

Uwe Jirjahn
Jens Mohrenweiser
Stephen C. Smith

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**Opening the Black Box of Works Council Elections:
Theory and Evidence on the Factors Influencing Voter Turnout**

Uwe Jirjahn

University of Trier, GLO and IZA@LISER

Email: jirjahn@uni-trier.de

Jens Mohrenweiser

University of Applied Science Stralsund and GLO

Email: jens.mohrenweiser@hochschule-stralsund.de

Stephen C. Smith

George Washington University, GLO and IZA@LISER

Email: ssmith@gwu.edu

Abstract: Works councils have been often thought to contribute to workplace democracy. However, workplace democracy not only requires that works councils have the power to influence management decisions but also that this institution of establishment-level codetermination itself is based on democratic principles and processes. The most basic procedure of workplace democracy is the participation of workers in works council elections. Against this background, our study provides a theoretical and empirical analysis of the factors that are associated with voter turnout in the elections. The study shows that the election procedure, establishment size, atypical employment, learning, type of establishment owner, economic circumstance, and union support have an influence on the turnout rate. We also find evidence that the role of a series of determinants of voter turnout depends on whether or not an establishment is covered by industry-level collective bargaining.

Keywords: Works Council Elections, Voting, Election Procedure, Collective Bargaining, Establishment Size, Atypical Employment, Learning, Ownership, Economic Situation.

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Corresponding Author: Uwe Jirjahn, Universität Trier, Fachbereich IV, Lehrstuhl für Arbeitsmarktökonomik, Universitätsring 15, 54286 Trier, Germany.

1. Introduction

German works councils provide a highly developed mechanism for codetermination at the establishment level. They are among the most important institutions of nonunion worker representation in advanced economies. Compared to their counterparts in other countries, German works councils have acquired quite extensive powers (Jenkins and Blyton 2008). Advocates of works councils regularly point out that this institution of establishment-level codetermination is an important ingredient to workplace democracy (Müller-Jentsch 1995, 2008). Indeed, during the last three decades or so, a large bulk of econometric studies have shown that works councils do have a substantial impact on decision making within establishments (Jirjahn and Smith 2018; Mohrenweiser 2022). Establishments with a works council are characterized, among others, by lower wage inequality, higher employment stability, more provision of training, and a higher propensity to invest in environmentally friendly production processes. They make increased use of equal opportunity practices, family friendly policies, and occupational health and safety measures. These findings conform to the notion that works councils have the power to break with hierarchical structures within establishments that are characterized by autocratic management decisions and workers' conformity to organizational rules and obedience to authority.

However, the power of works councils to influence management decisions and bring in workers' perspectives and interests is only one component of democracy at work. Workplace democracy also requires that works councils themselves are a democratic institution. In this context, the participation of workers in works council elections is one fundamental prerequisite to ensure that codetermination is based on a democratic process. Strong electoral participation of an establishment's workforce is important to hold works

councilors accountable. It contributes to a more representative policy of the works council and increases the council's legitimacy in negotiations with management.

As workers' participation in works council elections is the most basic procedure of workplace democracy, it is crucial to understand the determinants of voter turnout in these elections. This study provides both a theoretical and empirical analysis of the factors influencing voter turnout – the share of an establishment's workers participating in a works council election. Our theoretical discussion suggests that the election procedure, establishment size, atypical employment, learning, type of establishment owner, economic circumstance, union support, and collective bargaining coverage should play a role. The empirical analysis uses well-recognized data from the Institute for Employment Research (IAB) to examine the establishment-level determinants of voter turnout in the 2022 works council elections. Many of the results conform to the theoretical considerations. The empirical analysis also provides evidence that the role of a series of determinants of voter turnout depends on whether an establishment is covered by industry-level collective bargaining.

On a broader scale, understanding the factors that challenge or foster workplace democracy is important as establishment-level codetermination has been shown to have positive spillover effects on the democratic political system in Germany (Jirjahn 2025, 2026). Workers in establishments with a works council show stronger interest in politics (Jirjahn and Le 2024a). They are less likely to lean towards extreme right-wing parties (Jirjahn and Le 2024b) and are more satisfied with the democracy in Germany (Pfeifer 2023).

Our study fills an important research gap in the literature. Previous studies have examined under which conditions works councils are present in establishments (Addison et al. 1997; Jirjahn and Smith 2006; Oberfichtner and Schnabel 2019). However, the literature is almost entirely silent on the factors that influence workers' participation in works council elections.¹ Opening the black box of works council elections deepens our understanding of establishment-level codetermination as it provides insights into democratic processes within establishments. These insights cannot be obtained from examining the determinants of the presence of works councils. Works council elections and the adoption of works councils follow different institutional logics. The adoption of a works council just requires the initiative of at least three workers or a union represented in an establishment. After it has started, the process of implementation follows a mandatory procedure. In a works council election, workers do not vote over whether or not to be represented by a works council. Instead, they vote over the candidates – the works councilors – who represent them in the works council.

The rest of this paper is organized as follows. The next section describes the institutional framework. The third section provides the theoretical background discussion. The fourth section describes the data, variables and methodology. The empirical analysis is presented in the fifth section. The sixth section provides a discussion of results in light of our theoretical considerations. The seventh section concludes.

2. Institutional Framework

Industrial relations in Germany are characterized by a dual structure of worker representation with both works councils and unions (Behrens 2016; Keller and Kirsch 2015; Silvia 2013). Unions negotiate collective agreements that regulate wages and general

aspects of employment contracts. Collective agreements may be negotiated at the firm level or at the industry level. Coverage by an industry-level agreement depends on the employer's decision to become member of an employers' association. Employers covered by a firm-level or industry-level agreement apply the agreement to both union and non-union members.

Works councils provide a highly developed mechanism for participation in decision making at the establishment level. Their rights are defined in the Works Constitution Act (WCA). On some issues, they have the right to information and consultation, in others a veto power over management initiatives, in still others the right to coequal participation in the design and implementation of policy. Their rights are strongest in social and personnel matters such overtime, allocation of working hours, new payment methods, technical devices designed to monitor worker performance, teamworking arrangements, and occupational health and safety.

Works councils are mandatory but not automatic. They shall be elected by the whole workforce of establishments with five or more employees. However, their creation depends on the initiative of the establishment's workforce. A works council can be implemented at any point of time. To introduce the works council, a meeting of the workforce has to be initiated by at least three employees or by a union that has at least one member in the establishment. At this works meeting, the electoral board is determined by a majority vote of those who are present. If the works meeting fails to elect the electoral board or the meeting has been called for but not held, the labor court appoints a board upon petition. After being established, the electoral board organizes the works council election,

counts the votes and announces the results. The cost of the election as well as the cost of operating a works council is borne by the employer.

