German Works Councils Old and New:
Incidence, Coverage and Determinants*

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Abstract

Although works councils are a core element of the German system of industrial relations, there is little reliable information on their incidence and coverage. This paper uses data from the nationally representative IAB establishment panel to fill this gap. We examine the frequency of works councils by establishment size and broad sector for eastern and western Germany, while at the same time charting the determinants of their presence. Furthermore, we identify newly established works councils and the circumstances of their formation. Finally, we discuss the consequences of our findings for economic analysis of the institution and for public policy.

Zusammenfassung

Obgleich die Betriebsräte ein Kernelement des bundesdeutschen Systems der industriellen Beziehungen darstellen, gibt es kaum zuverlässige Informationen über ihre Verbreitung. Der folgende Beitrag verwendet Daten des IAB-Betriebspanels um die Verbreitung von Betriebsräten in unterschiedlichen Wirtschaftszweigen und Betriebsgrößenklassen in Ost- und Westdeutschland zu dokumentieren sowie die Bestimmungsgründe für die Existenz einer Arbeitnehmervertretung zu identifizieren. Darüber hinaus fragen wir nach den Gründen für die erstmalige Wahl eines Betriebsrats in bis dahin vertretungslosen Unternehmen und diskutieren die Konsequenzen unserer Befunde für die zukünftig anstehende ökonomische Analyse rechtlich autorisierter Arbeitnehmervertretungen.

JEL Classification: J50

1. Motivation

After protracted and highly controversial debate, the German *Bundestag* passed the law reforming the pre-existing Works Constitution Act (*Betriebs-verfassungsgesetz*) on June 22, 2001. The new Works Constitution Reform Act (*BetrVerf-Reformgesetz*) was approved by the *Bundesrat* on July 13, 2001, and became effective on July 28, 2001, the day after its announcement in the Federal Law Bulletin (*Bundesgesetzblatt*).[1]

Section 1 of both the old and the new law provide for the election of works councils in all establishments that normally have five or more employees with voting rights, including three who are eligible to be works councilors. (Voting rights accrue to all workers aged 18 years and above, and eligible employees are all workers who have been employed by the firm for at least six months.) Although leaving this particular size threshold unchanged, the new legislation seeks to facilitate works council formation through simplified election proce-dures, inter al. This goal reflects the limited penetration of works councils. Among small establishments, works council plants are a distinct minority de-spite the low employment size criterion and strict sanctions against employers who attempt to interfere with the process of works council formation. Note also that the new legislation does make a large number of formal changes that have the effect of increasing the power and authority of works councils, with the stated aim of improving the economic performance of the institution.

In short, the central aim of the German government in framing the legisla-tion was to increase the number (and reach) of works councils and thereby shrink the size of what was termed a 'codetermination-free zone' by the *Kom-mission Mitbestimmung* (Codetermination Commission), a high-level group of experts set up to evaluate, among other things, the experience with the work-ings of the old Works Constitution Act of 1972.[2] According to the Commis-sion's final report, issued in 1998, no less than 60 percent of all private-sector employees worked in firms without a works council (and without employee representatives on the supervisory board). Moreover, the Commission pre-dicted a rise in this share for structural reasons; in particular, the growing im-

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[1] There is as yet no official English-language version of the law. The Works Consti-tution Reform Act, documenting changes between the old and the new law, is published in *Deutscher Bundestag, 14. Wahlperiode, Drucksache 14/5741 vom 2. April 2001,* and is available on the web at ⟨www.bundestag.de⟩. The new Act is published in stand-alone form in the *Bundesgesetzblatt BGBl. I S. 1852,* and is available on the web at ⟨www.bma.bund.de/download/gesetze/BetrVG.pdf⟩. For a review of the evolution of workplace codetermination in Germany, the innovations of the new law, and the contro-versies over costs and benefits of works councils, see Addison, Bellmann, Schnabel, and Wagner (2003).

[2] See Kommission Mitbestimmung (1998). An English-language summary of the final report of the Commission is available at ⟨www.mpi-fg-koeln.mpg.de/endbericht/inhalt_e.html⟩.

portance of new service-sector establishments that are less likely than their manufacturing counterparts to have works councils.

Although works councils are a core element of the dual system of industrial relations in Germany, representative and up-to-date information on their frequency and coverage is sparse. Thus, there are no official statistics on works councils, and neither the union movement nor employers' associations publish pertinent information. We note parenthetically that in its draft proposals for a new Works Constitution Act, presented contemporaneously with the publication of the final report of the Codetermination Commission, the Federation of German Unions demanded registration of all enterprises without works councils in an accessible public register (see Deutscher Gewerkschaftsbund, 1998). This request did not find its way into the new law.

The present paper seeks to fill this deficit in our knowledge by providing up-to-date information on works council presence and coverage by establishment size interval and by broad sector for both western and eastern Germany, using data from the IAB establishment panel. Probit estimation of works council incidence is also offered. In addition, we document the extent of newly-established works councils and inquire into the circumstances of their formation.

