater investment does, in fact, improve employment conditions, we surmise that a CLP will expire after several years. Otherwise, the pact will not be successful and will become a precursor to an economic crash. Effective CLPs should avoid excessively short- or long-term approaches.

The following presents some robustness checks. We initially incorporate the collective bargaining dummy into the investment function–see Table III, Column (1). Collective bargaining has a negative effect on investment. The influence on employment remains insignificant.

In the next step, the analysis is restricted to firms under a collective bargaining regime–see Table III, Columns (2) and (3). Compared with an uncovered regime, it is more difficult to adopt a CLP that deviates from the binding collective contract. Therefore, one can only assume that less efficient CLPs are possible and that the employment and investment objectives cannot be achieved. The estimates are presented in Column (2) of Table III. The former speculation is confirmed, but not the latter; the absolute CLP effects are greater than in Table II.

Column (3) tests whether the existence of an opening clause is tangent to employment and investment. In the former case, our results are in accord with this speculation. If an opening clause exists, a CLP with stronger concessions is possible; otherwise, all agreements of the collective contract must be completely maintained. The opening clause does not have a directly positive effect on employment. Either slight concessions are not effective or the willingness of the workers to concede increases if they believe that these disadvantages are retracted in the long run by the power of the union. The negative CLP effect on employment in Table II persists in Table III, Column (3). The absolute effect is greater than in Column (2).

In Table IV, we find that firms do not distinguish between industry- and firm-level contracts related to the employment effects of a CLP. More unexpected is the fact that only the former have positive investment effects. Within this group, CLPs contain more and larger investment agreements; perhaps the employer's associations are more willing than a specific employer to significantly expand their investments. More obvious are the results of the uncovered firms. The estimates indicate that these establishments invest more and have a stronger tendency to reduce employment than others induced by a CLP.

Finally, we demonstrate the outcome of alternative methods—OLS, 2SLS and a matching estimator. In our matching approach, we use the CLP equation to construct an appropriate control group. After obtaining a matched sample, we run separate regressions for the

employment development and the investment behaviour, utilising the regressors used in Table II. The results in Table V can be compared with those in Table II. In all three cases, the sign of the CLP coefficients is the same as those in the 3SLS estimations. The IV estimates (2SLS and 3SLS) are greater than those of the OLS estimates. This result is known from other empirical investigations (Card 2001). The Mahalanobis metric matching (MMM) estimator confirms the significance of the employment and the investment effect of CLPs, while the OLS and the 2SLS standard errors are greater. The hypothesis of exogeneity and that of weak instruments have to be rejected. The 3SLS approach is more efficient.

In Table VI, we determine whether specific measures of a CLP differ in the employment and investment effects. However, this analysis is restricted to CLP firms; it would helpful if we could compare these results with those of establishments without CLPs. Based on our data set, the necessary information is not available.

As seen in Table VI, specific promises made by either the employer or employees have different effects on employment and investment. We distinguish between four major commitments: (i) complete job guarantee, (ii) maintaining the work force level, (iii) suspension of union wage increases, and (iv) investments in the business location.

If the objective is both to achieve high employment and high levels of investment, then none of these commitments is optimal. Measure (i) is not successful because it does not generate positive effects on employment or real capital growth. Initially, it seems contradictory that an employment guarantee would lead to smaller firm sizes; however, this result can be explained by two phenomena. First, the guarantee is only given to the existing work force; if a worker retires or leaves the firm, the firm is not required to hire a new worker. Second, it is always possible that an employer will not fulfil the original pledge. This failure may occur when pledges are not carefully worded. Measure (ii) creates positive effects on employment. This effect is more than the agreement demands from the employer; a *priori*, one might expect that the cost reductions generated by the suspension of union wage increases in measure (iii) would lead to more employees. Instead, we observe that measure (iii) leads to decreased numbers of employees and yields statistically insignificant effects on investment. Due to efficiency wage theory, higher wages lead to higher productivity; when combined with lower prices and increased sales, increased employment should follow. Of the four measures specified above, measure (iv), investment in a business location, is the most preferable. This is particularly true when considering a long-term perspective.

4. Conclusion

Company-level pacts containing a diversity of worker concessions and employer commitments are widespread in certain German industries. By using panel data on German firms, we find evidence that these pacts commonly fail to achieve their primary goal of stabilisation and increasing the workforce in the short term. Our estimations reveal a significantly negative impact of CLPs on employment and significantly positive investment effects. Finally, these influences strongly depend on specific measures and their mixture.

