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Nonunion Employee Representation:
Theory and the German Experience with
Mandated Works Councils

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**Nonunion Employee Representation:
Theory and the German Experience with Mandated Works Councils**

Uwe Jirjahn* and Stephen C. Smith**

Abstract:

Theories of how nonunion employee representation impacts firm performance, affects market equilibria, and generates externalities on labor and society are synthesized. Mandated works councils in Germany provide a particularly strong form of nonunion employee representation. A systematic review of research on the German experience with mandated works councils finds generally positive effects, though these effects depend on a series of moderating factors and some impacts remain ambiguous. Finally, key questions for empirical research on nonunion employee representation, which have previously been little analyzed in the literature, are reviewed.

JEL Classification: J50, M50.

Keywords: Nonunion representation, works councils, organizational failures, market failures, society.

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1. Introduction

Nonunion employee representation can be defined as employees' participation in decision-making within firms through representative agencies. This form of representation plays an important role in corporate governance in many West European countries (Rogers and Streeck 1995). Works councils and/or board level representation are typical institutions of nonunion employee representation in Europe. A key feature of these institutions is that they have the force of law and enforceable regulation. The legally specified employee participation rights vary across countries and can include rights to information, consultation, veto power, joint decision making and codetermination.

Mandated institutions of nonunion employee representation are generally considered strongest in Germany. Other European countries with robust mandates include Austria, Belgium, Denmark, France, and the Netherlands. Policy interventions to implement nonunion employee representation also play a role in some countries outside Europe. In Korea, mandated councils address productivity concerns, employee training, and health and safety issues (Kleiner and Lee 1997). In Canada, mandatory health and safety committees have been introduced in several provinces; furthermore, committees must be set up in case of layoffs and plant closures. Canada's mandatory committees are similar to European works councils (Adams 1985).

There is both a high political and scientific interest in nonunion employee representation. In the U.S., the interest in nonunion representation has been spurred by a sharp decline in union density and the growth of a 'representation gap' (Freeman and Rogers 1999). Much of the political discussion in the US has centered on the idea

of mandating German-style works councils. In Britain, the government has recently published a Green Paper that discusses proposals for board-level employee representation (Department for Business, Energy, and Industrial Strategy 2016). Economists have also shown strong interest in nonunion employee representation. This is documented by a rapidly growing number of econometric studies on the consequences of works councils in the last three decades or so.

This article reviews the literature to date on some key aspects of nonunion employee representation. It synthesizes theories of how nonunion employee representation addresses market and organizational failures, impacts firm performance, affects market equilibria, and generates externalities for labor and society. Moreover, this article provides an overview of econometric studies on German works councils. Discussing the German experience with mandated works councils is interesting for at least two reasons. First, most of the econometric studies on works councils have used data from Germany. Second, works councils in Germany provide a particularly strong form of nonunion employee representation (Jenkins and Blyton 2008). Finally, this article points up some of the key lessons from recent research in the field and proposes some comparatively neglected areas in which there are high needs for future research.

The remainder of the paper is organized as follows. In section 2, we examine the role played by nonunion employee representation in helping to solve organizational failures. In section 3, we systematically review market failures that result in too little provision of nonunion employee representation from the social point of view and the ways that this deficit can be addressed with legislation. In

section 4, we consider that nonunion employee representation can have external social effects, reviewing hypotheses that employee representation may increase environmental and safety investments; and stimulate employees' political or civil society participation. In section 5, we present an in-depth review of the empirical research to date on the German experience with works councils. Section 6 concludes; we propose topics for which new research should be of high benefit.

2. Solving Organizational Failures through Employee Representation

There are two classical theoretical approaches as to why institutions of employee representation can increase firm surplus. On the one hand, employee representation can help improve firms' personnel policy, broadly construed. On the other hand, employee representation can reduce employer and management opportunism. Both theoretical approaches have in common that employee representation helps overcome organizational failures within firms. In what follows we discuss these theoretical approaches in more detail. We also emphasize that employee representation is likely to involve both efficiency and distributional consequences.