The structure of the paper is as follows. Section II provides descriptive statistics on works councils for the year 2000. Section III investigates the determinants of works council presence. Section IV tackles the separate issue of newly-established councils. A brief interpretative section concludes.

2. Works Councils in Germany: Facts and Figures for 2000

The descriptive statistics presented in this section are derived from the IAB establishment panel. Each year since 1993 (1996), this panel has surveyed several thousand establishments from all sectors of the economy in western (eastern) Germany.[3] It is based on a stratified random sample – using strata for 16 industries and 10 size classes – from the population of all local production units with at least one employee covered by social insurance. (Due to the stratification of the sample, the following material is based on weighted data.) Note that private-sector undertakings which do not have insured employees cannot have a works council under the law (recall the employment size threshold of five permanent employees, noted earlier), so that from this perspective the restriction is not a problem. Nevertheless, it is the case that a small number of public-sector workplaces employing only civil servants, who are formally

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[3] For more information on the IAB establishment panel, see Kölling (2000). The data are confidential but not exclusive. Those interested in using the IAB data for scientific (noncommercial) research should contact the second author:⟨lutz.bellmann@iab.de⟩.

outside the social insurance system, are excluded from the IAB panel. Information on the works council status of establishments in western and eastern Germany is available for the 1996, 1998, and 2000 waves of the panel. For present purposes, we focus on the most recent figures for 2000.

Table 1 reports information on works council presence (defined as the proportion of establishments with a works council) and coverage (the proportion of employees working in establishments with works councils) for the German economy as a whole, and for western and eastern Germany, by six establishment size classes. Only establishments with five or more employees are included in the sample due to the legal threshold mentioned above. On the basis of this restriction, works councils are encountered in just one in every six German establishments, and this share is only slightly higher in western than eastern Germany. Works council presence tends to increase sharply with establishment size, from about one in ten in the smallest size class with less than 21 employees to about nine in ten among the large firms with more than 500 employees. The big picture is rather similar in western and eastern Germany. Clearly, the positive association between establishment size and works council presence produces a value for coverage that considerably exceeds that for incidence – slightly more than one-half of all employees in Germany work in establishments that have a works council.

Both works council presence and coverage varies widely by sector. Table 2 shows that nearly two-thirds of all establishments in the public sector have a works council (termed a *Personalrat*) compared to only one in eight establishments in the private sector (where the works council is termed a *Betriebsrat*). Although these figures do not differ materially between western and eastern Germany, we find a remarkable difference in works council incidence when we split the private sector into its manufacturing (including construction) and services components. In western Germany, works council presence is higher in manufacturing than in services, and folklore has it that the shrinking share of the manufacturing sector combined with a growing share of private services is one of the main reasons for the long-run decline of works council presence in (western) Germany. By contrast, in eastern Germany works council presence is much smaller in manufacturing than in services, while works council coverage in manufacturing is about 22 percentage points lower than in western Germany.

Table 3 combines information on establishment size class and sector. In the public sector, about one-half of the smallest units have a Personalrat, and nearly all of the larger units with more than 100 employees have the institution. In the private sector in both western and eastern Germany, works council presence tends to increase with firm size in manufacturing and private services. Observe that in both regions works councils are a very rare species in the smallest establishments in the manufacturing sector.

Table 1

Distribution and Coverage of Works Councils by Establishment Size in 2000

(in percent, establishments with five employees or more)

Establishment size interval (number of employees)	western Germany		eastern Germany		Germany	
	Presence	Coverage	Presence	Coverage	Presence	Coverage
5 – 20	9.3	10.5	7.8	9.8	9.1	10.4
21 – 50	29.9	31.5	29.9	30.8	29.9	31.3
51 – 100	52.9	53.4	51.2	51.3	52.6	53.0
101 – 200	68.6	69.5	69.1	69.7	68.7	69.5
201 – 500	81.4	82.5	76.2	77.4	80.6	81.8
501 and above	93.3	93.5	82.1	86.3	91.7	92.6
Average	16.6	54.1	15.4	47.1	16.3	53.0

Notes: Presence refers to the share of establishments with a works council. *Coverage* denotes the share of employees working in an establishment with a works council.

Source: IAB Establishment Panel, Waves 8 (western Germany) and 5 (eastern Germany), 2000.

Table 2

Distribution and Coverage of Works Councils by Sector in 2000

(in percent, establishments with five employees or more)

Sector	western Germany		eastern Germany		Germany	
	Presence	Coverage	Presence	Coverage	Presence	Coverage
Public sector	62.9	88.9	67.4	90.2	63.5	89.2
Private sector (incl. Agriculture)	12.4	47.5	11.8	37.0	12.3	45.8
Manufacturing (incl. Construction)	13.4	58.2	8.7	36.4	12.4	54.9
Private services	11.8	40.0	14.3	39.7	12.2	40.0
All sectors	16.6	54.1	15.4	47.1	16.3	53.0

Note: See notes to Table 1.

Source: IAB Establishment Panel, Waves 8 (western Germany) and 5 (eastern Germany), 2000.

