The Effectiveness of Co-Determination Laws in Cooperative and Adversarial Employment Relations: When does Regulation Bite?

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The Effectiveness of Co-Determination Laws in Cooperative and Adversarial Employment Relations: When does Regulation Bite?

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Abstract: The German Codetermination Law grants workers of establishments with 200 or more employees the right to have a works councillor fully exempted from his regular job while still being paid his regular salary. We analyze theoretically and empirically how this de jure right to paid leave of absence translates into practice and explicitly take into account the nature of the industrial relations participation regime. We find the right of exemption to make no difference in cooperative employment relations, but to develop its bite in adversarial relations, i.e. when – without legal enforcement – the legislator's intent would not be realized.

1. Introduction

Codetermination in Germany and German works councils in particular have received considerable attention in the industrial relations literature (see e.g. Jirjahn and Smith 2006, Addison, Schnabel and Wagner 2004). While much of the literature is concerned with measuring the effects of works councils (see e.g. Hübler and Jirjahn 2003, Heywood and Jirjahn 2009a, Hirsch, Schank and Schnabel 2010, Mueller 2011), recent analyses also aim at identifying the determinants of works councils being put into place (e.g. Jirjahn 2009, Mohrenweiser, Marginson and Backes-Gellner 2012). As the German Codetermination Law does not *prescribe* the establishment of works councils but rather leaves it to the initiative of employees to install this particular form of worker representation, it is not a priori clear whether in a specific firm falling under the Codetermination Law there will in fact be a works council or not.

Similarly, it is not a priori clear whether works councillors will be exempted from their regular jobs or not. While the German Codetermination Law states that works councillors practice their office gratuitously and as an honorary post (§37 I BetrVG), the employer is held to release members of the works council from their job requirements while continuing to pay their salary „should it be necessary for proper fulfilment of their tasks when taking into consideration size and type of the establishment" (§37 II 1 2.HS BetrVG). Specifically, paragraph 38 BetrVG substantiates that in establishments with more than 200 employees (legal threshold), at least one member of the works council is to be put on paid leave of absence.[2] The number of works councillors to be put on paid leave of absence then rises in accordance with establishment size.

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[2] The costs for a complete paid leave of absence of a works councillor at the threshold of 200 employees have been taxed by Schnabel and Wagner (2001) to be at 0,5 percent of total salaries. Friedrich and Hägele (1997) calculate a rise of direct works council costs from 98,000 Euros to 148,000 Euros per year on average when the threshold .was lowered from 300 to 200 employees.

While the German Codetermination Law grants the right of exemption for a works councillor in companies with 200 or more employees, it is not clear whether this legal threshold does in fact translate into a factual one: Until recently, the literature typically assumed that, at the legal threshold, there would be an immediate "jump" from zero to one in the probability distribution of works councillors being exempted from their jobs (see e.g. Koller, Schnabel and Wagner 2008). However, as Mohrenweiser and Backes-Gellner (2010) recently showed, the distribution of works councillors being exempted from their regular jobs does *not* display a jump at the legal threshold.

In this paper, we add to this new strand of literature on works councillor exemption by providing a theoretical explanation for the observed result. We do so by explicitly taking into account that, in practice, works councils are heterogeneous and that, as a result, the relationship between management and works councillors may either be cooperative or adversarial. Our analysis is motivated by the claim put forward by Jirjahn and Smith (2006, 650) that a "failure to distinguish among industrial relations participation regimes characterized by cooperative or uncooperative relations between works councils and management" will lead to inconsistent and inconclusive results. Hence, in our paper we theoretically and empirically analyze the question if the nature of the industrial relations participation regime does affect the probability of works councillor exemption and whether this effect varies between companies below and above the legal threshold.

We develop our hypotheses on the incidence of works councillor exemption in cooperative versus uncooperative industrial relation participation regimes based on the seminal work by Freeman and Lazear (1995), but complement their analysis by explicitly taking into account the nature of the underlying industrial relation participation regime. We then present our empirical analysis using the works council data set of the Institute for Small- and Medium-Sized Enterprises (Bonn). Consistent with our theoretical hypotheses, our results show that in adversarial employment relations, the probability of works councillor exemption jumps at the legal threshold: it is zero below the legal threshold, then sharply rises at the legal threshold and afterwards increases with firm size. Conversely, in cooperative employment relations, we do not observe a "jump" at the legal threshold, but rather a continuous increase of the probability of exemption over the whole firm size distribution.

While our analysis is concentrated on works councillor exemption, its implications go beyond this particular field of application: On the one hand, we find evidence for firms who voluntarily exempt works councillors from their regular jobs without legal obligation to do so. On the other hand, we find evidence for firms who do *not* exempt their works councillors in spite of a legal obligation to do so. For the former as well as for the latter, regulation apparently does not "bite". Rather, the exemption of works councillors seems to depend on the nature of the industrial relations participation regime – with regulation only but reliably biting for those firms where employment relations are adversarial. For all other firms, the probability of works councillor exemption steadily increases in firm size – hinting at a general leverage effect rather than legal forces being at work in firms with cooperative employment relations.