It is important to note that there is a crucial difference between works council elections and union certification elections in countries such as the United States. A union certification election serves to determine whether workers want a union to represent them. By contrast, a works council election is not about the decision to be represented by a works council. The implementation of a works council follows the procedure outlined above. Workers vote in a works council election just over the candidates – the works councilors – who represent them in the works council.

In establishments with a works council, regular elections must be conducted every four years. The elections are held nationwide in the various establishments on the same year between March 1st and May 31st. The most recent works council elections took place in 2026. In a regular election, the sitting works council appoints the electoral board. The electoral board is responsible for drawing up the electoral roll containing all eligible voters. Apart from managers, all of an establishment's workers who reached the age of 16 are eligible to vote in the works council election. Workers hired from a temporary employment agency also have the right to vote if they are employed in the establishment for more than three months.

The electoral board issues an election note providing information on the place and date of voting, as well as the number of works councilors to be elected. Once the election note has been issued, unions represented in the establishment or workers who are eligible to vote submit their nominations by providing lists of candidates. Candidates can be

nominated if they are 18 years or older and have been employed in the establishment for at least six months.

The works council election is conducted by secret ballot and directly by casting ballot papers, either using the regular or a simplified election procedure. The simplified procedure is mandatory for establishments with 100 or less eligible voters. It is less complex and time-consuming than the regular procedure. The simplified election procedure is characterized by shorter deadlines. Moreover, the simplified election is conducted within an election meeting while the regular procedure is based on ballot box votes. Finally, in the simplified procedure, majority voting applies whereas proportional representation usually applies in the regular procedure. In establishments with 101 to 200 eligible voters, the electoral board and the employer decide whether to use the simplified or the regular election procedure. In establishments with more than 200 eligible voters, the regular procedure must be applied.

3. Theoretical Background Discussion

In what follows, we first discuss the general benefits and costs of participating in a works council election. We proceed by emphasizing that the benefits and costs of voting and, hence, the resulting voter turnout depend on a series of workforce and establishment characteristics.

3.1 The Decision to Vote

Voter turnout is the aggregate result of each eligible individual's decision to vote in an election. That decision has received considerable interest in studies analyzing political elections (Cantoni et al. 2025; Dhillon and Peralta 2002; Edlin et al. 2007; Geys 2006a;

Kawai et al. 2021; Minozzi 2013). Applying a rational choice perspective, an individual will decide to vote if their expected utility from voting is positive; i.e., if the expected benefits of voting outweigh the costs (Downs 1957; Riker and Ordeshook 1968). In its simplest version, the expected utility of voting, R , can be specified as

$$R = pB + D - C \quad (1)$$

where B is the benefit expected to be derived from the success of the individual's favorite candidate, p is the perceived likelihood that the individual's vote will make a difference, D is the benefit to the individual from the act of voting, independently of the outcome of the election, and C is the cost of voting. This theoretical approach has been also applied to union certification elections (Block and Roomkin 1982; Farber 2010, 2015; Florkowski and Schuster 1987).

In our context, the theoretical framework provides a useful tool to think about workers' decisions to vote in a works council election. Component B can be viewed as the expected benefits from improved working conditions that are associated with the favorite candidate winning the election. If a worker has altruistic preferences, he or she not only takes their own benefits into account but also the benefits of other workers within the establishment. The expected benefits depend on the agenda of the favorite candidate and on the candidate's efficacy in negotiations with management.

The perceived likelihood of being pivotal in the election, p , reflects the competitiveness of the election and the number of voters. However, this likelihood does not need to perfectly match the objective probability of making a difference. Factors such as incomplete information, bounded rationality, experiences with past elections, electoral

trust, self-efficacy or overconfidence also influence the formation of a worker's belief about the likelihood of being pivotal.

Component D captures the utility to a worker from participating in workplace democracy in general. For several reasons, a worker can derive utility from the act of voting itself independently of the expected benefits associated with a specific candidate. The worker may participate in the works council election as higher voter turnout strengthens the bargaining position of the council vis-a-vis the employer. The worker may also appreciate the value of workplace democracy and, hence, supports the works council as a democratic institution by participating in the election. Furthermore, voting can provide a sense of efficacy and dignity at work. Moreover, if there exists a social norm of voting within in the workforce, complying with this norm increases utility. The worker avoids social pressure on the one hand and receives recognition from colleagues on the other. In a similar vein, a worker identifying with the broader interests of the working class shares feelings of solidarity and loyalty through voting.

Finally, the cost of voting, C , results from gathering information about candidates and from the time spent in casting a vote. It also captures retaliatory actions of management against workers who participate in the works council election.

The basic insight for our analysis is that the various components of the expected utility of voting can vary according to circumstances and type of worker. Thus, some workers within an establishment vote in the works council election and some don't. Taking into account that establishments differ in their characteristics and the composition of the workforce, voter turnout will vary across establishments. In what follows, we hypothesize that establishment size, the electoral procedure, the share of atypical workers, the broader

industrial relations environment, learning processes, the owners of the establishment, and the economic situation play a role in the share of workers participating in a works council election.

3.2 Establishment Size and Electoral Procedure

Empirical studies routinely show that works councils are more likely to be present in larger establishments (Addison et al. 1997; Addison et al. 2003; Jirjahn and Smith 2006; Kohaut and Schnabel 2025; Oberfichtner and Schnabel 2019). This finding fits the notion that workers implement a works council to overcome the free rider problem associated with exercising voice. If working conditions are workplace public goods, individual worker voice is ineffective in improving the personnel policy of the establishment (Freeman 1976; Freeman and Medoff 1979). While each single worker has to bear the costs of bargaining with the employer, the worker's individual voice has positive external effects on other workers. This entails a free rider problem that is more severe the larger the number of workers. In order to overcome this problem, workers in larger establishments have a particularly strong incentive to implement a works council as a collective voice institution. This collective voice institution aggregates workers' preferences over working conditions and communicates the preferences to the employer.

However, a positive link between establishment size and works council incidence does not imply that the size of the establishment also has a positive influence on voter turnout in works council elections. As detailed in Section 2, the implementation of a works council just requires the initiative of at least three workers or a union represented in the establishment. After it has started, the process of implementation follows a mandatory

procedure. Workers do not vote over whether or not to implement the works council. Instead, they vote in an election just over the works council candidates.

