Effects of reciprocal concessions on employment and real capital

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ABSTRACT
Using a three-stage least squares estimator, this paper analyzes 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 of extended employment but the agreements do result in increased investments relative to the real capital stock. Our results show that investing in a business location as a specific measure is preferable to worker's unilateral concessions, e.g. reduced wages.

1. Introduction

According to the right-to-manage model, wages are determined by employer associations and unions through collective bargaining. Employers alone determine the number of employees and level of investment. If firms are experiencing 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. Such pacts exist in roughly 5-10% of all companies in Germany, but they differ in the agreed-upon details. Employees may relinquish certain privileges or temporarily make concessions in order to reduce costs. In return, employers promise to implement measures to improve their current economic status. The primary objective of all of these employer-employee agreements is to stabilize employment, avoid lay-offs, and protect the future of the firm or location.

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

In Germany, the majority of collective bargaining agreements (CBAs) contain opening clauses. These clauses allow firms and employees' representatives to make exceptions for certain stipulations in the CBA and are usually necessary to conclude a CLP. However, these pacts are often general to the point of not being enforceable and unforeseen market developments may prevent employers from keeping their pledges. Therefore, it is not always obvious whether pacts are successful. Empirical studies by Hübler (2005) and Bellmann/Gerner (2012) yield ambiguous results concerning the short-term stabilizing effects on employment of these agreements. It is, however, possible that other objectives of the CLPs are achieved; these secondary objectives may help to generate long-term improvements for employment.

This is the first study that simultaneously analyzes the effects of CLPs on employment and investment. 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 labor.

In this study, we utilize a three-equation model. 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 CBAs need opening clauses in order to conclude CLPs, these two variables, a dummy for the existence of an opening clause as well as of a CBA 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 is to agree to a CLP.

The employment function is based on an error correction model. The error correction term is calculated as the lagged difference between the logarithm of labor productivity and real wages (Bond/van Reenen 2008, p.4478). The endogenous variable is measured by taking the logarithm of the difference in the number of employees between two periods. The investment rate function is specified according to Mairesse et al. (1999). This function is subsequently refined by including additional firm characteristics (see table 2). The growth rate of the real capital stock is the dependent variable. From the next section, we begin with a series of t-tests to demonstrate that many pre-determined characteristics of firms with a company-level pact differ from those without such a pact. Next, we present the 3SLS estimation of our model outlined above. Finally, we draw our conclusions.

2. Data and results

The data used in this study is 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 labor market topics.

Table 1: T-tests on equality of means of establishment characteristics between company-level pact firms and others, N=35733

	Mean		
	CLP firms	Non-CLP firms	t-test Statistic
Opening clause	0.4831	0.1064	48.03
No collective agreement	0.1528	0.5540	-34.24
Company agreement	0.2441	0.0588	31.16
Bad profit situation	0.1960	0.1459	5.91
Sales/10^6	590.0340	52.6380	18.42
Number of employees	942.4109	96.0181	36.77
Investment/10^6	1.1905	0.9944	26.38
Wages/10^6	5.6610	0.5338	26.98
Souce: IAB Establishment Panel 2001-2010			

Table 1 displays the differences between CLP and non-CLP firms. The significance of these differences supports the selection of regressors in the CLP probability function (see Table 2). We find collective wage bargaining occurs more often in firms with a CLP. Relatively more CLP firms have company agreements than others. 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. Our most important result becomes evident in the employment and investment rate functions in Table 2: We find a substitutive relationship between capital and labor. In detail, a CLP leads to significantly less employment and more investment. This result is remarkable because the pacts are usually 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 guess that a CLP will expire after several years. Otherwise, the pact will not be successful and will prove to be only a precursor to an economic crash. Effective CLPs should avoid too much of a short- or long-term approach.

Table 2: Three-stage least squares estimates of company-level pacts, employment changes and real capital growth, N=8414

	Coefficient	Standard error	z-value
Company-level pact (CLP)			
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			
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			
CLP	1.4497	0.6346	2.28
Number of employees/10^3	-0.0616	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

Source: IAB Establishment Pan7el 2001-2010. Further control variables are 7 industry dummies.

As can be seen in Table 3, 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 are 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 given to the existing work force only; 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 fulfill the original pledge. This failure may occur when pledges are not carefully worded. Measure (ii) creates positive effects on employment due to increased investment activities. This effect is more than the agreement demands from the employer. A priori, one might expect that 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. Combined with lower prices and increased sales an increased employment should follow. Of the four measures specified above, measure (iv), investment in a business location, is the most preferable. This is especially true when taking a long-term perspective.

Table 3: Three-stage least-squares estimates of company-level pacts, 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.	Z-value	Coeff.	Std. Err.	Z-value
Complete job guarantee	-0.1683	0.0609	-2.76	-0.3748	0.8088	-0.46
Maintaining the work force level	0.8614	0.1213	7.10	-1.3529	1.6427	-0.82
Suspension of union wage increases	-0.1029	0.0568	-1.81	.03065	0.7048	0.43
Investments in the business location	0.0393	0.0587	0.67	0.6467	0.4009	1.61

Note: The control variables in the CLP, employment and investment function are the same as in Table 2. The estimates are restricted to companies with a company-level pact; N=582.
Source: IAB Establishment Panel 2001-2010.

3. Conclusions

Company-level pacts, containing a diversity of worker concessions and employer commitments, are widespread in certain German industries. Using panel data on German firms, we find evidence that these pacts commonly fail to achieve their primary goal of 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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