2.1 Aggregating and Communicating Employees' Preferences

The first classical approach assumes that the firm's personnel policy can be sufficiently improved upon, if not optimized by a collective voice institution that aggregates employees' preferences and communicates these preferences to the employer (Doucouliagos, Freeman and Laroche 2017; Freeman 1976; Freeman and Medoff 1979, 1984; Smith 1993). A personnel policy that takes employees'

preferences into account not only benefits the workforce, it can also benefit the employer, partly through reduced personnel turnover, and increased employee motivation and “cooperativeness”.

Employees who are not satisfied with the firm’s policies may “exit” (i.e., quit) instead of exercising “voice”. However, the employer does learn less from employees’ exit than from their voice. Exit provides insufficient information on how the firm can improve its personnel policies. The employer may recognize that employees are dissatisfied and that this has negative consequences for retention while finding that the reasons for this remain unclear. This is particularly salient when the preferences of employees who exit differ from the preferences of those who remain with the firm. More generally, Drèze (1976) and Drèze and Hagen (1978) show in a general equilibrium setting that it may be impossible for employees to express their preferences via market mechanisms, operating through “hedonic wages”. A condition is that the number of preferences be greater than the number of working conditions.

Moreover, individual voice may be ineffective in optimizing the personnel policies of firms. While individual voice has positive external effects on other employees, each single employee has to bear the costs of bargaining with the employer. Many working conditions are workplace public goods whose provision are impacted by classical free rider problems. Each employee would have to collect data to support his or her views and incur costs of verifying any claims made by the employer. This reduces the incentive to exert individual voice. Moreover, transaction costs and coordination problems may prevent individual voice from being registered or effective. Specifically, without coordination, it will be difficult for an individual

employee to know the extent to which his or her preferences are shared by other employees. In general, a collective voice institution may be necessary to communicate worker preferences to employers.

Aghion and Hermalin (1990) use the example of employer provision of family friendly practices such as extended maternity leave to illustrate the limitations of individual voice. In their model, asymmetric information can give rise to a signaling equilibrium resulting in an inefficient level of family friendly workplace policies and practices. Female employees differ in their probabilities of becoming pregnant, and therefore differ in their likelihood of being intensive users of family friendly benefits, if they were to be provided. In the pooling equilibrium, neither women with low or high probability of pregnancy express a priority for family friendly benefits: women with low probability of pregnancy place low value on the benefits; and the high probability women anticipate that signaling their higher probability of using these benefits will result in employer sanctions including reduced career opportunities if not outright dismissals.

Such sanctions may be plausible to the extent that the employer underestimates total demand for such benefits from the workforce and fears excessive use by single employees. For example, maternity leave, flexible scheduling, and other practices require fixed costs in their implementation and administration; so to be efficiently provided there must be a minimum number of interested employees. Assuming other employees do not reveal their preferences, each individual has no incentive to signal her own preference. Thus, even given a sufficiently large number of interested employees, coordination and communication

problems among employees may limit their ability to jointly express this interest. The resulting inefficient equilibrium within the firm fails to provide family friendly practices. This inefficient equilibrium may be remedied with a collective voice mechanism that serves to increase communication and coordination.

2.2 Reducing Employer Opportunism

The possibility of employer opportunism is the second explanation as to why employee representation may increase firm surplus (Askildsen, Jirjahn and Smith 2006; Blair 1999; Dow 1987; Eguchi 2002; Freeman and Lazear 1995; Foss, Foss and Vazquez 2006; Kaufman and Levine 2000; Smith 1991). Opportunities for employer opportunism result from incomplete labor contracts. Most of the promises made by the employer to employees are implicit, that is, they are not explicitly spelled out in the labor contract. Thus, employees are at risk that the employer does not keep the promises and reneges on the implicit contract. The predictable consequence of potential employer opportunism is that employees withhold some forms of effort and cooperation when the employer cannot credibly commit to take their interests into account. Providing institutions of employee representation with well-defined and protected information, consultation and codetermination rights can serve to protect the interests of the workforce, thereby potentially solving commitment problems of the employer. Or put differently, employee representation provides a mechanism for negotiating work practices that otherwise cannot be implemented because of lack of trust and cooperation (McCain 1980).