For several reasons, it can be expected that the number of workers even has a negative impact on voter turnout in that election.² First, a larger number of voters makes it less likely that the individual worker's vote will make a difference in the election. Second, the expected benefit from worker representation is to a large extent an improvement in workplace public goods. Thus, the same free rider problem that leads workers to implement a works council as a collective voice institution is likely to negatively affect the individual worker's incentive to participate in the election of works councilors. Workers in larger establishments may also feel that negotiations between works council and management are detached from the workforce implying that the benefits from those negotiations remain unclear. Third, the development of solidarity and a social norm of voting is likely to be more difficult in large establishments where social relationships are more anonymous.

Moreover, the institutional framework suggests a specific role of establishment size. The WCA provides a simplified election procedure that is mandatory for establishment with 100 or less workers. Among others, the simplified procedure provides for a one-time election meeting instead of the regular ballot box voting which is scheduled over multiple consecutive days. The social pressure to participate in the works council election is likely to be higher in the election meeting as everybody attending the meeting can be observed by the other workers. This implies that voter turnout should be higher in establishments where the simplified election procedure is mandatory.

In establishments with 101–200 workers, electoral board and management have a choice over the simplified and the standard election procedure. Thus, it is less clear if we

find a higher voter turnout in this size class. The impact on voter turnout in this size class depends on whether those involved decide to make use of the simplified election procedure.

3.3 Atypical Employment

Like many other OECD countries, Germany has experienced a rise in the share of atypical employment over the past decades (Garz 2013; Eichhorst and Kalleberg 2023; Eichhorst and Tobsch 2013; Keller and Seifert 2013; Neumann 2024; Spermann 2013). Employers increasingly make use of fixed-term, temporary agency and part-time work. While atypical employment contributes to more numerical labor market flexibility, it also leads to heightened labor market segmentation characterized by a primary sector with well-paid, secure jobs and a secondary sector comprising low-paid and insecure jobs. In our context, the question at issue is how atypical employment affects establishment-level codetermination. A series of reasons suggest that a high share of atypical employment within the establishment negatively affects voter turnout in a works council election.

Fixed-term and temporary agency workers are subject to higher job insecurity making them more vulnerable to negative responses and retaliatory actions of managers (Sluiter et al. 2022). Thus, the cost of voting should be higher for these types of workers. In particular, temporary agency workers face a high degree of precarity because of the triangular employment relationship (Hatton 2014). The labor market prospects of temporary agency workers not only depend on the approbation of their worksite employer, but also on the temporary employment agency. If they are branded as “troublemakers”, they lose their current jobs as well as future job opportunities. The temporary employment agency will be reluctant to assign them to new jobs.

Furthermore, fixed-term and temporary agency workers are likely to perceive the benefits from a works council as less important as they have a shorter expected tenure with the current worksite employer than regular workers. The shorter time horizon also implies that fixed-term and temporary agency workers are less likely to develop solidarity with the regular workers in the establishment and feel obliged to comply with the norm of voting.³ These aspects are even more relevant for temporary agency workers than for fixed-term workers who may hope for a prolongation of the employment relationship. While fixed-term contracts are partially used by employers as an extended probation period (Boockmann and Hagen 2008), temporary agency work in Germany rarely serves as a stepping stone and is instead characterized by a strong lock-in effect (Jahn and Rosholm 2026; Kvasnicka 2009).

Part-time work can also be expected to have a negative impact on workers' participation in works council elections. Part-time workers are often concentrated in peripheral jobs and face lower levels of workplace integration (Heywood et al. 2011; Manning and Petrongolo 2008; Matteazzi et al. 2014; Meulders and Plasman 1993). They are more likely to miss out important organizational activities such as team meetings and informal networking with colleagues. Informal networks within the establishment are important for information sharing and the formation of cooperation and solidarity among workers (Koster et al. 2007; Osterloh and Frey 2000; Rotemberg 1994). Limited access to these informal networks implies that part-time workers have less information on the benefits associated with a works council and feel less obliged to comply with the social norm of voting. Moreover, to the extent workers choose part-time jobs to balance work and private life, they may be more involved with their non-work roles and less with their jobs

(Hakim 2002; Kan 2007; Thorsteinson 2003). This means a lower propensity to care about what is going in the establishment and to vote in a works council election.

3.4 The Broader Industrial Relations Environment

The broader industrial relations environment should also play a role in workers' participation in works council elections. Although works councils and unions are formally independent, there are important linkages between these two institutions of worker representation (Behrens 2009; Goerke and Pannenberg 2007). Works councils often help unions recruit new members. Unions in turn provide training and legal advice for works councils. Most salient to our topic, unions strongly promote works council elections and may even propose candidates for the election. For several reasons, this suggests that voter turnout should be higher in establishments where unions have a strong influence. The legal advice provided by unions serves as a protection against retaliatory actions of management. Moreover, unions provide information on the benefits from worker representation and increase workers' awareness that every vote counts in an election (Hepburn and Barling 2001). Unions also foster solidarity so workers are more likely to comply with the norm of voting.

It is important to distinguish between the influence of union support and the influence of collective bargaining coverage. From a theoretical point of view, union support should have a clear positive influence on voter turnout in a works council election whereas the influence of collective bargaining coverage is less clear. On the one hand, coverage by a collective agreement negotiated by unions and employers' associations reduces the distributional conflicts that otherwise had to be solved by works council and management (Freeman and Lazear 1995; Hübler and Jirjahn 2003; Jirjahn 2017). This may allow works

council and management to more easily find solutions which are mutually beneficial to both the workforce and the employer. Such increased effectiveness of establishment-level codetermination could foster workers' propensity to participate in a works council election. On the other hand, collective agreements already provide regulations improving working conditions (Mohrenweiser and Pfeifer 2026). In particular, coverage by an industry-level agreement serves as a self-commitment device signaling to workers that the employer cares about their well-being (Jirjahn 2023). The employer makes this commitment by choosing to become the member of an employers' association and, hence, to be covered by a collective agreement. Better working conditions and the employer's self-commitment imply that workers feel less need to support establishment-level codetermination by voting.

3.5 Learning

Establishment-level codetermination involves an important dynamic dimension. A reciprocal learning process between works council and management implies that the nature and the scope of codetermination change over time. On the one hand, learning enables a works council to develop the ability to understand the production process and the economic situation of the establishment in more detail. To the extent the works council accumulates experience, it can come up with own valuable ideas. On the other hand, the employer may change their mindset and behavior as time goes on. The employer recognizes that codetermination contributes to economic performance and, hence, involves the council in a wider range of decisions. All in all, the WCA provides an institutional framework for building cooperation and reciprocal trust over time (Lorenz 1999). This view is supported in an empirical study by Jirjahn et al. (2011). The age of a works council – the number of years since this institution has been implemented in the establishment – is associated with

a stronger influence on management decisions, a more cooperative relationship with management, a lower quit rate of workers and a higher productivity. Building from organizational learning theory, the authors suggest that lessons from past interactions of works council and management are accumulated within routines that include procedures, conventions and the structure of beliefs. Works council and management gradually adopt routines that lead to favorable outcomes. New works councilors and managers learn the routines through a process of socialization.