Table 3: **Distribution of Works Councils by Establishment Size and Sector in 2000**
(share of establishments with five employees or more that have a works council, in percent)

Establishment size interval (number of employees)	Western Germany			eastern Germany			Germany		
	Manu-facturing	Private Services	Public Sector	Manu-facturing	Private services	Public sector	Manu-facturing	Private services	Public sector
5 − 20	3.0	7.2	51.7	2.7	8.4	46.9	3.0	7.4	51.2
21 − 50	27.5	22.6	75.7	14.2	31.5	78.3	24.3	24.1	76.3
51 − 100	54.6	40.4	84.2	42.9	46.5	94.5	52.4	41.5	85.7
101 − 200	62.0	64.7	95.4	67.3	62.1	100.0	62.9	64.3	96.2
201 − 500	85.3	71.2	93.3	79.4	67.8	97.9	84.7	70.6	94.0
501 and above	93.9	88.0	99.5	85.3	77.8	87.3	93.3	86.5	96.7
Average	13.4	11.8	62.9	8.7	14.3	67.4	12.4	12.2	63.5

Source: IAB Establishment Panel, Waves 8 (western Germany) and 5 (eastern Germany), 2000.

Since the public sector can be regarded as a special case where works councils are more or less part of the organization (and bureaucracy), it may be sensible to concentrate on the private sector and on employees' decisions to establish a works council there. The broad picture regarding works council presence and coverage in the private sector of the German economy at the start of the new millennium can be summarized as follows: works councils are elected in only one of every eight establishments, although this frequency increases with establishment size. It is larger for manufacturing than services in western Germany, and conversely for eastern Germany. But the positive relation between establishment size and works council presence means that the number of workers covered by councils is greater than the incidence of councils: no less than 47.5 (37) percent of all employees in western (eastern) Germany are working in works council establishments.

3. The Determinants of Works Council Presence

Why is it that so many establishments that could have a works council under the law do not in practice have one? Even if elections of works councils are neither mandated nor automatic, in a council-free regime all that is strictly necessary to bring about an election and thence a works council is for a small group of at least three employees (or a union that claims to have at least one member in the plant) to call for a works meeting where an electoral board will be elected which will in turn call the election, implement it, and announce the result. The requirements are hardly onerous. Given the far-reaching codetermination rights of the works council, the interesting question is why some establishments but not others are covered by the institution.

The first answer to this question can be found as a byproduct of the inquiry by FitzRoy and Kraft (1987) into works councils' efficiency effects. The authors estimated a probit equation for the probability of observing a works council using a small sample of 61 / 62 firms in the metal working industry in 1977 / 79. They found that the probability of works council presence significantly increases with the number of employees and is lower in urban locations.

Based on a much larger sample of 1,867 firms in the private sector in 1987, Frick and Sadowski (1995) presented (without further amplification) a logistic regression in which the dependent variable is a works council dummy. They reported that works councils are more likely the larger / older the firm and the more qualified its workforce. Firms experiencing greater difficulty in recruiting qualified personnel and those with large swings in labor demand were also found to be more likely to have a works council. Conversely, works councils were less likely to be observed the higher the share of female workers and the greater the proportion of part-timers in the workforce.

In a comprehensive study that focuses on the determinants of works council presence, Addison, Schnabel, and Wagner (1997) use data from a regional sample of manufacturing establishments in Lower Saxony, namely, the Hannover Firm Panel.[4] Employing data from the first wave of the panel, administered in 1994, the authors link works council presence to *structural, worker composition,* and *participation* variables. The key structural regressors are firm size (and its square), firm age, branch plant status, and a detailed set of (30) industry dummies. Our earlier descriptive material has already flagged the likely importance of establishment size. There are a number of factors that would lead us to anticipate a positive association between size and works council presence. Most important perhaps is the fact that the formal authority of the works council is increasing in establishment size, thereby providing an increased incentive for workers to elect a council in these circumstances. Governance considerations in larger plants might also lead both sides to embrace the institution. Less positively, the more routinized and regimented work settings commonly attributed to larger establishments might encourage workers to demand works councils on defensive grounds. For its part, branch plant status might capture any demonstration effect that the existence of a works council in a parent firm might have on its affiliate. Older plants might be more likely to have councils because of their more established traditions of collective representation, and / or different managerial ethos and type of workers.

Addison, Schnabel, and Wagner argue that certain characteristics of the workforce (and the workplace) may be expected to index a taste for representation on the part of employees. As cases in point, they identify the proportions of blue-collar workers, shift workers, females, and part-timers. It is postulated that the two former (latter) variables are likely to be positively (negatively) associated with works council presence for reasons that reflect both worker choice and organizational stability considerations.

Finally, the authors seek to test the argument that both direct and indirect participation variables – in the form of dummies for teamworking and profit sharing, respectively – might represent a substitute in the eyes of the workforce for the machinery of the works council, even if one of the functions of the works council encompasses codetermination rights in the implementation of such arrangements. They also consider profit-sharing schemes for managers, to test one aspect of the management pressure hypothesis advanced by FitzRoy and Kraft (1987, 1990) that such schemes will encourage management to seek compromise and thereby lessen the need for workers to elect works councils on defensive grounds.