The plan of our article is as follows. First, in section 2, we derive our theoretical hypotheses on the probability of exemption in cooperative versus adversarial employment relations for companies below and above the legal threshold. In section 3, we present our empirical analysis. Section 4 concludes.

2. Theoretical Background and Hypotheses

In our theoretical analysis we bring together two very distinct research strands of literature dealing with works councils that have not been combined as yet: Freeman and Lazear's (1995) economic theory of works council effects on the one hand and the sociological, case-study based approach by Kotthoff (1981) identifying different types of works councils and employment relations on the other. Moreover, we enrich our theoretical model by taking into account firm size as a further potentially important determinant of works council effects.

2.1 Linking Works Councils Effects, the Nature of Employment Relations, and Firm Size

In their theoretical analysis of works councils, Freeman and Lazear (1995) differentiate between *two* potential works council effects: allocative effects on the one hand and distributive effects on the other. The allocative effects refer to works councils' potential to enlarge the *size* of the "cake", while the distributive effects refer to the *share* of the cake that each party receives.

A*llocative effects* have repeatedly been shown to exist (e.g. Hübler and Jirjahn 2003, Addison, Schnabel and Wagner 2001, 2004) and might take the following forms: Works councils might be apt to enhance intra-company cooperation and communication by improving the information flow from employees to management and vice versa. They might legitimize management decisions, optimize production and business processes and increase employee motivation, resulting in higher productivity and less fluctuation. Further, works councils' information and co-determination rights might render management information more trustworthy and might help to articulate employee interests (Freeman and Lazear 1995, Mohrenweiser, Marginson and Backes-Gellner 2012).

At the same time *distributive effects* have also been repeatedly shown to exist (Hübler and Jirjahn 2003; Mueller 2011). Distributive effects of works councils' activities do not concern the size of the "cake" to be distributed but rather determine the share of the cake that goes to the workers or that is left over for the owners of the firm, respectively. The share going to the owners might be reduced by increasing employee fringe benefits, pension funds, consumption on the job or the like and also as a result of direct costs of work council activities (e.g. office space, election costs etc.). Thus, although German works councils are not engaged in regular wage bargaining, there are other means by which they can actively influence rent distribution.

However, while we know from the sociological case-study based literature (starting with Kotthoff 1981) that in practice works councils are heterogeneous and industrial relations participation regimes range from being cooperative to adversarial, the potential interrelation between industrial relations participation regimes and their allocative and distributive effects has hardly been analyzed as yet. Rather, Freeman and Lazear model the extent of allocative and distributive effects to be the sole result of the range of rights given to works councils: While the allocative effects are argued to first increase and then decrease with an increasing range of co-determination rights (i.e. the relation between the range of rights given to a works council and a firm's rent is assumed to be hump-shaped), the distributive effects are assumed to monotonically increase with an increasing range of co-determination rights.

What Freeman and Lazear do not take into consideration is that works councils' allocative and distributive effects will not only depend on the extent to which works councils are endowed with legal rights, but that they will also depend on the nature of the industrial rela-

tions participation regime. Further, Freeman and Lazear do not take into account firm size as a determinant of the allocative vs. distributive works council effects. In what follows, we regard both, the nature of the industrial relations participation regime and firm size as potential determinants of the allocative and distributive effects and discuss how the interrelation of these factors might impact the question whether works councillors are exempted from their regular jobs or not. This is our primary theoretical innovation.

Concerning *firstly* the *nature of employment relations*, we differentiate between two basic "types" of industrial relations participation regimes: cooperative relations on the one hand and adversarial, conflict-oriented ones on the other. While in the former, works councils are assumed to concentrate on those activities that are apt to enlarge the size of the cake to be distributed (trusting that in the end they will also receive a fair share of what has been generated), in the latter, works councils will typically concentrate on securing a fair share of the firm's rent before engaging in activities that might help to increase a rent that in the end will only be "eaten up" by the owners of the firm and will not be to the advantage of employees. Hence, we argue that in cooperative employment relations, works councils will typically concentrate on their allocative role, whereas in conflict-laden, adversarial employment relations, they will rather focus on distributive goals.

We further argue that exempting works councillors from their regular jobs (paid leave of absence), will put them in a position where they can devote more time and energy to their activities and will therefore be more able to reach their respective goals (whatever they are): Hence, in cooperative employment relations, works councillors that are released from their regular jobs will invest more heavily in their allocative role as they are more able to deal with information in depth and effectively practice their rights in order to contribute to the common goal. Those works councillors, however, who find themselves in conflict-laden employment relations will invest more heavily in their distributive role when being exempted from their regular job.

Concerning, *secondly*, the effect of *firm size* on the allocative and distributive effects, it seems plausible to assume that the potential for allocative effects in a cooperative environment increases with firm size: One reason for this is a typical leverage effect. The more people cooperate and work together towards a joint goal the larger will be the total effect. If only one employer and one employee increase their cooperation it will certainly have a positive effect, but if one employer and 100 or 1,000 employees increase cooperation, enhance communication and in the end work harder towards a joint goal, the total effect will be more pronounced and disproportionately higher. Hence, the allocative effects associated with the establishment of a works council can be expected to increase with firm size.