Against this background, it can be expected that the age of the works council has a positive influence on voter turnout. To the extent the works council is a well-established institution that is accepted and respected by the employer, workers do not need to fear negative management responses to their participation in the works council election. Moreover, the greater influence of a well-established works council means that establishment-level codetermination yields greater benefits for workers.

In this context, it is important to note that the workforce also plays a role in the learning process. Workers learn about the value of workplace democracy the longer the institution of a works council is in place. Workers make the experience that their voice makes a difference and that they have an influence on what happens at work (Jirjahn and Kiess 2026; Jirjahn and Le 2024a, 2024b). This increases their general support for establishment-level codetermination. Workers participate in the election to strengthen the position of the works council.

3.6 Ownership

Not only learning processes but also the type of owner may influence voter turnout. Previous research has shown that works councils are less likely to be adopted in owner-

managed establishments (Jirjahn and Mohrenweiser 2016). Works councils in owner-managed firms face more employer hostility and attempts to intimidate works council candidates and work councilors (Behrens and Dribbusch 2020, 2024). This evidence fits the notion that owner-managers oppose establishment-level codetermination as it reduces their utility from being the ultimate bosses within the establishment.

However, the implications of owner-managers for voter turnout are ambiguous from a theoretical point of view. On the one hand, employer hostility toward establishment-level codetermination may discourage workers so they are less likely to participate in a works council election. On the other hand, the resistance of owner-managers can lead to a mobilization of workers. The hostility of owner-managers is disproportionately concentrated toward works council candidates. Workers may show solidarity with their candidates by an increased propensity to vote. Indeed, Hertwig and Thünken (2026) provide case study evidence of what they call a boomerang effect. Attempts to obstruct a works council increase the support the council receives from the workforce.

Foreign ownership has also been shown to be a challenge for establishment-level codetermination (Dill and Jirjahn 2017; Heywood and Jirjahn 2014; Jirjahn 2024). Works councils in establishments owned by foreign multinational companies (MNCs) have less influence on decision making and are less likely to develop a cooperative relationship with management compared to their counterparts in domestically owned establishments. These findings conform to the notion that the activities of foreign MNCs involve tensions with the institutional framework of the host country. MNCs tend to implement unified management practices in their subsidiaries that follow company-wide standards. The local works councils of the host country are not involved in the decisions made in the foreign

parent companies. Quite the contrary, foreign MNCs can extract concessions from local workforces by threatening to shift production to facilities in other countries. They have a stronger focus on the short-term profits of their subsidiaries and, hence, are less interested in building long-term cooperative relations with the local workforces (Dill et al. 2016).

Nonetheless, the consequences of foreign ownership for voter turnout are not clear from a theoretical viewpoint. On the one hand, the efficacy of a works council is lower in a foreign-owned establishment so workers may have a reduced incentive to participate in the works council election. On the other hand, workers in a foreign-owned establishment face greater uncertainty and pressure (Dill and Jirjahn 2016). Thus, they have an increased desire for representation to protect their interests. Even though foreign ownership tends to weaken the bargaining power of the works council, workers may participate in a works council election to support an institution that provides some protection of their rights and well-being.

3.7 Economic Situation of the Establishment

Previous research on the adoption of works councils has been concerned with the question of whether workers adopt a works council to participate in the establishment's rents or to protect the quasi-rents they have created by their efforts and human capital investments (Jirjahn 2009, 2010; Mohrenweiser et al. 2012). This question is closely related to the establishment's economic situation. If workers are primarily interested in capturing rents, they are more likely to introduce a council in a prospering establishment. By contrast, if workers are primarily concerned about protecting their quasi-rents, they will introduce a works council in an establishment that faces a poor economic situation. In a shrinking

establishment, workers face the risk that the employer breaks promises made to the workforce and sacks workers unfairly (Machin and Wadhwani 1991).

This line of reasoning has immediate implications for voter turnout in works council elections. If workers want to participate in the establishment's rents, voter turnout should be higher in an establishment with a prospering economic situation. By contrast, if workers are mainly concerned about protecting their quasi-rents, they have an increased incentive to vote in an establishment that faces a poor economic situation.

4. Data, Variables and Methodology

4.1 Data Set

Our empirical analysis uses the IAB Establishment Panel and the Linked Personnel Panel (LPP). The IAB Establishment Panel is a representative sample of establishments (with at least one employee covered by social insurance) from all sectors in the German economy (Ellguth et al. 2014). The IAB is the research institute of the German Federal Employment Agency. The institute contracts with Kantar, a professional survey and opinion research institute, to conduct the interviews. Data are collected on the basis of a questionnaire and follow-up interviews with the owner or top manager of the establishment.

The LPP is an add-on survey to the IAB Establishment Panel (Kampkoetter et al. 2016). This add-on survey consists of a questionnaire for the employer and a questionnaire for the employees. The employer questionnaire has a specific focus on topics related to HRM. In our analysis, we use the 2023 employer survey. The survey is a representative sample of 1,319 private sector establishments in manufacturing and service industries.

For establishments that have a works council and employ 50 or more workers, the 2023 LPP employer survey provides unique information on voter turnout in the 2022 works

council elections. To ensure that information on the determinants of voter turnout pre-dates our dependent variable, we draw the explanatory variables from the 2021 wave of the IAB Establishment Panel. Retaining only those observations which do not have any missing values in the variables used, our estimations sample consists of 155 establishments.⁴

4.2 Variables

Table 1 provides definitions and descriptive statistics of the variables used in the analysis. Our dependent variable is the voter turnout in the 2022 works council election, i.e., the share of the establishment's workers casting a vote in the election. The average voter turnout is 0.709 or 70.9 percent in our data. This number is very similar to those shown by other datasets (Behrens and Brehmer 2026; Kestermann et al. 2022). Nonetheless, while the average voter turnout appears to be relatively high, a standard deviation of 0.165 makes it clear that the variation of voter turnout across establishments is quite substantial. This gives rise to the question of what factors influence voter turnout.

Turning to the explanatory variables, we include a variable for the number of workers in the establishment to examine whether the size of the workforce has an influence on voter turnout. We also include dummy variables for 100 or less workers and 101–200 workers in the establishment to capture the mandatory simplified election procedure and the choice between the simplified and the regular procedure. The establishment's use of atypical employment is accounted for by variables for the shares of part-timers, workers with a fixed-term contract, and temporary agency workers.