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[4] The population of the (four-wave) Hannover panel is all manufacturing firms with at least 5 employees. The sample of establishments is stratified by firm size, with oversampling of larger plants. The first wave of the panel contains data on 1,025 establishments. For further information on this and the remaining three waves, see Brand, Carstensen, Gerlach, and Klodt (1996).

Addison, Schnabel, and Wagner present probit estimates for the total sample of establishments and for a subsample of plants with 10 – 249 employees, within which interval works council incidence runs the full gamut. Across both samples, there is a consistent relation between the structural variables and works council presence. That is, the probability of there being a council increases with establishment size (albeit at a decreasing rate), and is also greater if the establishment is a branch plant or if it was established prior to 1960. As far as the taste for collective representation variables are concerned, these all behave in the expected manner, but only one of these – namely, the inverse indicator provided by the share of female employees – is statistically significant throughout. The effect of the participation variables is interesting in that there is some suggestion that teamworking in particular is associated with a reduced probability of observing a works council. The same is true for the employee profit-sharing variable although in this case the coefficient estimate is poorly determined across both samples. As far as profit-sharing schemes for managers are concerned, these do not appear to reduce the likelihood of works council presence; if anything the evidence is to the contrary.[5]

The present empirical inquiry seeks to extend our former analysis, using data from the IAB Establishment Panel. Unlike its Hannover counterpart, this panel is nationally representative, covers sectors other than just manufacturing, and offers more recent data. Although our empirical strategy follows the lines of our earlier study, the specification of our empirical model will differ somewhat from it, reflecting both data limitations and advantages of the IAB panel.

Commonalities include a quadratic in *establishment size,* a *branch plant* dummy, the percentages of *blue-collar, part-time, and female workers,* a dummy variable indicating whether or not the establishment has a *profit sharing system for employees,* and a set of *industry dummies*. Our priors as regards the ceteris paribus impact of these regressors have been discussed above.

Although *establishment age* is also included in the new model, its definition is different than before. We can no longer define older firms as those established before 1960 because we include firms from the new federal states in eastern Germany, most of which were founded (or subject to major restructur-

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[5] It should also be noted that the authors include a performance indicator – namely, an index of establishment profitability – in the estimating equation. If works councils offer a vehicle for appropriating rents, higher profitability may lead to works council formation. On the other hand, successful rent seeking behavior may be manifested in lower profitability, producing an oppositely signed coefficient estimate for the performance indicator. As it happens, the association is both negative and also well determined. However, the authors caution against simplistic rent seeking interpretation of this finding given the cross section nature of the estimation, and instead choose to emphasize that inclusion of the profits variable does not qualitatively alter any of the other results.

ing) after unification in 1990. We now identify a young firm as one founded in 1995 or later. For the reasons noted earlier, we anticipate a negative impact of this (dummy) variable on works council presence. Furthermore, conventional wisdom decrees that the decline in works council presence in Germany is in part due to the fact that employees in newly established firms (notably, in the so-called 'new economy' and in several service sectors) do not elect works councils. Including a dummy for young firms allows us to test this conjecture.

Information on the percentage of shift workers, as well as the presence or otherwise of teamwork and profit sharing schemes for managers is not available from the current (2000) wave of the IAB panel. Furthermore, we did not include the current profit situation as a regressor, reflecting potential endogeneity problems. However, we introduce four new establishment characteristics and one regional variable to augment our earlier empirical treatment. First, information on the *legal status of the firm* is used. We deploy a dummy variable that takes the value of one if an establishment is a family-name business (*Einzelunternehmen* or *Personengesellschaft*). Typically, such firms are run by the owners themselves, and in a paternalistic manner. Often these 'old-fashioned capitalists' are hostile to works councils (and unions), and may manage to convince employees not to make use of their legal right to elect a works council. Accordingly, we expect a negative influence of this variable on works council presence. Second, we identify a *foreign ownership* variable, which assumes the value of one if the establishment is foreign owned (either entirely or in an amount exceeding 50 percent of equity), zero otherwise. Here we have no single valued expectations. On the one hand, there is abundant anecdotal evidence suggesting that multinational corporations headquartered in, say, the United States or Japan often regard the German system of industrial relations as a locational disadvantage (or *Standortnachteil*). To this extent, they may attempt to avoid the election of a works council. On the other hand, it might well be the case that foreign firms that decide to operate facilities in Germany do not share this vision, or that the employees of foreign-owned plants elect a works council as a defensive mechanism. In any event, given the palpable lack of hard evidence on the issue, inclusion of this variable is important in its own right. Third, we include a variable indicating whether or not an establishment is *covered by a collective agreement* with a union, governing pay and working conditions. The fact that works councils play a key role in monitoring the implementation and functioning of collective agreements inside the establishment would lead us to expect a positive association between these two worker representation institutions.[6] Fourth, we include a variable indicating the presence (or otherwise) of an *employee share ownership scheme*. This dummy complements the profit sharing regressor and is justified on the same grounds.

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[6] For an interesting game-theoretic discussion of the joint determination of membership of an employers association and works council presence, see Hübler and Jirjahn (2001).