There are a variety of situations in which employee representation can potentially help avoid employer opportunism (Jirjahn 2009). Employers may behave opportunistically with respect to pay and promotions. The breach of implicit risk-sharing arrangements is one example. A risk-neutral employer may promise to insure risk-averse employees against cyclical wage fluctuations in the labor market to obtain an implicit insurance premium from the employees. However, at a later date, the employer may renege, opportunistically reducing labor costs by paying lower spot-market wages (Bertrand 2004).

Another well-known example of employer opportunism is the ratchet effect (Milgrom and Roberts 1992: pp. 232-236). Employees, receiving performance pay, withhold effort when they anticipate that the employer will alter future payment terms - such as raising the output threshold before a bonus is paid - in light of the employees' past performance. In addition, workers may fear that the measurement of their performance is arbitrary to some degree and the employer then has the incentive and opportunity to underreport employee performance in order to reduce compensation costs. Similarly, employees do not exert effort or invest in their specific human capital when they fear that the employer will behave opportunistically by withholding promised wage increases or promotions (Smith 1991).

There are also several forms of opportunistic and inefficient terminations of employment relationships. Initially (*ex ante*), an employer may promise employment security so as to induce employees to invest in skills that are relevant to this firm, but not others, known as firm-specific human capital. However, productivity is uncertain; it is affected by external shocks that are outside employees' control. Then, given that

employees' marginal products are stochastic in this way, the employer may be tempted to terminate the employment contracts ex post after the shocks are realized. If the employer does not take into account the employees' returns to their firm-specific investments (i.e., their quasi-rents), she may dismiss employees even when the total surplus that would result from continuing the employment relationships is positive (Eger 2004; Hashimoto and Yu 1980). In this way, the firm may ignore employees' implicit rights to their investments.

Moreover, the implicit promise of employment security plays a role in deferred compensation. Deferred incentive schemes structure earnings profiles by paying employees less than their marginal products early in their tenure and more than their marginal products late in their tenure (Lazear 1979, 1981). However, if the wages of high-tenured workers exceed their marginal products, employers have the incentive and potential opportunity to renege on the implicit agreements later by firing these employees (Heywood and Jirjahn 2016).

Further, employers can behave opportunistically with respect to the use of information (Askildsen, Jirjahn and Smith 2006; Freeman and Lazear 1995; Smith 1991). They may conceal health and safety problems from the employees or may pretend that the economic situation of the firm requires increased employee effort. Finally, employers may use information obtained from the employees against the employees' interest. They may use this information for innovations that entail job loss or the intensification of work. Employees are likely to have insights into improving workplace performance based on their engagement in the ongoing work of the firm;

but they may not share their insights on improving workplace performance if they fear such information opportunism.

To the extent that the commitment problems described above are not solved, inefficiencies will result within the firm. Employees anticipating employer opportunism have a strong incentive to withhold effort, cooperation, and sharing information. This may impact the employer including through lower productivity and lower innovativeness. It impacts employees' also in that low effort and cooperativeness imply that they will forego opportunities for higher wages and better working conditions.

Employee representation helps protect the interests of the workforce. Information and consultation rights for employees as a group reduce information asymmetries between employer and employees so that employees can better evaluate the employer's behavior. Moreover, veto and codetermination rights prevent the employer from unilaterally taking action without considering employees' interests in cases where this would be particularly injurious. Thus, employee representation helps create credible, binding commitments that in turn increase employees' trust in the employer, while fostering their employees' motivation and cooperativeness. For example, without employee representation, information provided by management to employees about financial problems of the firm may lack credibility. If concessions are necessary, and alternatives are available such as altering the organization of the shop floor or office, or an increased pace of work, works councils may enable the firm to achieve solutions that would be otherwise out of reach.

Employee representation may not be the only solution to the employer's commitment problems. Under limited circumstances, with a sufficiently long time horizon, repeated games and reputational concerns can induce an employer to behave honestly (Baker et al. 1994; Bull 1987). In these cases, self-enforcing contracts might stand as an alternative mechanism to engender the trust that is important for employees' high cooperation and effort. However, in general self-enforcing contracts are inherently imperfect mechanisms; in particular, they fail if the employer inefficiently discounts the future loss of trust and cooperation. Under these conditions, institutions of employee representation can protect employees' interests. Moreover, employee representation may strengthen the functioning even of implicit contracts. First, the reputation mechanism can fail if employees have insufficient information to verify whether an employer behaves honestly (Kreps 1990). Thus, comprehensive information rights for employees can contribute to the functioning of the reputation mechanism. Second, employee representation facilitates communication and coordination among the employees themselves. To the extent coordinated actions result in more effective punishment of employer opportunism, the employer's incentive to renege on an implicit agreement is reduced (Hogan 2001). This mechanism functions like a performance bond that can make both parties better off.