2.2 The Role of the Legal Threshold and Hypotheses

According to legal regulations, we have to distinguish two cases when it comes to the question if and when a works councillor is exempted from his regular job: (1) In firms with less than 200 employees, the question whether works councillors are granted paid leave from their job is left to the discretion of the employer. (2) In firms with 200 or more employees, the employer is legally required to exempt at least one member of the works council from his regular job while continuing to pay his salary.

(I) *Below the legal threshold* of 200 employees where the firm can unilaterally decide on whether to exempt a works councillor from his regular job or not, we expect to observe the following:

- In *adversarial employment relations*, releasing a works councillor is not advantageous for the employer as the released works councillor will invest more in his distributive activities. Hence, firms will refrain from voluntarily exempting works councillors from their regular jobs in adversarial employment relations.
- In *cooperative employment relations*, however, firms expect increasing returns with growing firm size if works councillors are granted paid leave of absence. The larger the firm, the larger is the effect of a works councillor who is able to concentrate on his activities and the higher are the returns due to increasing allocative efficiency. Since in cooperative firms, the employer and the employees also find a cooperative way to share the rent, we expect that the larger the firm, the larger will be the probability that a works councillor is exempted from his regular job.

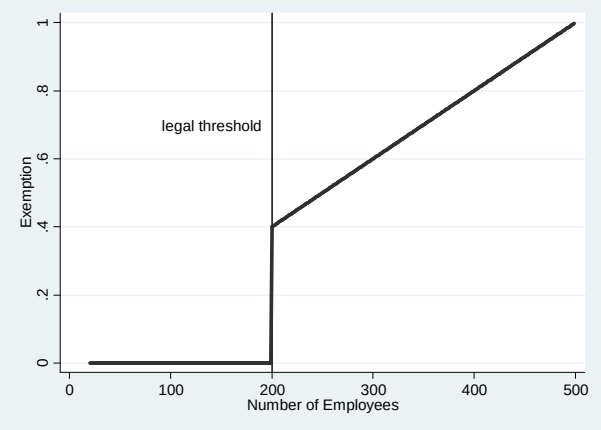
(II) *Over and above the legal threshold* of 200 employees, employees and works councillors are in a position where they may fight for their given right of exemption. Here we expect to observe the following:

- In cooperative employment relations, the fact that works councillors are in a position to fight for their right of exemption does not make a difference because employers benefit from granting paid leave of absence with increasing firm size and will thus readily grant it above the threshold as well. Thus, in cooperative employment relations, we will observe a further smooth increase in the probability of exemption above the legal threshold.
- In adversarial employment relations on the other hand, we expect the probability of works councillor exemption to increase dramatically after the threshold because even if the employer is not ready to exempt a works councillor from his regular job, works councils will be ready to enforce their claim as it helps them to get a larger share of whatever is at stake in the company (as once they are full time works councillors they are much more effective in achieving this objective). As fighting for one's rights will still be costly, we do not expect the probability of exemption to jump to one instantly once the legal threshold is reached, but rather expect a gradual increase in firm size because the larger the firm in terms of employees the higher is the likelihood that additional rent shares will make up for the costs of such fights.

This leads us to the following two hypotheses:

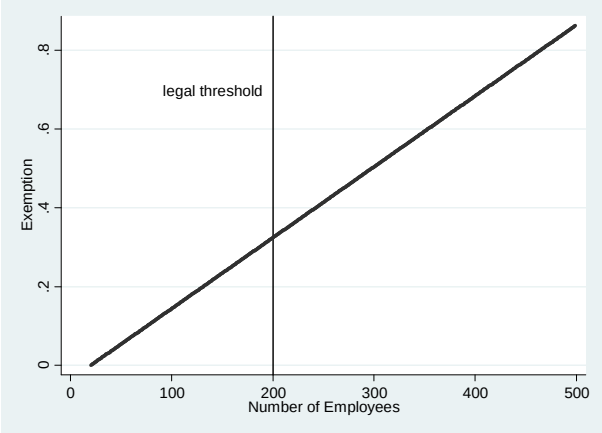
Hypothesis 1: In adversarial employment relations, the probability of exemption (a) is zero below the legal threshold, (b) "jumps" at the legal threshold, and (c) further increases with firm size above the legal threshold (see Figure 1).

Figure 1: Probability of Exemption in Adversarial Employment Relations (H1)



Hypothesis 2: In cooperative employment relations, the probability of exemption (a) does not "jump" at the legal threshold, and (b) increases with firm size over the whole firm size distribution (see Figure 2).

Figure 2: Probability of Exemption in Cooperative Employment Relations (H2)



3. Empirics

3.1 Data and Variables

Data. We use the works council data set of the Institute for Small- and Medium-Sized Enterprises, Bonn. This cross sectional data set is based on a manager survey in establishments with between 20 and 500 employees dating from the year 2005 and is representative for establishments of this size (for more details cf. Schlömer *et al.* 2007). The data set is ideal to test our hypotheses because of its detailed information on codetermination and a large number of related managerial issues. Particularly, our data set contains information on the incidence of works councillors being exempted from their regular jobs and on the nature of the relationship between works council and management. Given that we are interested in the determinants of paid leave of absence of works councillors but not on works councils per se, we restrict our data set to establishments with works councils leaving us with 231 establishments for which we have information of all the variables that we use in our regressions.