Last but not least, we include a dummy variable that takes the value of one if the establishment is located in *eastern Germany,* and zero for the case of western Germany. Given that we control for establishment age, and in the light of the descriptive results provided in section II, it follows that we have no distinct priors regarding the ceteris paribus effect of an eastern German location on the probability of observing a works council.

As a first step, the empirical model was estimated across all establishments with five or more employees in the IAB panel for which information on each variable is available.[7] Estimates for Germany as a whole, and for eastern and western Germany, are remitted to the Appendix Table. It emerges that the statistically significant coefficient estimates do not differ in sign as between the two regions, and that use of a simple east-west (shift) dummy suffices to describe regional differences. Further, since the descriptive material provided in section II indicates that the public sector differs fundamentally from the private sector in works council incidence, we propose to narrow our focus in what follows by concentrating solely on the findings for private-sector establishments (excluding agriculture).

Probit estimates for the entire private sector and its manufacturing and service sector components are given in Table 4. It is apparent that the determinants of works council presence differ as between manufacturing (including construction) and services. But the big picture at least is the same for establishments from both sectors with respect to *firm size.* Here, we observe the familiar concave relation between number of employees and the probability of observing a works council (see Addison, Schnabel, and Wagner, 1997).[8] The same holds for the impact of *branch plant status, establishment age,* the *legal status of the firm, foreign ownership,* and *coverage by a collective agreement.* In each sector, and in accordance with our priors, the probability of works council presence in young establishments and family-name firms is lower, and it is higher in branch plants and in establishments covered by a collective agreement, ceteris paribus. Note that foreign-owned firms evince a higher probability of having a works council in manufacturing and construction. This particular result might come as a surprise to many, given popular opinion.

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[7] While the descriptive information on works council incidence and coverage is based on weighted data (taking care of the sampling frame using strata for 16 industries and 10 size classes), the econometric investigation in this and the following section uses unweighted data and all empirical models include the stratification variables (i.e. industry dummies and establishment size); see Winship and Radbill (1994) for a discussion.

[8] Taken literally, the estimated coefficients from our empirical model point to an inverse U-shaped relation between the number of employees and the probability of works council presence. Accordingly, this probability should decline after some establishment size threshold. However, only a handful of plants in our sample have more employees than the estimated maximum value of this quadratic in employment size. It follows that the results should only be interpreted as indicating that works council presence increases with firm size but at a decreasing rate.

Table 4

Probit Estimates of Works Council Presence in the Private Sector

(excluding agriculture and not-for-profit organizations)

Variable	Private sector	Manufacturing / Construction	Private services
Constant	0.2879	−0.0180	−0.3735**
	(1.79)	(−0.09)	(−2.80)
Establishment size	0.0033**	0.0061**	0.0024**
(*number of employees*)	(10.65)	(8.13)	(6.64)
Establishment size squared	−7.86 e–08**	−1.46 e–07**	−1.91 e–07**
	(−10.64)	(−8.10)	(−6.83)
Branch plant (*dummy: 1 if yes*)	0.6140**	0.6597**	0.5808**
	(13.64)	(8.16)	(10.35)
Establishment age	−0.2386**	−0.2542**	−0.1652*
(*dummy: 1 if < 6 years*)	(−4.13)	(−2.68)	(−2.11)
Legal status of the firm	−0.6420**	−0.4680**	−0.8051**
(*dummy: 1 if family-name firm*)	(−16.01)	(−7.66)	(−12.94)
Foreign ownership	0.2910**	0.5014**	0.0844
(*dummy: 1 if foreign owner*)	(3.91)	(3.70)	(0.81)
Covered by a collective agree-	0.9172**	0.8893**	0.9103**
ment (*dummy: 1 if yes*)	(23.48)	(14.72)	(16.38)
Blue-collar workers	−0.0048**	−0.0002	−0.0069**
(*percentage*)	(−7.19)	(−0.19)	(−8.48)
Part-time workers (*percentage*)	−0.0025*	−0.0165**	0.0013
	(−2.15)	(−4.47)	(1.07)
Female workers (*percentage*)	−0.0022**	−0.0011	−0.0036**
	(−2.58)	(−0.74)	(−3.39)
Profit sharing scheme for	0.1500**	0.3149**	−0.0272
employees (*dummy: 1 if yes*)	(2.88)	(3.72)	(−0.38)
Employee share ownership	0.3422**	0.3892**	0.2778*
scheme (*dummy: 1 if yes*)	(4.07)	(2.68)	(2.54)
Eastern Germany (*dummy*)	−0.1165**	−0.2955**	0.1077*
	(3.26)	(−5.40)	(2.08)
Industry dummies	yes**	yes**	yes**
n	8,688	4,403	4,285
Pseudo R^2	0.3830	0.4675	0.3441

Notes: Heteroscedastic-consistent *t*-values in parentheses. **,* denote statistical significance at the 0.01 and 0.05 levels, respectively.

Source: IAB Establishment Panel, Waves 8 (western Germany) and 5 (eastern Germany), 2000.