Variables for the coverage by an industry-level and a firm-level collective agreement provide information on the broader industrial relations environment. We also have information on whether the works council collaborates with a union. This is an

important indicator of whether the works council receives support by unions. However, while all of the other explanatory variables are drawn from the 2021 wave of the IAB Establishment Panel, information on works council-union collaboration is only available from the 2023 wave of the LPP. Thus, in our analysis, we provide estimations with and without controlling for works council-union collaboration.

To account for the dynamic dimension of establishment-level codetermination (learning), we include a variable for the age the works council – i.e., the number of years since this institution has been implemented in the establishment. Ownership is captured by variables for owner-managers and foreign owners. The economic situation of the establishment is taken into account by variables for a positive profit outlook, strong product market competition, and the growth rate of employment.

Furthermore, we include a series of control variables. The qualification of the workforce is controlled for by variables for the share of apprentices and the shares of highly skilled and unskilled workers with the share of skilled workers being the reference group. Technological factors are captured by the establishment's capital stock and a variable for a modern production technology. Finally, we account for single-site establishments, establishment age, the legal form of the establishment, and the specific industry within the manufacturing and the service sector.

4.3 Methodology

To check whether results are robust to the estimation method, we present the results of three different regression models. As a starting point, we use a simple OLS regression. However, the OLS approach does not take into account that the dependent variable is bound between zero and one. Thus, in the next step, we use a logistic transformation of the

dependent variable in which voter turnout, θ , becomes $\ln[\theta/(1 - \theta)]$. This transformation ensures that predictions of voter turnout remain in the zero-to-one range, while the transformed variable ranges from minus infinity to positive infinity. The transformed voter turnout becomes a linear function of the explanatory variables. As the logistic transformation entails heteroskedasticity, a weighted least-squares regression is performed to take that issue into account (Allen 1981).

Finally, we present the results of a fractional logit estimation. The fractional logit procedure is an alternative method to take into account that the dependent variable is constrained between zero and one (Papke and Wooldridge 1996). It models the conditional mean of θ using a logistic cumulative distribution function: $E[\theta|\mathbf{x}] = \exp(\boldsymbol{\beta}'\mathbf{x}) / [1 + \exp(\boldsymbol{\beta}'\mathbf{x})]$ where $\mathbf{x}$ is the vector of explanatory variables and $\boldsymbol{\beta}$ the vector of coefficients. The coefficients are estimated by maximizing the Bernoulli log-likelihood function (quasi-maximum likelihood estimation).

5. Results

5.1 Initial Estimates

Table 2 provides the initial regression results. Voter turnout in the 2022 works council election is regressed on explanatory variables taken from the 2021 IAB Establishment Panel. Column (1) shows the results of a simple OLS regression, column (2) the weighted least-squares results with the logistic transformation of the dependent variable, and column (3) the results of the fractional logit. The pattern of results is remarkably robust across estimation methods and largely conforms to the expectations derived in the theoretical background section.

The number of workers in the establishment is a significantly negative covariate of voter turnout. However, the quantitative impact is very modest. Considering the fractional logit, an increase in establishment size by 100 workers implies a small decrease in the conditional mean of voter turnout by only 0.15 percentage points.⁵ The other two regressions yield a similar quantitative assessment. The coefficients of the linear OLS regression are generally very close to the marginal effects obtained from the nonlinear fractional logit. The regression with the logit-transformed dependent variable suggests that a 100-worker increase in establishment size is associated with a 0.27 percentage point decrease in voter turnout.⁶

The dummy for establishments where the simplified election procedure is mandatory (i.e., establishments with 100 or less workers) takes a significantly positive coefficient. The magnitude of the coefficient is quantitatively quite substantial. The simplified election procedure is associated with a 12.5 percentage point higher voter turnout. Given the average voter turnout of 70.9 percent in our sample, this means an increase by 17.6 percent.

Considering the variables for atypical employment, the shares of temporary agency and part-time workers emerge with significantly negative coefficients. A 10 percentage point higher share of temporary agency workers is associated with a 4.3 percentage point decrease in voter turnout and a 10 percentage point higher share of part-time workers with a 2.5 percentage point decrease. Taking the average voter turnout in our data again into account, these numbers imply a decrease in voter turnout by 6.1 percent and 3.5 percent, respectively.

The age of the works council (i.e., the number of years since a council has been implemented in the establishment) is a significantly positive covariate of voter turnout. However, the quantitative impact appears to be relatively modest. A 10 year higher age of the council is associated with a 1 percentage point higher voter turnout.

Turning to the variables for the broader industrial relations environment, coverage by an industry-level collective agreement emerges with a significantly negative coefficient. Coverage by an industry level agreement is associated with a 5.5 percentage point lower voter turnout. Evaluated at the mean of our dependent variable, this implies a decrease in voter turnout by 7.8 percent.

As to the economic situation of the establishment, the variables for employment growth and a positive profit outlook take significant coefficients. However, the coefficients point into opposite directions. A positive profit outlook is associated with a higher voter turnout suggesting that a good economic situation increases voter turnout. An establishment with a positive profit outlook has a 10.5 percentage point higher voter turnout implying an increase by 14.8 percent. By contrast, employment growth during the past year is associated with a lower voter turnout. Put differently, poor employment growth is linked to higher voter turnout suggesting that a difficult economic situation increases voter turnout. A 10 percentage point lower employment growth rate is associated with a 2.1 percentage point higher voter turnout implying an increase by 2.9 percent.

The estimates do not provide evidence that ownership plays a role in voter turnout. The variables for owner managers and foreign ownership do not take significant coefficients. Finally, most of the control variables are no significant covariates of voter

turnout. One exception is the variable for single-site establishments which is positively associated with voter turnout.

5.2 Cooperation with a Union

As explained in the theoretical background discussion, an important feature of the institutional framework in Germany is that unions often support works councils and works council elections. However, while all of the other explanatory variables in our analysis refer to the year 2021, information on the collaboration of the works council with a union is only available for the year 2023. Taking into account that cooperation between works councils and unions is typically of a longer-term nature, we include the variable for works council-union collaboration in a further set of regressions to examine the influence on voter turnout.

Table 3 shows the estimates on the variable for collaboration with a union. The other explanatory variables are included but suppressed to save space. The variable for collaboration with a union takes a positive coefficient that is significant in the regressions with the logit-transformed dependent variable and in the fractional logit. Collaboration between the works council and a union is associated with a 4.3 percentage point higher voter turnout. Evaluated at the mean of the dependent variable in our sample, this is an increase in voter turnout by 6.1 percent.