Definition of Variables. Table 1 shows the definition of variables and the descriptive statistics for our dependent variable as well as our explanatory and control variables.

As our dependent variable we use a dummy variable indicating whether at least one works councillor is fully exempted from his regular job (*works councillor exemption*).[3] In our sample, in approximately 25% of the establishments there are works councillors who are fully exempted from their regular job.

One of our important explanatory variables is whether the establishment under consideration is below or above the legal threshold *(200+employees)* above which paid leave of absence is granted by law. A little more than 43% of the establishments in the sample are above the legal threshold. In addition we use the metric variable *lnsize* to study size effects above and below the legal threshold.

[3] In addition to establishments with employees on "full" paid leave of absence there are also a few establishments with employees being part-time on leave. Since such "part-time" leave may be very minor, and since we have no information on the number of leave hours and since part-time leave is not subject to the legal regulations we are interested in, we only include "full" paid leave as our dependent variable.

Table 1: Variable Definitions and Descriptive Statistics (N=231).

Variable	*Description (Mean, Std. Dev.)*
Works Councillor Exemption	Dummy variable equal to 1 if at least one works councilor is fully exempted from his regular job (0.247, 0.432).
200+employees	Dummy variable equal to 1 if the establishment employs more than 200 employees (0.432, 0.496).
LnSize	Log of the number of total employees in the establishment (4.973, 0.769).
Bad Employment Relations	Dummy variable equal to 1 if management views the relationship with the works council as being very bad or bad (0.108, 0.311).
Skilled Employees	Employees with a university or apprenticeship degree as a proportion of total employees (0.776, 0.218).
Apprentices	Apprentices as a proportion of total employees (0.052, 0.072).
Part-time Employees	Part-time employees as a proportion of total employees (0.217, 0.314).
Female Employees	Women as a proportion of total employees (0.349, 0.248).
Employment Growth	Dummy variable equal to 1 if the establishment experienced a positive employment growth during the last three years (0.281, 0.451).
Collective Agreement	Dummy variable equal to 1 if the establishment is covered by a collective bargaining agreement (0.615, 0.488).
Active Owner	Dummy variable equal to 1 if the establishment is managed by an active owner (0.351, 0.478).
Direct Participation	Dummy variable equal to 1 if there are other direct forms of worker involvement in decision making (0.429, 0.496).
Strong Support by Workforce	Dummy variable equal to 1 if the workforce strongly supports the works council (0.268, 0.444).
Strong Union Influence	Dummy variable equal to 1 if unions have strong influence on the works council (0.430, 0.497).
Age of Works Council	Time span between the survey year and the year the works council has been introduced (19.43, 16.38).
East Germany	Dummy variable equal to 1 if the establishment is located in East Germany (0.225, 0.419).
Industry Dummies	Industry dummies for manufacturing, construction, retail, logistics & communication, services for companies, and services for privates

Source IfM Bonn Works Council Survey 2005.

The variable *bad employment relations* is based on the question "How would you describe the relation between management and works council in your establishment" that had to be answered on a Likert scale from "1" (very bad) to "5" (very good). For the sake of our empirical analysis, we created a dummy variable "bad employment relations" for establishments answering "1" (very bad) or "2" (bad)". In our sample, approximately 11% of the es-

tablishments consider their employment relations to be bad (see Table A2 in the Appendix for the distribution of initial answers).[4]

Further, we use a large number of control variables whose influence on works council incidence, attitude and effects (Addison, Schnabel and Wagner 1997; Jirjahn and Smith 2006) has been shown in the past (for a complete list of variables used cf. Table 1).

3.2 Results

Probit estimates. In the following we analyse the determinants of works councillor exemption based on a series of probit models with the likelihood of works councillor exemption as the dependent variable and *200+employees* and/or *lnsize* as explanatory variables plus the additional control variables as presented in Table 1. We start with a set of regressions for all firms to see whether there is a jump in paid leave of absence at the legal threshold (Table 2). We next run separate regressions for firms with good employment relations (Table 3) and for firms with bad employment relations (Table 5). Finally, we discuss the magnitude of the effects (Figure 3).

When we first look at our base line model I in Table 2, we find that for all establishments there is no jump in the likelihood for paid leave of absence of works councillors at the legal threshold (the coefficient of *200+employees* is insignificant). So without our theoretical analysis that suggests to separate establishments with good and bad employment relations one finds the somewhat puzzling result that legal regulations do not seem to have an impact.