Material differences between services and the rest of the private sector are found for variables that reflect workforce composition, namely, the shares of *blue-collar workers, part-time workers,* and *female workers.* For manufactur-

ing establishments, only the negative effect of an increasing share of part-time workers on works council presence is statistically significant at conventional levels. And for the sample of service-sector establishments only the directional influence of the share of female workers is as anticipated (and statistically significant). Expressed another way, the coefficient estimate for the share of part-time workers is positive (albeit insignificant), while the probability of observing a works council actually decreases as the proportion of blue-collar workers increases. We have no explanation for the latter seemingly perverse result.

As regards the effect of the (indirect) participation variables – namely, employee *profit sharing* and *employee share ownership* schemes – the evidence is also contrary to that reported in Addison, Schnabel, and Wagner (1997). That is to say, the availability of share ownership mechanisms is associated with an increased likelihood of observing works councils in both sectors. The same obtains for profit sharing, at least in manufacturing. One possibility is that firms with works councils, and perhaps more importantly works councilors themselves, have become less averse to such employee involvement schemes in recent years, and that this development has dominated any opposing tendency for such schemes to function as an alternative to the mechanism of representative employee involvement.

A final result is that the regional influence is not constant as between sectors. Being located in eastern Germany increases the probability of works council presence in service-sector establishments while the opposite result holds for their manufacturing counterparts.

4. New Works Councils: Extent and Determinants

The works councils examined earlier may have been in existence for many years. It is important to ascertain whether the same set of arguments identified there apply in respect of new or recently established councils, not least because the government is attempting to increase their number. Accordingly, we next consider the determinants of newly-established works councils, and in the process augment our probit estimates with some simple simulations.

To the best of our knowledge, this issue has nowhere been examined in the literature.[9] Empirical evidence on formation is important, not least because a

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[9] Note, however, that it is touched upon in our earlier study of the effects of works councils on firm performance; see Addison, Bellmann, Schnabel, and Wagner (2003). There, we applied a propensity score based Mahalanobis-distance approach to match plants, using a probit model of works council introduction to compute the propensity score. Furthermore, in a paper given at the same workshop in which we presented an earlier version of the present paper, Dilger (2002) provides a Logit analysis of newly-founded works councils, using data from the NIFA-panel covering firms in the German mechanical engineering industry.

central aim of the German government in revising the Works Constitution Act was to foster the introduction of works councils in small firms and thereby shrink the size of the 'codetermination-free zone' (see section I).

Information on works council presence for establishments in western and eastern Germany is available from the 1996, 1998, and 2000 waves of the IAB establishment panel. Comparing establishments in 1996 and 1998 (and those in 1998 with 2000) one can identify plants reporting no works council in the base year(s) that experienced the introduction of the entity sometime within the next two years. Thus, of the 2,321 plants participating in both the 1996 and 1998 waves that reported no works council in the former year, 121 (or 5.21 percent) claimed to have a council in 1998. The corresponding values for the 1998 and 2000 waves are 2,563 and 145 (or 5.66 percent), respectively.

In what follows, we use probit estimates of works council introduction to investigate the distinguishing characteristics of plants with recently established councils. In the empirical model, we also look at the ceteris paribus effects of variables (measured in the base year of each of the two periods, 1996/98 and 1998/2000) that might be considered as potential determinants of works council formation.

As was the case for works council presence, our main regressors capture structural and worker compositional elements. The former comprise a quadratic in *establishment size, branch plant status, establishment age* (not available in 1998), the *legal status of the firm, covered by a collective agreement,* location in *eastern Germany,* and *industry* affiliation. Justification for these arguments is identical to that provided earlier. Again as before, the worker compositional variables are intended to proxy a taste for collective representation on the part of employees. The variables in question, the proportions of *blue collar, part-time,* and *female workers,* are on this occasion supplemented by the share of *shift workers* (available in 1996 and 1998 only).

Moreover, given the popular belief that works council introduction may reflect a defensive reaction on the part of workers to some form of workplace crisis, we include a measure of the establishments *profit situation.* This subjectively defined variable takes the value of one if the management respondent reports the profit situation to be either 'very good' or 'good', zero otherwise. Although this financial performance variable might suffer from various shortcomings, we consider it a valid indicator of overall business conditions in the establishment.[10]

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[10] In analyzing works council formation, lack of information on employee profit-sharing schemes/stock ownership plans and foreign ownership in the 1996 and 1998 waves precluded use of these variables, each of which were employed in modeling works council presence (see Table 4).

For the period 1996/98 information for each of the above variables is available for 1,950 establishments; 80 of which introduced a works council. For 1998/2000, the corresponding values are 2,294 and 109 plants.