5.3 The Moderating Role of Collective Bargaining Coverage

Finally, we recognize that collective bargaining coverage may not only have a direct but also a moderating impact on voter turnout. A series of studies have shown that the functioning of works councils depends on the coverage by a collective bargaining

agreement (Freeman and Lazear 1995; Hübler and Jirjahn 2003; Jirjahn 2017). The theoretical rationale behind these studies is that collective bargaining coverage reduces distributional conflicts at the establishment level as these conflicts are solved outside the establishment between unions and employers' associations at the industry level. To examine if this moderating role of collective bargaining coverage also plays a role in the determinants of voter turnout, we provide split regressions for establishments with and without collective bargaining coverage.

Table 4 shows the results of separate estimations for establishments covered by an industry-level agreement and establishments not covered by collective bargaining.⁷ We focus on the results of the fractional logit model to save space. The other estimation methods yield very similar results. We exclude establishments with a firm-level agreement from the analysis, as the number of establishments with a firm-level agreement is too small to provide a meaningful separate regression for this type of establishments.

The separate estimations show some interesting differences between covered and uncovered establishments. Temporary agency work is a significantly negative covariate of voter turnout only in uncovered establishments but not in establishment covered by an industry-level agreement. The split regressions also show the role of the economic situation in a more differentiated light. A positive profit outlook is only a significantly positive covariate of voter turnout in uncovered establishments. By contrast, a significantly negative association between employment growth and voter turnout can only be found for covered establishments. Put differently, the split regressions suggest that poor employment growth only leads to higher voter turnout in establishments covered by an industry-level agreement. Furthermore, while our initial regressions did not suggest that ownership plays

a role, the split regressions provide some evidence that foreign ownership is a significantly positive covariate of voter turnout in uncovered but not in covered establishments. Finally, the simplified election procedure is significantly associated with voter turnout only among covered but not among uncovered establishments.

Finally, a series of other variables play a significant role in voter turnout for both types of establishments. The age of the works council is a significantly positive and the share of part-time workers a significantly negative covariate in both covered and uncovered establishments. Establishment size is also a significantly negative covariate in both types of establishments. However, while the association between establishment size and voter turnout remains quantitatively weak in covered establishments, it is quantitatively meaningful in uncovered establishments.⁸ An increase in establishment size by 100 workers is associated with a 0.2 percentage point lower voter turnout in covered establishments whereas it is linked to a 5.4 percentage point lower voter turnout in uncovered establishments.

6. Discussion of Results

Voting is a basic requirement for a functioning democracy. This applies not only to political systems but also to workplace democracy within establishments. Against this background, our study uses an unusually rich data set to examine the determinants of voter turnout in works council elections. Many of the results conform to theoretical expectations.

Our estimates show that the number of workers is negatively associated with voter turnout. The result fits the notion that free rider problems are more severe in larger establishments. However, our split regressions indicate that the severity of the free rider problems depends on the establishment's collective bargaining status. The free rider

problem entailed by establishment size is quantitatively substantial in establishments without a collective bargaining agreement whereas it is quantitatively weak in establishments covered by an industry-level agreement. An explanation for these findings is that industry-level bargaining between unions and employers' associations reduces distributional conflicts at the establishment level and, hence, contributes to cooperative employment relations that enable a works council to play a more productive role benefitting both the employer and the workforce. Such cooperative industrial relations climate may foster the evolution of cohesion, altruistic preferences and a strong social norm of voting implying that establishment size only plays a minor role in the workers' decision to vote.

Our estimates also provide evidence that establishment size plays a role because of the institutional framework. Voter turnout is higher in establishments with 100 or less workers. In these establishments, the simplified election procedure is mandatory. One explanation for the finding is that under the simplified election procedure, workers vote in a one-time election meeting instead of a ballot box voting that is scheduled over multiple consecutive days. Social pressure to vote is likely to be higher in the one-time election meeting. However, in the split regressions, we find a link between the simplified election procedure and voter turnout only in establishments covered by an industry-level agreement but not in establishments without collective bargaining coverage. This finding also conforms to the notion that industry-level bargaining contributes to cooperative industrial relations climate fostering the evolution of a strong norm of voting. This stronger norm of voting implies higher social pressure to vote at the one-time election meeting.

Furthermore, our estimates show that atypical employment is a challenge for establishment-level codetermination. The share of part-time workers is associated with

lower voter turnout. Part-time workers are often less integrated into the social networks within the establishment implying that factors such as complying with the norm of voting play a lesser role in their decision to participate in a works council election. Part-time workers may also have a stronger focus on their private lives and are less involved with their jobs so they have a lower propensity to vote. The employer's use of temporary agency work is associated with lower voter turnout, too. However, that association appears to be confined to establishments that are not covered by a collective bargaining agreement. Temporary agency workers may specifically fear retaliatory actions of management when more distributional issues and conflicts are prevalent at the establishment level. In such situation, an employer may even use temporary agency work to weaken the bargaining strength of the works council in establishment-level negotiations.

Moreover, the dynamic dimension of codetermination plays a role in voter turnout. The age of the works council – the number of years since this institution has been implemented in the establishment – is positively linked to voter turnout. Learning processes among works council and management imply that a works council gains greater influence on decision making within the establishment as time goes on. Thus, workers may perceive greater benefits from voting in an establishment where a works council is in place for a longer time. Learning also implies that workers increasingly recognize that their voice makes a difference and that they have an influence on what happens at work.

Our estimates also provide evidence that the economic situation of the establishment plays a role in voter turnout. However, that role appears to depend on the establishment's collective bargaining status. In establishments without a collective bargaining agreement, a positive profit outlook is linked to higher voter turnout. Workers

appear to support codetermination to participate in the rents of the establishment if distributional issues have to be solved at the establishment level. By contrast, in establishments covered by an industry-level agreement, poor employment growth is associated with higher voter turnout. Workers engage less in rent seeking if distributional issues are to a larger extent solved outside the establishment. Instead, they more strongly support the works council to protect the quasi-rents they have created by their efforts and human capital investments.

While previous research has shown that the presence of owner-managers negatively affects the adoption of a works council, our estimates do not provide evidence of a negative link between owner-managers and voter turnout in works council elections. One reason may be that there are two opposing influences that cancel each other out. On the one hand, workers may fear retaliatory actions of owner-managers who are hostile toward establishment-level codetermination. On the other hand, the resistance of owner-managers to codetermination may lead to a greater mobilization of workers and, hence, to a higher propensity to vote.

Considering the role of foreign MNCs, we find that foreign ownership is associated with higher voter turnout in uncovered but not in covered establishments. Foreign ownership entails greater uncertainty and pressure for workers. This appears to be more severe in establishments that do not have a collective bargaining agreement providing minimum standards for wages and working conditions. Thus, in foreign-owned establishments without a collective bargaining agreement, workers appear to have an increased incentive to support the works council to obtain some protection of their rights and well-being.