2.3 Reducing Manager Opportunism at Various Levels of Hierarchy

Thus far, our review has implicitly equated the employer with the owners of the firm. However, the issue of opportunism within firms goes well beyond the simple owner-

employee dichotomy. Since Berle and Means (1932) agency problems between the owners and hired managers in firms with a separation of ownership and control have been widely recognized. Information asymmetries allow managers to pursue their own goals. Similarly, supervisors at various levels of hierarchy within the firm have their own means of utilizing discretionary power. Such discretionary power can harm the legitimate interests of both the owners and the employees of the firm.

Executive managers and superiors at the various levels of hierarchy may use their discretion for favoritism (Prendergast and Topel 1996), hoarding authority (Prendergast 1995), or extracting private services such as flattery or loyalty to the superiors' career concerns from their subordinates (Laffont 1990). Smith (1991) provides a typology of the various modes of management opportunism: credit-taking opportunism (misleading owners about which employees are responsible for profit increasing innovations), time horizon opportunism (focusing on very short run profit gains to benefit from stock option thresholds knowing their tenure at the firm is short – but harming workers as well as shareholders); information flow opportunism (with a goal of increasing their own bargaining power even at the cost of profits), and authority-hoarding opportunism (undervaluing the profit opportunities available when more authority is decentralized, as well as the availability as a type of alternative compensation when workers have preferences for participation rights).

Employee representation reduces supervisor opportunism as it provides communication between workers and top decision makers that is not filtered by immediate supervisors (Kaufman and Levine 2000; Smith 1991). This increases procedural fairness and workers' trust contributing to higher motivation and

cooperativeness. Moreover, employee representation may reduce agency problems between owners and executive managers as it provides a channel to monitor managers from inside the firm (Fauver and Fuerst 2006; Smith 1991). The need for such monitoring is magnified specifically in modern corporations as – contrary to many observers’ expectations – managerial control has not been diminished by the shareholder return focus since the 1980s, but rather seems (paradoxically) to have been enhanced.

2.4 Generation and Distribution of Firm Surplus

So far our review of theoretical considerations have focused on the potential for employee representation to increase firm surplus. However, employee representation may not only stimulate a potential increase in firm surplus; it may also have implications for a redistribution of firm surplus. Depending upon which aspect of employee representation dominates, distinct industrial relations regimes can emerge within firms (Jirjahn and Smith 2006).

One regime is characterized by a win-win situation. Communicating employees’ preferences to the employer solving and commitment problems result in mutual gains for the workforce and the employer. In this regime, employee representation contributes to increased firm surplus without aggravating distributional conflicts between employer and employees. The workforce benefits from employee representation as it contributes to trust and procedural fairness and ensures that the employers’ (implicit) promises are kept. In this case, employee representatives and employer are indeed able to build cooperative and high-trust

relationships within the firm. The employer may even encourage employee representatives to participate in a wider than required range of decisions and to play an essentially co-managerial role. As part of a high trust equilibrium, employee representatives take responsibility to encourage investment in firm-specific skills and productivity; and more generally understand what is needed and take actions to support the economic success of the firm.

However, under some circumstances, employee representation can also contribute to increased distributional conflicts between employer and workforce. On the one hand, an employer may be not interested in long-term cooperation with the workforce (Jirjahn 2003b). The employer may prefer to maximize short-term profitability by reneging on implicit contracts with the employees. In this case, the employer expends resources to isolate and weaken employee representatives instead of investing those resources in performance-enhancing projects. In response, employee representatives may attempt to act as a countervailing force to uphold employee interests; however, this requires time spent in adversarial bargaining.