Table 5

Probit Estimates of Works Council Introduction

Variable	No works council in 1996, but one in 1998	No works council in 1998, but one in 2000
Constant	−1.3999** (−3.04)	−1.0266** (−3.56)
Establishment size (*number of employees*)	0.0037** (4.13)	0.0010* (2.19)
Establishment size squared	−2.48 e−6* (−2.52)	−9.06 e−8 (−1.14)
Branch plant (*dummy: 1 if yes*)	0.6210** (4.69)	0.5813** (4.68)
Establishment age (*dummy: 1 if < 6 years*)	0.1183 (0.94)	[not available]
Legal status of the firm (*dummy: 1 if family-name firm*)	−0.3568** (−2.71)	−0.3928** (−3.55)
Covered by a collective agreement (*dummy: 1 if yes*)	0.2324 (1.82)	0.3239** (3.21)
Blue-collar workers (*percentage*)	0.0033 (−1.59)	0.0029 (1.50)
Part-time workers (*percentage*)	−0.0012 (−0.42)	−0.0017 (−0.64)
Female workers (*percentage*)	−0.0029 (−1.18)	0.0006 (0.25)
Shift workers (*percentage*)	0.0031 (1.42)	[not available]
Profit situation (*dummy: 1 if 'very good' or 'good'*)	0.0061 (0.05)	0.0571 (0.57)
Eastern Germany (*dummy*)	−0.4155** (−3.23)	−0.1211 (−1.21)
Industry dummies	yes	yes**
n	1,950	2,294
Pseudo R^2	0.150	0.129

Notes: Heteroscedastic-consistent t-values in parentheses.

** , * denote statistical significance at the 0.01 and 0.05 levels, respectively. All variables are for the first year indicated, either 1996 or 1998.

Source: IAB Establishment Panel.

Results of fitting the probit regressions to the data for 1996/98 and 1998/2000 are provided in Table 5. In both periods, there is a positive association between establishment size, branch plant status and coverage by a collective agreement, and works council formation. There is also a consistently negative relation between legal status and works council introduction. Both sets of result are in line with our priors.

Contrary to folklore, there is no suggestion that overall business conditions (i.e. profit situation) matter in either period. The same holds for each of the four worker composition variables, and also for the establishment age argument (included in the 1996/98 estimation alone for reasons of data availability).

For its part, location in eastern Germany reduces the probability of works council introduction. However, this effect is statistically significant at conventional levels only for the first period investigated.

Up to this point our discussion has devolved on issues of the *statistical* significance of the estimated coefficients and the directional influence of the covariates. But information on the extent of this influence – the issue of *economic* significance – is even more important. Although a variable that has no statistically significant impact can be ignored from an economic point of view, the opposite is not true. That is to say, a variable that is highly statistically significant might have no material impact. Thus, for example, if the estimated probability of observing the introduction of a works council diminishes by 0.1 percent when plant size falls from 250 to just 20 employees, we can ignore plant size in any discussion of works council introduction, irrespective of a high level of statistical significance indicated by the prob-value.

Unfortunately, the estimated coefficients from a probit model cannot easily be used to make statements about the size of the ceteris paribus effect of a change in the value of an exogenous variable on the value of the endogenous variable because the size of the effect depends on both the starting level of the exogenous variable under consideration *and* on the values of all other variables in the model (see Long and Freese, 2001, 87 ff.). One way to ease interpretation of the estimates is to construct a limited number of types of plant, using different values of selected variables that are both statistically significant and economically important while fixing the values of the other variables in the empirical model at their sample means in the case of continuous variables or at the most common frequency for dichotomous variables.

To examine the economic significance of three of the variables found to be statistically significant throughout – namely, establishment size, coverage by a collective agreement, and legal status – we perform a simulation that follows this procedure. That is, we shall consider a hypothetical plant with certain characteristics, compute the probability of works council formation for this plant based on the relevant coefficient estimates (reported in Table 5), and

then manipulate the value of the variables under consideration sequentially so as to illustrate their ceteris paribus impact.

The simulation uses the results for 1996 / 98, reported in the second column of Table 5. The hypothetical plant 1A has 20 employees, is a family-name business, and is not covered by collective agreement. Furthermore, this plant – and indeed all the other hypothetical establishments considered here – is not a branch plant; it is not a young plant; it has neither a 'very good' nor a 'good' profit situation; it is located in western Germany and operates in the reference group industry; and has proportions of blue-collar, part-time, female, and shift employees that are fixed at their sample means. The estimated probability of introducing a works council for Firm 1A is a tiny 0.025. Changing the legal status of the establishment firm (call this establishment type 2A) increases the probability to 0.054. Despite the very considerable increase in the likelihood of observing a new works council, it remains the case that the probability value is low. In plant type 3A – identical to establishment 2A in all respects other than it being covered by a collective agreement – the probability of works council formation is 0.084, much higher than that for establishment type 2A but still rather modest.

To illustrate the contribution of establishment size, we compare our three types of plants (1A, 2A, and 3A) with otherwise identical establishments that have 250 (rather than 20) employees, and which we duly designate as 1B, 2B, and 3B. The estimated probabilities of observing works council introduction for this group are 0.102, 0.181, and 0.248, respectively. These are considerably higher values than were obtained for the smaller comparators. As was the case for legal status and collective agreement coverage, establishment size is an important determinant of council formation. Equally, however, the magnitude of the absolute values indicate that the introduction of a works council is expected to be a rare event not only in small plants but also in medium-sized establishments too.