Our analysis shows that the broader industrial environment plays an important role in the functioning of establishment-level codetermination. As discussed above, we find evidence that the role of a series of determinants of voter turnout depends on the establishment's collective bargaining status. However, our estimates also show that collective bargaining coverage is directly linked to voter turnout. Establishments covered by an industry-level agreement tend to have a lower voter turnout than uncovered establishments. A collective agreement already provides an improvement of working conditions and may serve as a commitment device signaling that the employer cares about the well-being of workers. Thus, workers may feel less need to support the works council by participating in the election.

Finally, our study makes it clear that it is important to distinguish between the coverage by a collective bargaining agreement and the direct support unions provide to works councils. While the coverage by an industry-level agreement is negatively linked to voter turnout, collaboration between the works council and a union is associated with higher voter turnout. This shows that the support provided by unions is indeed an effective ingredient to strengthening the functioning of establishment-level codetermination.

7. Conclusions

A high voter turnout in works council elections is a basic requirement for workplace democracy. Our study shows that it depends on a series of factors whether this requirement is met. Learning processes play a role. Thus, it takes time till a works council as a democratic institution fully lives up to its potential. The election procedure has an influence, too. A simplified election procedure contributes to a higher turnout rate. By contrast, free-rider problems and atypical employment provide a challenge to a strong

participation of workers in a works council election. The latter finding supports the view that neoliberal policies aiming at more numerical labor market flexibility undermine the functioning of democratic processes within establishments.

Our study also provides evidence that the broader industrial relations environment plays a crucial role in the democratic functioning of establishment-level codetermination. Support by a union is associated with higher voter turnout in a works council election. This conforms to the notion that external legal advice, information provision and strengthening solidarity among workers contribute to workplace democracy.

Moreover, our study shows the role of collective bargaining coverage in a differentiated light. While the coverage by an industry-level agreement is associated with lower voter turnout in a works council election, it appears to mitigate the negative influences of the free-rider problem and atypical employment. We also find some evidence that the influence of economic factors on voter turnout depends on the coverage by an industry-level agreement. If distributional issues are solved by unions and employers' association outside the establishment, workers more strongly support a works council for the protection and generation of rents instead of simply capturing the economic rents of the establishment.

Altogether, our study makes it clear that the functioning of workplace democracy cannot be understood in isolation. Unions and collective bargaining play an important (direct or indirect) role. In this context, it is important to note that there is an ongoing discussion on the erosion of the industrial relations system in Germany (Streeck 2009). Workers' unionization and the collective bargaining coverage of establishments are in decline (Ebbinghaus and Göbel 2014; Ellguth and Kohaut 2021; Fitzenberger et al. 2009).

Our results suggest that this trend negatively affects workplace democracy. Thus, policy measures to strengthen unions and collective bargaining will also strengthen the democratic functioning of establishment-level codetermination.

Finally, we recognize that there is need for further research within this theme. Now that the determinants of voter turnout elections have been examined, it would be interesting to analyze whether the outcomes of works councils depend on share of workers supporting them in the works council elections. Previous research has shown that works councils are not a homogeneous entity (Frege 2002). The heterogeneous impact of works councils on management's decision making is likely to depend on the support they receive by workers in the elections. Examining this hypothesis stands as important future research.

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Table 1: Variable Definitions and Descriptive Statistics

<i>Variable name</i>	<i>Definition (mean; standard deviation)</i>
<i>Dependent variable</i>	
Voter turnout	Share of workers participating in the works council election (0.709; 0.165)
<i>Key explanatory variables</i>	
Establishment size/1000	Number of workers divided by 1,000 (0.356; 1.111).
Mandatory simplified procedure	Dummy equals 1 if the establishment has 100 or less workers and, hence, runs the simplified election procedure (0.245; 0.432).
Facultative simplified procedure	Dummy equals 1 if the establishment has between 101 and 200 workers and, hence, can choose between the simplified and the regular election procedure (0.355; 0.480)
Temporary agency workers	Number of temporary agency workers divided by the number of regularly employed workers (0.034; 0.070).
Fixed-term workers	Proportion of workers with a fixed-term contract (0.051; 0.088).
Part-time workers	Proportion of part-timers (0.134; 0.188).
Works council age	Age of the works council in years (30.761; 17.169).
Cooperation with a union	Dummy equals 1 if the works council strongly collaborates with a union (0.466; 0.501)
Industry-level agreement	Dummy equals 1 if the establishment is covered by an industry-level agreement (0.387; 0.489).
Firm-level agreement	Dummy equals 1 if the establishment is covered by a firm-level agreement (0.206; 0.406).
Positive profit outlook	Dummy equals 1 if the establishment has a very positive outlook on profits (0.155; 0.363).
Employment growth	Difference between the number of workers in 2021 and 2020 divided by the number of workers in 2021 (0.002; 0.109).
High competition	Dummy equals 1 if the establishment faces strong product market competition (0.452; 0.499).
Owner-manager	Dummy equals 1 if the establishment is partially or completely managed by its owners (0.374; 0.485).
Foreign owner	Dummy equals 1 if the establishment has a dominant foreign owner (0.194; 0.40).
<i>Control variables</i>	
Capital	Log of capital stock calculated with the replacement investments and the perpetual inventory method. The calculation based on all available establishment observations in the IAB Establishment Panel (12.319; 4.51).
Unskilled workers	Proportion of unskilled workers (0.197; 0.25).
High-skilled workers	Proportion of workers with a university degree (0.115; 0.148).
Apprentices	Proportion of apprentices (0.044; 0.04).
Limited	Dummy equals 1 if the establishment is a private limited company (0.735; 0.44).
Single-site	Dummy equals 1 if the establishment is a single-site company (0.484; 0.50).

Modern technology	Dummy equals 1 if the establishment uses a modern or state-of-the-art production technology (0.587; 0.49).
Founded before 1990	Dummy equals 1 if the establishment was founded before 1990 (0.600; 0.49)
Industry dummies	Four out of five industry dummies are included. The five industries are: metalworking and electronic industries; other manufacturing industries; retail and transport; services for firms; information and communication services.

Number of establishments = 155. For the variable on cooperation with a union, the number of observations is equal to 146.