In a next step, we therefore split the sample and run separate regressions. When we look at establishments with good employment relations (models II to IV in Table 2), we also find that the likelihood of works councillor exemption does not display a jump at the legal threshold (*200+employees*). This supports hypothesis 2a stating that in cooperative employment relations we do not expect a "jump" at the legal threshold. We also find that the likelihood of paid leave of absence increases continuously with firm size (*lnSize* is significantly positive in models II, III and IV) and that it does not increase stronger above than below the legal threshold (no significant coefficient of the interaction term between *200+employees* and *lnSize* in model IV). This supports hypothesis 2b stating that in cooperative employment relations, the probability of paid leave of absence increases with firm size over the whole firm size distribution. This result which is clearly counterintuitive from the perspective of the legal regulation, underlines the need to take into account the nature of the employment relation and lends support to our theoretical analysis.

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[4] With reference to our basic theoretical assumption that in bad employment relations, works councils concentrate on their distributive role and not so much on their allocative one, we find the following: Confronted with the item "The works council improves the quality of decisions" hinting at a substantial *allocative role* of works councils, only 4 percent of managers in establishments with bad employment relations fully agree or agree while more than 26 percent of managers in establishments with good employment relations fully agree or agree. In contrast, confronted with the item "The works council is a source of union strength" rather highlighting the *distributive role* of works councils, 48 percent of managers in establishments with bad employment relations fully agree while a comparative lower percentage of managers in establishments with good employment relations (28 percent) fully agree. The same is mirrored in the overall evaluation of works councils being either judged as detrimental or as beneficial: While 52 percent of managers in establishments with bad relations judge their works councils to be detrimental, less than 2 percent of managers in establishments with good relations do so. I.e., in total, the chosen operationalization of "bad employment relations" seems to grasp our theoretical construct quite well.

Table 2: Determinants of Works Councillors Exemption – All Establishments and Establishments with Good Relations

	All Firms (I)	Good Relations (II)	Good Relations (III)	Good Relations (IV)
200+employees	0.248		0.539	6.969
	(0.55)		(1.16)	(1.27)
LnSize	2.185***	2.224***	1.806***	2.714***
	(4.26)	(6.88)	(3.73)	(3.02)
200+employees * LnSize				-1.239
				(1.17)
Bad Employment Relations	-0.375			
	(0.98)			
Apprentices	-1.733	-1.394	-1.331	-1.404
	(1.01)	(0.76)	(0.72)	(0.74)
Part-Time Employees	0.382	0.414	0.382	0.436
	(0.88)	(0.98)	(0.91)	(0.98)
Female Employees	-1.173*	-1.698**	-1.782**	-1.920**
	(1.78)	(2.38)	(2.44)	(2.57)
Employment Growth	-0.295	-0.138	-0.166	-0.156
	(0.99)	(0.45)	(0.55)	(0.51)
Collective Agreement	0.534*	0.548	0.554*	0.542*
	(1.92)	(1.85)	(1.86)	(1.78)
Active Owner	0.083	0.106	0.035	0.023
	(0.28)	(0.35)	(0.11)	(0.07)
Direct Participation	0.329	0.224	0.230	0.220
	(1.18)	(0.76)	(0.78)	(0.75)
Strong Support by Workforce	-0.348	-0.291	-0.328	-0.339
	(1.16)	(0.98)	(1.11)	(1.14)
Strong Union Influence	0.311	0.299	0.331	0.368
	(1.12)	(1.04)	(1.15)	(1.25)
Age of Works Council	0.004	0.002	0.002	0.003
	(0.44)	(0.26)	(0.19)	(0.27)
East Germany	0.365	0.265	0.290	0.332
	(1.15)	(0.76)	(0.83)	(0.90)
Industry Dummies	Yes	Yes	Yes	Yes
Constant	-12.905***	-12.763***	-10.742***	-15.228***
	(4.46)	(6.05)	(3.95)	(3.13)
Pseudo R-sqr	0.47	0.46	0.46	0.47
Observations	231	206	206	206

Coefficients of a Probit ML estimation. Robust Z-statistics are in parentheses.
*** Statistically significant at 1%; ** statistically significant at 5%; * statistically significant at 10%.
Source IfM Bonn Works Council Survey 2005.

Concerning firms with bad employment relations, we first take a look at the descriptive distribution of works councillor exemption for establishments with bad employment relations (cf Table 3). As can be seen, there is in fact no single establishment below the legal threshold that exempts at least one of their works councillors – although about half of the

establishments with bad employment relations are below the legal threshold. This clearly supports hypothesis 1a.

Table 3: Establishments with Bad Relations and Works Councillor Exemption

	Less than 200 Employees	More than 200 Employees	Total
No Paid Leave of Absence	13	5	18
Paid Leave of Absence	0	7	7
Total	13	12	25

Source IfM Bonn Works Council Survey.

To test hypotheses 1b and 1c, we next run probit estimations with the likelihood of *works councillor exemption* as the dependent variable and *lnsize* as explanatory variable (see Table 4). The regression only contains the 12 firms above the legal threshold as there are no establishments with bad employment relations below the legal threshold who exempt works councillors from their regular jobs. We find that the coefficient of *lnSize* is significantly positive. This supports hypothesis 1c stating that in adversarial employment relations, the probability of exemption increases with firm size above the legal threshold.