On the other hand, employee representatives may use their participation rights to redistribute firm surplus to the favor of the workforce (Freeman and Lazear 1995). They may use their bargaining power to push through higher wages or even work practices that help employees enjoy what J. R. Hicks called the monopoly profits of a “quiet life”. If employer and employee representatives fail to reach an agreement in (informal) negotiations, the representatives can threaten to hinder decisions in

areas where their consent is necessary. Thus, employee representatives may obtain employer concessions on a wide range of issues.

A further layer of concern stems from the differing interests of owners and managers. Even if the workforce and the owners of the firm mutually gained from employee representation, distributional conflicts may result because of resistance by rent-seeking managers at the various levels of hierarchy. Employee representation limits managers' discretionary power and status. Thus, they have an incentive to oppose employee representation.

In the end, an aggravation of distributional conflicts can make the influence of employee representation on firm surplus ambiguous. One possible scenario is that employee representation involves both an increase and a redistribution of firm surplus. In this case, higher firm surplus can be obtained, but only by accepting a redistribution in favor of employees. Yet, an alternative scenario is that, in the extreme, aggravated distributional conflicts may entail a decrease in firm surplus. Only empirical research can identify which effect of employee representation dominates and how the effects depend on various circumstances. We will return to this issue when discussing the German experience with works councils.

3. Market Failures in the Provision of Nonunion Employee Representation

While employee representation helps solve organizational failures, a series of potential market failures imply that free markets may provide an inefficiently low level of employee representation. The market failure approach addresses the question why strong institutions of employee representation such as works councils

are only (or nearly only) observed when mandated or incentivized through public policy. Of course, employers often voluntarily adopt quality circles and other informal mechanisms; but these strictly voluntary arrangements rarely give up any ultimate shareholder rights or management prerogatives- including the understood right to alter or abolish these mechanisms.

According to a “neo-liberal” view, market competition would force firms to adopt employee representation if it were efficient. So if firms do not voluntarily adopt employee representation, it is inferred to be inefficient (Jensen and Meckling 1979). From this viewpoint, mandating employee representation reflects inefficient rent seeking and, in particular, a political strategy orchestrated primarily by unions and their political allies to expropriate shareholder wealth and to increase the power of political (and presumably union) leaders. By contrast, the market failure approach argues that mandating employee representation through legislating in effect corrects several market failures; thus the lack of voluntary adoption cannot be assumed to be valid evidence that employee representation is inefficient. In what follows, we discuss the role of bargaining problems and inefficient market equilibria.

3.1 Bargaining Problems

Voluntary adoption of employee participation rights would require that employer and workforce bargain over the initial implementation of employee representation. However, such bargaining entails costs. As discussed above, an important function of employee representation is the reduction of information asymmetries between employer and employees. Thus, bargaining over the adoption of employee

representation is inconsistent in that employer and employees paradoxically bargain under asymmetric information about a mechanism to reduce asymmetric information (Jirjahn 2005). A basic result of bargaining theory shows that information asymmetries are associated with a loss in the efficiency of bargaining outcomes (Demougin and Illing 1993; Illing 1992); in our context an implication is the prediction that a suboptimal level of employee representation is adopted.

Another fundamental problem is that employees' wealth constraints may hinder the adoption of institutions of employee representation if employee representation increases both total firm surplus and employees' share in that surplus. In this situation, the employer would only be willing to adopt employee representation when compensated by the employees for the lower share in firm surplus. Thus, the employees have to pay a price for employee representation. Obviously, in the absence of a wealth constraint, employees can easily compensate the employer. One might argue that even in the presence of a wealth constraint, they could be able to pay the price. Employees can use parts of their share in firm surplus to compensate the employer *ex post* after the surplus has been generated. For example, they may partially give up wage increases that are associated with a higher firm surplus. However, there are three factors hindering such *ex post* compensation.

First, as shown by Aghion and Tirole (1994), wealth constraints may hinder an efficient allocation of decision and property rights if the generated surplus is stochastic. This insight can also be applied to the adoption of employee representation. If firm surplus is stochastic, there can be low *realized* values even if the *expected* value of firm surplus generated by employee representation is high. In

this situation, employees facing a wealth constraint may not be able to use realized firm surplus to compensate the employer ex post. For example, if realized firm surplus is low, there are no sufficiently high wage increases employees can give up to pay the price for adopting representation. An employer anticipating this situation will not be willing to adopt the efficient level of employee representation. Note that this problem is present even if employees are not risk-averse.