Table 2: Determinants of Voter Turnout; Initial Regressions

	(1) <i>OLS</i>	(2) <i>Logistic transformation WLS</i>	(3) <i>Fractional logit</i>
Establishment size/1000	-0.018 (1.89)*	-0.133 (1.82)*	-0.077 [-0.015] (1.94)*
Mandatory simplified procedure	0.118 (3.84)***	0.769 (3.21)***	0.644 [0.125] (4.08)***
Facultative simplified procedure	0.044 (1.50)	0.254 (1.20)	0.217 [0.042] (1.61)
Temporary agency workers	-0.444 (1.97)**	-2.479 (1.74)*	-2.204 [-0.429] (2.21)**
Fixed-term workers	-0.103 (0.67)	-0.047 (0.06)	-0.409 [-0.080] (0.62)
Part-time workers	-0.280 (3.17)***	-1.350 (2.94)***	-1.288 [-0.251] (3.54)***
Works council age	0.002 (1.74)*	0.014 (2.02)**	0.007 [0.001] (1.72)*
Industry-level agreement	-0.057 (1.75)*	-0.639 (2.63)**	-0.283 [-0.055] (1.76)*
Firm-level agreement	-0.007 (0.19)	-0.203 (0.79)	-0.040 [-0.008] (0.23)
Positive profit outlook	0.103 (3.20)***	0.900 (3.83)***	0.539 [0.105] (3.32)***
Employment growth	-0.229 (1.78)*	-1.496 (1.86)*	-1.060 [-0.206] (1.96)**
High competition	0.026 (1.05)	0.281 (1.36)	0.136 [0.027] (1.13)
Owner-manager	0.045 (1.45)	0.249 (1.13)	0.211 [0.041] (1.41)
Foreign owner	0.013 (0.40)	0.042 (0.18)	0.052 [0.010] (0.36)
Capital	0.000 (0.05)	0.000 (0.01)	-0.001 [0.000] (0.05)
Unskilled workers	0.057 (0.98)	0.456 (1.19)	0.263 [0.051] (0.97)
High-skilled workers	0.044 (0.59)	0.207 (0.44)	0.161 [0.031] (0.47)
Apprentices	-0.184 (0.70)	-1.575 (0.82)	-1.002 [-0.195] (0.77)
Limited	0.048 (1.53)	0.249 (1.23)	0.249 [0.049] (1.75)*
Single-site	0.045 (1.81)*	0.366 (2.14)**	0.239 [0.046] (2.05)**
Modern technology	-0.017 (0.69)	-0.264 (1.37)	-0.083 [-0.016] (0.68)
Founded before 1990	-0.002 (0.07)	0.167 (0.77)	-0.008 [-0.001] (0.06)

Industry dummies	Included	Included	Included
(Pseudo) R squared	0.429	0.479	0.047
Number of establishments	155	155	155

The table shows the coefficients. t-values/z-values in parentheses are based on robust standard errors. Average marginal effects for the fractional logit estimates are in square brackets. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 3: Determinants of Voter Turnout; Controlling for Cooperation with a Union

	(1) <i>OLS</i>	(2) <i>Logistic transformation</i> <i>WLS</i>	(3) <i>Fractional logit</i>
Cooperation with a union	0.041 (1.64)	0.361 (2.15)**	0.223 [0.043] (1.91)**
Explanatory variables	Included	Included	Included
(Pseudo) R squared	0.476	0.522	0.052
Number of establishments	146	146	146

The table shows the coefficients. t-values/z-values in parentheses are based on robust standard errors. Average marginal effects for the fractional logit estimates are in square brackets. ** $p < 0.05$.

Table 4: Determinants of Voter Turnout; Fractional Logit Estimates by Collective Bargaining Status

	(1) <i>Industry-level agreement</i>	(2) <i>No collective agreement</i>
Establishment size/1000	-0.103 [-0.020] (3.42)***	-2.904 [-0.536] (2.22)**
Mandatory simplified procedure	0.722 [0.142] (3.31)***	-0.166 [-0.031] (0.44)
Facultative simplified procedure	0.319 [0.063] (1.70)*	-0.336 [-0.062] (1.02)
Temporary agency workers	-1.013 [-0.199] (0.63)	-3.150 [-0.581] (3.05)***
Fixed-term workers	-0.262 [-0.051] (0.43)	-0.178 [-0.033] (0.10)
Part-time workers	-1.304 [-0.256] (2.86)***	-1.714 [-0.316] (3.48)***
Works council age	0.012 [0.002] (2.06)**	0.018 [0.003] (2.25)**
Positive profit outlook	0.243 [0.048] (1.12)	0.723 [0.133] (2.07)**
Employment growth	-1.566 [-0.307] (3.58)***	-0.448 [-0.083] (0.44)
High competition	-0.127 [-0.025] (0.77)	0.245 [0.045] (1.12)
Owner-manager	0.173 [0.034] (0.80)	0.197 [0.036] (0.79)
Foreign owner	-0.258 [-0.051] (1.58)	0.515 [0.095] (1.90)*
Control variables	Included	Included
Pseudo R squared	0.071	0.069
Number of establishments	60	63

The table shows the coefficients. z-values in parentheses are based on robust standard errors. Average marginal effects are in square brackets. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Endnotes

¹ The only exceptions are two exploratory studies by Stettes (2011) and Behrens and Brehmer (2026) in the grey literature. Our study goes beyond those studies in several important ways. First, our study develops a theoretical framework on the determinants of voter turnout. Second, using a well-established data set, we consider a more comprehensive set of factors to explain voter turnout. Third, we use proper estimation methods taking into account that the dependent variable – the share of workers participating in the works council election – is bound between zero and one. Fourth, our study provides a unique analysis of how collective bargaining coverage moderates the influence of a series of determinants of voter turnout.

² This corresponds to studies on political elections showing a negative association between population size and voter turnout (Cancela and Geys 2016; Geys 2006b).

³ In a similar vein, studies on political elections suggest that less population stability is associated with lower voter turnout (Cancela and Geys 2016; Geys 2006b).

⁴ The relatively low number of observations is mainly due to two factors. First, as we are interested in the determinants of voter turnout in works council elections we have to limit the analysis to establishments that have a works council. Second, the question on voter turnout was only asked for establishments with at least 50 workers.

⁵ Note that our variable for establishment size is the number of workers divided by 1,000. Thus, we have to multiply the marginal effect of 0.015 with 0.1 to calculate the impact of a 100-worker increase in the size of the workforce.

⁶ In the logit-transformed model, evaluating the marginal influence of an explanatory variable, x , on θ requires multiplying its estimated coefficient, β , by the average voter turnout, $\bar{\theta}$, and its inverse: $\Delta\theta = \beta\bar{\theta}(1 - \bar{\theta})\Delta x$.

⁷ An alternative way to examine the moderating role would be to include variables for the interaction of collective bargaining status with particular explanatory variables. An advantage of

the split regressions is that they provide more flexibility. They also allow for differences in the coefficients for all of the explanatory variables.

⁸ The null hypothesis of equal coefficients is rejected at the 5 percent level ($z = 2.22$).