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Table I: T-tests on equality of means of establishment characteristics between company-level pact firms and others. N=35,733

	Mean		
	CLP firms	Non-CLP firms	t-test statistic
Opening clause (OC)	0.4831	0.1064	48.03
No collective agreement (NCA)	0.1528	0.5540	-34.24
Company agreement (CA)	0.2441	0.0588	31.16
Bad profit situation	0.1960	0.1459	5.91
Sales/10^6 (BPS)	590.0340	52.6380	18.42
Number of employees (N)	942.4109	96.0181	36.77
Investment/10^6 (I)	1.1905	0.9944	26.38
Wages/10^6 (W)	5.6610	0.5338	26.98

Notes: OC-dummy(=1 if the firm is bound by a collective bargaining and if there exists an opening clause); NCA-dummy(=1 if no collective agreement exists; CA-dummy(=1 if a company agreement exists); BPS-dummy(=1 if the profit situation is bad); N-total number of employees on 30 June; I-sum of all investments per year in Euro/1,000,000; W-total amount of gross pay (wages) in the month of June, excluding employer's social security contributions and holiday allowance.

Source: IAB Establishment Panel 2001-2010, own calculations.

Table II: Three-stage least squares estimates of company-level pacts, employment changes and real capital growth. N=8,414

Company-level pact (CLP)	Coefficient	Standard error	z-value
Opening clause	0.1816	0.0072	25.32
Company agreement	0.1273	0.0092	13.87
Bad economic situation	0.0050	0.0065	0.76
Good economic situation	-0.0110	0.0054	-2.02
Number of employees/10^3	0.0476	0.0030	16.15

Changes in employment	Coefficient	Standard error	z-value
CLP	-0.0736	0.0355	-2.07
Lagged growth of sales	0.0058	0.0057	1.01
Changes of wages	0.2416	0.0051	47.79
Error correction term/10^3	0.8921	1.3225	0.67
Profit sharing	0.0040	0.0048	0.82
Foreign investment	0.0193	0.0108	1.79
Works council	-0.0040	0.0073	-0.55
Collective bargaining	0.6272	3.9638	0.16

Real capital growth	Coefficient	Standard error	z-value
CLP	1.4497	0.6346	2.28
Number of employees/10^3	-0.616	0.0489	-1.26
Lagged growth of capital	-0.0177	0.0091	-1.95
Growth in sales	0.3816	0.1320	2.89
Lagged growth in sales	0.2908	0.1218	2.39
Error correction term	-0.3344	0.0274	-12.20
Log of lagged sales	-0.0651	0.0301	-2.16
R&D	0.1338	0.1134	1.00
Foreign investment	-0.0686	0.2304	-0.59
Technical status	-0.0130	0.0495	-1.39
Positive returns	-0.1357	0.0799	-0.16

Notes: Further control variables are seven industry dummies.
Source: IAB Establishment Panel 2001-2010, own calculations.

Table III: Three-stage least squares estimates of company-level pacts, employment changes and real capital growth

	all firms (1)		firms without collective bargaining (2)		firms with collective bargaining (3)	
Company-level pact (CLP)	Coef	Std. err.	Coef	Std. err.	Coef	Std. err.
Opening clause	0.1812***	0.0072	0.1735***	0.0108	0.1800***	0.0110
Company agreement	0.1271***	0.0092	0.1072***	0.0128	0.1045***	0.0128
Bad economic situation	0.0048	0.0065	0.0099	0.0128	0.0097	0.0128
Good economic situation	-0.0107**	0.0054	-0.0281***	0.0108	-0.0292***	0.0108
Number of employees/10^3	0.0476***	0.0029	0.0452***	0.0004	0.0442***	0.0004
Changes in employment	Coef	Std. err.	Coef	Std. err.	Coef	Std. err.
CLP	-0.0739**	0.0355	-0.0992**	0.0394	-0.1477***	0.0454
Opening clause					0.0157**	0.0067
Lagged growth of sales	0.0058	0.0057	0.0005	0.0085	-0.0000	0.0085
Changes of wages	0.2416***	0.0051	0.2500***	0.0076	0.2502***	0.0076
Error correction term/10^3	0.8883	0.0013	-1.6233	2.0574	-2.4029	2.1111
Profit sharing	0.0040	0.0048	0.0030	0.0065	0.0040	0.0065
Foreign investment	0.0193*	0.0108	0.0123	0.0132	0.0096	0.0133
Works council	-0.0040	0.0073	-0-0083	0.0088	-0.0053	0.0091
Collective bargaining/10^3	0.6783	3.9639				
Real capital growth	Coef	Std. err.	Coef	Std. err.	Coef	Std. err.
CLP	2.0796***	0.6981	2.2844***	0.7387	2.9506***	0.8609
Opening clause					-0.2051	0.1291
Number of employees/10^3	-0.0886*	0.0497	-0.0961**	0.0418**	-0.1078	0.0430