Thus, taken together our results also support hypothesis 1b, i.e. that in adversarial employment relations there is a "jump" at the legal threshold. Since the coefficient in Table 4 estimates the linear effect of firm size on the likelihood of paid leave of absence above the legal threshold and we know that below the legal threshold the likelihood is always zero, the positive coefficient means that there is a kink in the likelihood of paid leave of absence at the legal threshold.

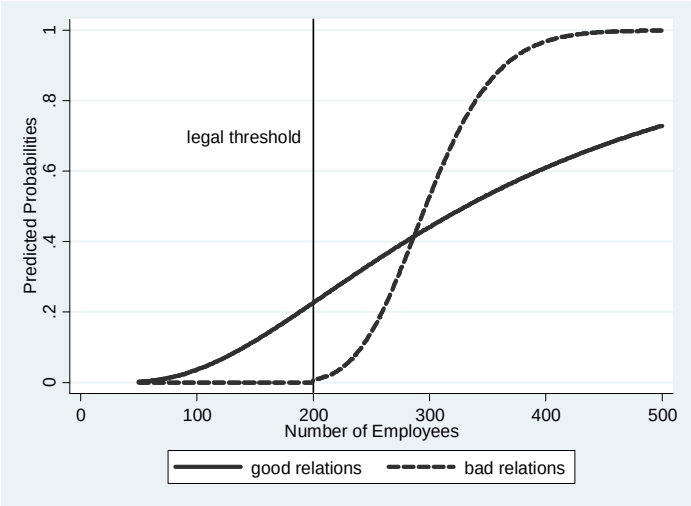
Table 4: Determinants of Works Councillor Exemption – Establishments with Bad Relations

LnSize	6.226** (2.40)
Constant	-35.443** (2.40)
Pseudo R-sqr	0.46
Observations	12

Coefficients of a Probit ML estimation. Robust Z-statistics are in parentheses.
*** Statistically significant at 1%; ** statistically significant at 5%; * statistically significant at 10%.
Source IfM Bonn Works Council Survey 2005.

To visualize the magnitude of the effects, we plot the predicted probabilities of works councillor exemption based on model III in Table 2 (see Figure 3). We use the predicted probabilities because our preferred model entails interaction variables.[5] As Figure 3 shows, the predicted probability of works councillor exemption in establishments with bad employment relations is close to zero under the legal threshold, sharply increases after the threshold and remains close to one in establishments with 400 employees. On the contrary, the predicted probability of works councillor exemption monotonically increases in firm size. The probability is around 15 percent in establishments with 150 employees, 30 percent in establishments with 250 employees and 60 percent in establishments with 400 employees.

Figure 3: Works Councillor Exemption – Predicted Probabilities



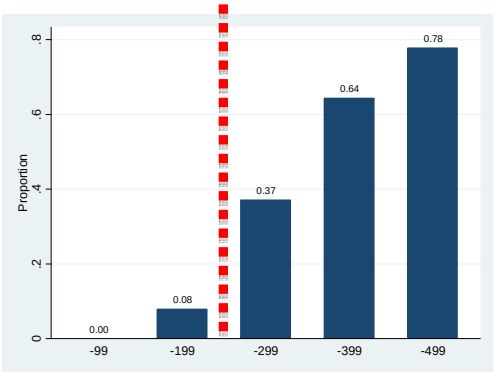
The predicted probabilities of works councillor exemption for establishments with good relations are predicted by using the estimated coefficients in column (III) of Table 2. The probabilities for establishments with bad relations are predicted using the estimated coefficients of Table 4. All of the other control variables are assumed to be at their mean level. N= 231.
Source: IfM Bonn Works Council Survey.

Additionally, Figure 4 displays the proportion of establishments exempting works councillors from their regular jobs for all establishments (Panel A), for establishments with bad relations (Panel B) and for establishments with good relations (Panel C).

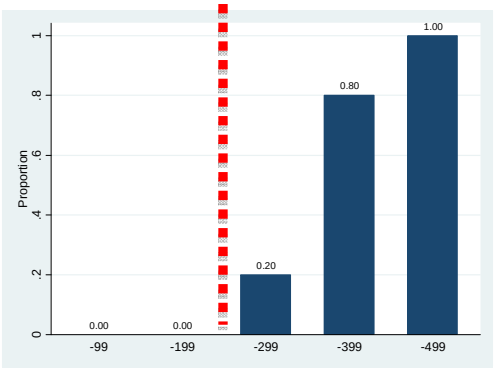
[5] Interpreting marginal effects of interaction variables in nonlinear models remains highly controversial. Marginal effects provide a sense of practical importance, but the functional form of a non-linear model implies that all explanatory variables have nonlinear effects on the probability of interest. Calculating marginal effects of interaction variables requires distributional assumptions. Therefore, we interpret the interaction effects with respect to the cross derivative of the underlying latent variable and, hence, focus solely on the statistical significance of the coefficient of the interaction variable (compare also Heywood and Jirjahn, 2009b for a discussion of this strategy)