5. Concluding Remarks

This paper has provided the most comprehensive information to date on the incidence and coverage of German works councils by establishment size class and by broad sector and region. Furthermore, it has offered an analysis of the determinants of works council presence, supplementing this with information on the frequency of new councils and the factors underpinning their formation.

Our basic findings are threefold. First of all, works councils are far from ubiquitous in the firmament of smaller establishments. In 2000, only 9 percent (30 percent) of all establishments with 5 – 20 employees (21 – 50 employees) had a works council. The values are even lower when we single out the private

sector. Given that smaller plants comprise a large fraction of the total, works councils are found in just 12.3 percent of German private sector-establishments with 5 or more employees. Nevertheless, reflecting greater works council penetration in larger establishments, a much higher proportion of German workers than German plants are covered by works councils: 45.8 percent in the private sector, and 89.2 percent in the public sector.

Second of all, works council presence is not random. Most importantly, in the private sector it tends to be positively related to establishment size and coverage by a collective agreement, and it is much lower in family-name businesses.

Finally, the introduction of a new works council is observed in less than 6 percent of all establishments in the IAB panel between 1996 (1998) and 1998 (2000). The probability of observing new councils is positively related to establishment size and coverage by a collective agreement, and it is again much lower in family-name undertakings.

Given the scarcity of detailed, representative, and contemporary information on works council frequency, the descriptive evidence provided here has intrinsic worth. Furthermore, it is relevant for at least two other reasons. Thus, the nonrandom nature of works council presence / formation means that potentially serious biases characterize point estimates of the work council effect on firm performance derived from OLS estimation. With a few exceptions – the two most recent examples being the very different methodological approaches of Hübler and Jirjahn (2001) and Addison, Bellmann, Schnabel, and Wagner (2003) – the literature has tended to treat works councils as exogenous. Moreover, the rare events nature of works council introduction in hitherto uncovered plants, and the core role of establishment size in this regard, make it improbable that the central aim of the new Works Constitution Act will be met. That aim is to shrink the extent of the codetermination free zone, which is largely made up of smaller establishments. Further, given the important role of bargaining coverage in determining works council presence, the steadily falling number of establishments covered by collective agreements reported by Kohaut and Schnabel (2003) is scarcely conducive to an increase in the incidence and coverage of works councils and shrinkage of this works council free zone.

Time will tell whether or not the legislative changes and the intensive PR campaign of the union movement will lead to a large number of new works councils in small and medium-sized establishments. Based on our findings, we doubt this will happen. But we plan carefully to monitor such developments – and the economic effects of new councils – in future work.

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Appendix Table

Probit Estimates of Works Council Presence

Variable	Germany	western Germany	eastern Germany
Constant	−1.0624**	0.1121	0.3401
	(−7.75)	(0.56)	(1.32)
Establishment size *(number of employees)*	0.0032**	0.0039**	0.0032**
	(11.79)	(7.50)	(8.78)
Establishment size squared	−7.71e–08**	−9.23e–08**	−6.14e-07**
	(−11.78)	(−7.50)	(−8.52)
Branch plant *(dummy: 1 if yes)*	0.6030**	0.7230**	0.4359**
	(14.51)	(13.38)	(6.35)
Establishment age *(dummy: 1 if < 6 years)*	−0.2770**	−0.1519*	−0.3871**
	(−4.89)	(−2.14)	(-3.91)
Legal form of the firm *(dummy: 1 if family-owned firm)*	−0.6905**	−0.5425**	−1.0243**
	(−17.37)	(−11.33)	(−11.75)
Foreign ownership *(dummy: 1 if foreign ownership)*	0.2617**	0.1053	0.6626**
	(3.49)	(1.19)	(4.22)
Covered by a collective agreement *(dummy: 1 if yes)*	0.9758**	0.8707**	1.0576**
	(26.66)	(17.43)	(18.57)
Blue-collar workers *(percentage)*	−0.0060**	−0.0066**	−0.0053**
	(-9.50)	(−7.96)	(−5.45)
Part-time workers *(percentage)*	−0.0033**	−0.0011	−0.0062**
	(−3.52)	(0.85)	(−4.37)
Female workers *(percentage)*	−0.0021**	−0.0049**	0.0021
	(−2.69)	(−4.73)	(1.73)
Profit sharing scheme for employees *(dummy: 1 if yes)*	0.1100*	0.0173	0.3703**
	(2.12)	(0.28)	(3.70)
Employee share ownership scheme *(dummy: 1 if yes)*	0.3005**	0.3555**	0.1302
	(3.67)	(3.45)	(0.90)
Eastern Germany *(dummy)*	−0.1201**	–	–
	(3.64)		
Industry dummies	yes**	yes**	yes**
n	10,515	6,498	4,017
Pseudo R^2	0.4206	0.4281	0.4388

Notes: Heteroscedastic-consistent *t*-values in parentheses. **, * denote statistical significance at the 0.01 and 0.05 levels, respectively.

Source: IAB Establishment Panel, Waves 8 (western Germany) and 5 (eastern Germany), 2000.