Table III continued						
Lagged growth of capital	-0.0180**	0.0091	-0.0257*	0.0153	-0.0239	0.0153
Growth in sales	0.3815***	0.2636	0.1731	0.2349	0.1739	0.1321
Lagged growth in sales	0.2843**	0.1219	0.2255	0.1656	0.2255	0.1656
Error correction term	-0.3372***	0.0275	-0.2716***	0.0349	-0.2793***	0.0352
Log of lagged sales	-0.0622**	0.0303	-0.0465	0.0423	-0.0671	0.0438
R&D	0.0810	0.1163	-0.0648	0.1556	-0.1193	0.1577
Foreign investment	-0.1348	0.2305	-0.0465	0.2596	0.0145	0.2621
Technical status	-0.0688	0.0495	-0.1252**	0.0602	-0.1279**	0.0602
Positive returns	-0.0066	0.0804	-0.0086	0.1062	0.0320	0.1087
Collective bargaining	-0.1661**	0.0826				
Number of observations	8414		3811		3811	

Notes: * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. Further control variables are seven industry dummies.
Source: IAB Establishment Panel 2001-2010, own calculations.

Table IV: Three-stage least squares estimates of company-level pacts, employment changes and real capital growth, separated by firms with industry-level, company-level and non-collective bargaining.

	Industy-level (1)		Company-level (2)		No collective-level (3)	
Company-level pact (CLP)	Coef	Std.err.	Coef	Std.err.	Coef	Std.err.
Opening clause	0.1664***	0.0108	0.1610***	0.0366	0.0296**	0.0128
Bad economic situation	0.0065	0.0127	0.0325	0.0431	0.0022	0.0044
Good economic situation	-0.0150	0.0109	-0.1056***	0.0346	-0.0025	0.0037
Number of employees/10^3	0.0651***	0.0056	0.0307***	0.0007	0.1100***	0.0183
Changes in employment	Coef	Std.err.	Coef	Std.err.	Coef	Std.err.
CLP	-0.1088**	0.0474	-0.1145**	0.0575	-0.7369***	0.2533
Lagged growth of sales	0.0025	0.0099	0.0107	0.0152	-0.0084	0.0078
Changes of wages	0.2540***	0.0084	0.2094***	0.0183	0.2362***	0.0068
Error correction term/10^3	0.1385	1.3850	-0.0124***	0.0044	-2.5138	1.8624
Profit sharing	0.0033	0.0078	0.0025	0.0103	0.0118	0.0080
Foreign investment	0.0084*	0.0147	0.0584**	0.0287	0.0498**	0.0217
Works council	-0.0059	0.0100	-0.0118	0.0154	0.0330*	0.0187
Real capital growth	Coef	Std.err.	Coef	Std.err.	Coef	Std.err.
CLP	3.4540***	0.9302	-0.8118	0.7387	6.7063**	3.1207
Number of employees/10^3	-0.1984***	0.0692	0.0192	0.0337	-0.0243	0.7630
Lagged growth of capital	-0.0246	0.0164	-0.1152**	0.0573	-0.0172	0.0117
Growth in sales	0.2509***	0.1996	0.3656	0.2711	0.4670	0.1939
Lagged growth in sales	0.2225	0.1964	0.2789	0.2277	0.3364*	0.1734

Table IV continued						
	Coef	Std.err.	Coef	Std.err.	Coef	Std.err.
Error correction term	-0.2765***	0.0414	-0.2958***	0.0491***	-0.4059***	0.0414
Log of lagged sales	-0.0656	0.0486	-0.0218	0.0628	-0.1203	0.0491
R&D	-0.1163	0.1948	0.1860	0.1833	0.1586	0.1734
Foreign investment	-0.0892	0.2982	-0.0352	0.4322	-0.3521	0.4204
Technical status	-0.1556**	0.0696	0.0934	0.0949	-0.0398	0.0791
Positive returns	-0.0142	0.1245	-0.0686	0.1566	0.0353	0.1178
Number of observations	3196		615		4603	

Notes: * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. Further control variables are seven industry dummies.
Source: IAB Establishment Panel 2001-2010, own calculations.