Figure 4: Proportion of Establishments Exempting Works Councillors

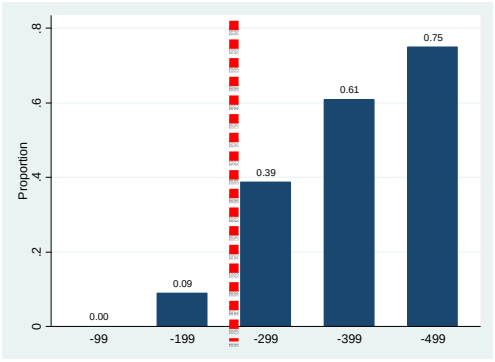
Panel a: ALL ESTABLISHMENTS



Panel b: ONLY ESTABLISHMENTS WITH BAD EMPLOYEE RELATIONS



Panel c: ONLY ESTABLISHMENTS WITH GOOD EMPLOYEE RELATIONS



Panel a: all establishments (N=231),
Panel b: establishments with bad employment relations (N=25)
Panel c: establishments with good employment relations (N=206).
Source: IfM Works Council survey 2005

Robustness checks. To find out whether our result that there is no jump in the incidence of works councillor exemption in establishments with good relations is robust to other specifications, we ran a number of robustness checks with alternative specifications for firms with good relations and used various alternatives to specify the shape of the effect that firm size may have (cf. Table 5).

Table 5: Determinants of Works Councillor Exemption, Establishments with Good Relations – Robustness Checks.

	(I)	(II)	(III)	(IV)	(V)	(VI)
200+employees		0.163			-0.068	2.087***
		(0.31)			(-0.13)	(7.48)
LnSize	23.301**	21.181*				
	(2.13)	(1.76)				
LnSize squared / 1000	-1.925*	-1.745				
	(-1.95)	(-1.63)				
Firm Size			0.009***	0.037***	0.038***	
			(7.40)	(4.73)	(3.49)	
Firm Size squared / 1000				-0.051***	-0.053***	
				(-3.83)	(-3.10)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-sqr	0.48	0.48	0.42	0.48	0.48	0.39
Number of Observations	206	206	206	206	206	206

We use the same control variables as in the regressions of Table 2 column (II) to (IV).
Coefficients of a Probit ML estimation. Robust Z-statistics are in parentheses.
*** Statistically significant at 1%; ** statistically significant at 5%; * statistically significant at 10%.

Source IfM Bonn Works Council Survey 2005.

In Table 2 model II, we used a linear firm size variable *lnSize* and found a significantly positive coefficient of firm size on works councillor exemption in establishments with good relations. In Table 5 model I, we add a quadratic term of firm size to see whether there are non-linearities. We find a significantly positive effect of firm size and a significantly positive effect of firm size squared, i.e. the likelihood of works councillor exemption rises with firm size but at a decreasing rate. In Table 5 model II, we additionally add the legal threshold dummy to see whether firm size results change. We find that the legal threshold itself is again not significant and that the significantly positive effect of firm size remains. In Table 5 models III, IV, V, we use the absolute number of employees instead of the logarithm and find structurally the same results as in models I and II. In Table 5 model VI, we drop all but the legal threshold variable *200+employees*, and only in this case we find a significant effect for the legal threshold dummy. However, this only catches the result of the steady increase found in previous estimations that is now split in two pieces: smaller firms with on average lower probability of exemption and larger firms with on average higher probability of exemption. Hence, above all this result shows how a misspecification of the model may suggest an effect of a legal threshold that is indeed only a statistical artefact.

Further, we regressed only the main explanatory variables (models 2 and 4 in Table A1 in the appendix) and further estimated models which uses a set of covariates but excludes all other employment relations variables besides the variable for "bad employment relations" (models 3 and 5 in Table A1). Model 1 in Table A1 further uses an additional category for

good or very good employment relations. In all of the regressions, the probability of works councillor exemption increases with firm size and there is no effect of the legal threshold.

As a final robustness check, we tackled the problem of a potential sample selection bias as the existence of a works council is endogenous and probably correlated with firm size (Jirjahn 2009, Mohrenweiser, Marginson and Backes-Gellner 2012). To do so, we estimated a sample selection model fitting the determinants of the existence of a works council and the determinants of exemption (see Table A3 in the appendix). Our findings remain robust to this specification test.

Taken together, our results provide strong support for our theoretical explanation and hypotheses. However, our results cannot provide evidence for a causal effect because we do not have panel information and can therefore not rule out reverse causality.

4. Conclusion

The German Codetermination Law grants the right of paid leave of absence for a works councillor in establishments with 200 or more employees. In our paper, we add to the literature in showing that legal regulations not necessarily mean that granted rights are indeed used in reality. Specifically we show that the question whether codetermination regulation will bite or not, depends on the nature of the industrial relations participation regime – with regulation primarily affecting those firms where employment relations are adversarial. In firms with cooperative employment relations, on the contrary, the probability of works councillor exemption steadily increases with firm size and remains unaffected by the legal threshold as such – hinting at a general leverage effect rather than legal forces being at work.