Table V: Three-equation model for company-level pacts effects on employment changes and real capital growth.

	OLS (1)		2SLS (2)		MMM (3)	
Changes in employment	Coef	Std.err.	Coef	Std.err.	Coef	Std.err.
CLP	-0.0135*	0.0474	-0.1200***	0.0292	-0.0331***	0.0095
Lagged growth of sales	0.0032	0.0048	0.0024	0.0059	0.0097	0.0145
Changes of wages	0.2548***	0.0044	0.2588***	0.0115	0.2434***	0.0188
Error correction term/10^3	0.0020*	1.0971	0.5036	1.3798	-2.0739	2.9906
Profit sharing	0.0083*	0.0043	0.0122***	0.0041	0.0012	0.0084
Foreign investment	0.0190*	0.0102	0.0202***	0.0075	-0.0080	0.0148
Works council	-0.0047	0.0047	0.0097*	0.0057	-0.0154*	0.0128
Collective bargaining	-0.0016	0.0034	0.0015	0.0036	-0.0059	0.0121
R^2	0.231		0.221		0.212	
Number of observations	11,696		11,535		830	
F test for exogeneity (F(1;11,535))			7.190***			
F test for weak IV			81.22***			

Real capital growth	Coef	Std.err.	Coef	Std.err.	Coef	Std.err.
CLP	0.0191	0.0974	0.5170	0.6049	0.0875**	0.0434
Number of employees/10^3	0.0008	0.0245	-0.0005	0.0186	0.0962	0.1424
Lagged growth of capital	-0.0170**	0.0067	-0.0170***	0.0058	0.0766**	0.0360
Growth in sales	0.1459**	0.0594	0.1472**	0.0736	0.1364**	0.0624
Lagged growth in sales	-0.0100	0.0595	0.0025	0.0844	0.1408**	0.0529
Error correction term	-0.2655***	0.0166	-0.2711***	0.0397	-0.0659***	0.0186
Log of lagged sales	-0.0375***	0.0129	-0.0546**	0.0222	-0.0154	0.0174

Table V continued						
R&D	0.0982	0.0665	0.0661	0.0581	0.0702	0.0463
Foreign investment	-0.0863	0.1453	-0.0844**	0.0386	-0.1199	0.0795
Technical status	-0.0134**	0.0300	-0.0201	0.0388	-0.0179	0.0280
Positive returns	0.0095	0.0487	0.0242	0.0359	0.0348	0.0449
R^2	0.0165		0.0151		0.1704	
Number of observations	16,713		16,580		285	
F test for exogeneity (F(1;16,580))			3.829*			
F test for weak IV			133.52***			

Notes: * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level, heteroscedasticity-robust standard errors. MMM-Mahalanobis metric matching; instruments for CLP of 2SLS estimates: opening clause, company agreement, bad economic situation, good economic situation and number of employees; Wu-Hausman's test for exogeneity (H_0: CLP is exogenous), and Stock-Yogo's test for weak instruments (H_0: instruments are weak). Further control variables are seven industry dummies.
Source: IAB Establishment Panel 2001-2010, own calculations.

Table VI: Three-equation models for estimates of the effects of company-level pacts on employment changes and real capital growth under specific firm's promise or employee's abandonment. N=582

Specific measure	Changes in employment		Real capital growth rate	
	Coeff.	Std. Err.	Coeff.	Std. Err.
Complete job guarantee	-0.1683	0.0609	-0.3748	0.8088
Maintaining the work force level	0.8614	0.1213	-1.3529	1.6427
Suspension of union wage increases	-0.1029	0.0568	0.3065	0.7048
Investment in the business location	0.0393	0.0587	0.6467	0.4009

Notes: The control variables in the CLP, employment and investment function are the same as in Table II. The estimates are restricted to companies with a company-level pact.
Source: IAB Establishment Panel 2001-2010, own calculations.