In identifying the nature of the underlying industrial relations participation regime as a basic determinant of works councillor exemption, our study supports the claim put forward by Jirjahn and Smith (2006, 650) concerning the potential failures associated with not differentiating between cooperative and uncooperative industrial relations participation regimes. Hence, large parts of the literature on works councils have to be revisited because the measured effects may be turned upside down if different industrial relations participation regimes were recognized. While the previous literature did not have the chance to take account of different industrial relations regimes due to data limitations, our results show that this is not a minor issue and should be solved in the future by (a) theoretically distinguishing between different regimes and (b) by empirically taking account of different regimes, e.g. by systematically including questions on the nature of the underlying industrial relations participation regime in surveys.

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Appendix

Table A1: Robustness checks

	All Firms (1)	All Firms (2)	All Firms (3)	Good Relations (4)	Good Relations (5)
200+Employees	0.315 (0.69)	0.150 (0.37)	0.161 (0.35)	3.072 (0.69)	6.126 (1.04)
LnSize	2.208*** (4.30)	1.938*** (4.54)	2.170*** (4.36)	2.136** (3.23)	2.652** (2.67)
200+Employees * lnSize				-0.546 (0.64)	-1.100 (0.96)
Bad Employment Relations	-0.647 (1.42)	-0.021 (0.07)	-0.067 (0.20)		
Good Employment Relations	-0.413 (1.22)				
Skilled Employees	-0.212 (0.33)		-0.284 (0.46)		-0.634 (0.94)
Apprentices	-1.803 (1.06)		-0.625 (0.42)		-0.336 (0.19)
Part-Time Employees	0.429 (0.96)		0.347 (0.93)		0.398 (1.00)
Female Employees	-1.328 (1.94)		-1.077 (1.62)		-1.852* (2.49)
Employment Growth	-0.280 (0.92)		-0.254 (0.88)		-0.116 (0.39)
Collective Agreement	0.564* (2.00)				
Active Owner	0.020 (0.07)		0.013 (0.05)		-0.054 (0.17)
Direct Participation	0.338 (1.19)				
Strong Support by Workforce	-0.263 (0.84)				
Strong Influence of Unions	0.253 (0.89)				
Age of Works Council	0.004 (0.48)				
East Germany	0.329 (0.99)		0.085 (0.30)		0.083 (0.25)
Industry Dummies	yes	yes	yes	yes	yes
Constant	-12.77*** (4.41)	-11.09*** (5.26)	-11.98*** (4.35)	-12.05*** (3.68)	-14.06** (2.67)
Pseudo R-sqr	0.47	0.39	0.44	0.37	0.43
Observations	231	231	231	206	206

Coefficients of a Probit ML estimation. Robust Z-statistics are in parentheses.
*** Statistically significant at 1%; ** statistically significant at 5%; * statistically significant at 10%.
Source: IfM Bonn Works Council Survey 2005.

Table A2: Distribution of managerial valuation of the management – works council relation

	Frequency	Percent
Very bad	2	0.86
Bad	23	9.95
Neutral	49	21.21
Good	117	50.65
very good	40	17.32
Total	231	100

Source: IfM Bonn Works Council Survey 2005.

Table A3: Sample Selection Model[6], Two-Stage Least Square Estimation.

	All Firms (1)	All Firms First Stage (2)	All Firms Second Stage (3)
200+Employees	0.148 (0.33)	0.015 (0.03)	0.313 (1.34)
LnSize	2.232*** (4.45)	2.004*** (3.45)	0.581*** (4.76)
Skilled Employees	-0.324 (-0.51)	-0.440 (-0.71)	0.765** (2.65)
Apprentices	-1.123 (-0.68)	-1.054 (-0.48)	0.304 (0.37)
Part-Time Employees	0.255 (0.61)	0.189 (0.41)	0.284 (1.35)
Female Employees	-1.154 (-1.74)	-0.949 (-1.33)	-0.301 (-1.06)
Employment Growth	-0.258 (-0.91)	-0.168 (-0.59)	-0.407** (-2.86)
Collective Agreement	0.579* (2.17)	0.378 (1.14)	0.728*** (5.41)
Active Owner	0.155 (0.53)	0.379 (1.13)	-1.089*** (-7.66)
Direct Participation	0.282 (1.05)	0.229 (0.85)	0.064 (0.45)
East Germany	0.240 (0.80)	0.199 (0.57)	0.069 (0.43)
Mills Ratio			-0.660 (-0.98)
constant	-12.89*** (-4.54)	-11.23*** (-3.33)	-2.71*** (-4.28)
Industry Dummies	yes	yes	yes
Pseudo R-sqr/ LogLikelihood	0.46	-314.217	
Number of Observations	231	570	231

Column 1 repeats the estimation of Table 2 without variables that are not observed in firms without a works council. Column 2 and 3 show the first and second stage of a Heckman-type selection correction model identifying the selection effect with the functional form.

Coefficients of a Probit ML estimation. Robust Z-statistics are in parentheses.
*** Statistically significant at 1%; ** statistically significant at 5%; * statistically significant at 10%.
Source: IfM Bonn Works Council Survey 2005.

[6] A sample selection model usually requires an identifying variable in the first stage that is correlated with the existence of a works council but not with the exemption. Unfortunately, our data do not contain such a variable and we can only rely on the identification through the functional form.