Second, wealth constraints may also be binding if the increase in total firm surplus involves not only monetary components such as higher productivity, but also non-monetary components. Non-monetary components of firm surplus include increased employee well-being that results from improved working conditions, higher job security, or being treated fairly. Consider a situation in which the increase in total surplus consists of a large increase in non-monetary surplus and a relatively modest increase in monetary surplus, ex post with the latter being smaller than the reduction in the employer's share in that surplus. In this case, the increase in monetary surplus is not large enough to enable employees to compensate the employer ex post.

Third, negotiating an ex post compensation requires that employees ex ante can credibly commit to pay the price. For example, they must be able to credibly commit to not fully use their increased bargaining power and to give up parts of their wage increases ex post. If a contract specifying this commitment is not feasible, employees ex post simply do not pay the price and take advantage of the full wage increases. An employer anticipating this situation will not provide the efficient level of employee representation. A related analysis by Conlin and Furusawa (2000) shows

such inefficiency in a two-stage bargaining model. If employer and employees negotiate in the first stage over the bargaining agenda for the second stage, items implying changes in bargaining power may be excluded from that agenda, making efficient bargaining at the second stage impossible.

This third problem may be circumvented if employees can get a loan to pay the required price to the employer *ex ante*. They could repay the loan *ex post*, after the surplus has been realized. However, this solution is not feasible if there are credit market imperfections and employees face credit market constraints (Bardhan, Bowles and Gintis 2000; Bowles and Gintis 1994).

3.2 Inefficient Market Equilibria

As stressed by Levine (1995: chapter 6), even if employee representation involves a win-win situation for employers and employees, there can be (Pareto-ranked) multiple equilibria. Thus, some coordination among firms is needed for an economy to adopt a superior equilibrium with sufficiently widespread employee representation. Policy intervention can help realize and sustain the superior equilibrium. Without such intervention the economy may remain stuck in inefficient market equilibria that entail a series of failures. Broadly the effective functioning of employee representation depends on specific framework conditions in the firm. The costs of these framework conditions, in turn, depend upon the share of firms in the economy that adopt employee representation, with each single firm's costs being lower if the share of other firms with employee representation is sufficiently large. Thus, when there is only a small share of firms with employee representation, it does

not payoff for a single firm to adopt employee representation. The cost of creating the framework conditions is prohibitively high for any single firm. The result is a market equilibrium with an inefficiently low level of employee representation. By contrast, when there is a sufficiently large share of other firms with employee representation, it can pay off for the single firm to create the framework conditions, as costs are sufficiently low. The result is a superior market equilibrium with a large extent of employee representation in the economy. Analogous arguments and evidence have been advanced as to why worker cooperatives tend to be clustered in regional leagues (Smith 2003; Joshi and Smith 2008). Levine (1995) provides an extended list of possible market failures. In what follows, we focus on three key failures.

Employee representation requires a minimum level of employment security. Employment security provides incentives for employees to take long-term firm performance into account when participating in decisions. Employment security also contributes to employees' willingness to invest in the skills that make their participation in decision-making more effective. It also leads to long-term relationships between employer and employees that are required to build mutual trust and cooperation. However, avoiding layoffs is particularly costly in recessions. While the level of the costs depends on the frequency and depth of recessions, the frequency and depth in turn depend upon the share of firms in the economy that pursue a personnel policy of employment security (Levine and Parkin 1994). Layoffs lead to lower demand for consumer goods by employees. Thus, layoffs create a negative externality for other firms whose products and services are purchased by those employees. As a result, if a high share of firms pursue a hire and fire policy, the

low degree of employment stability results in a high variability of aggregate demand. This contributes to a higher frequency and intensity of recessions, making it very costly for each single firm to provide employment security and to adopt employee representation. By contrast, if there is a high share of firms in the economy providing employment security, aggregate consumer demand will be more stable and recessions less frequent and deep. Thus, the costs of providing employment security become relatively low for any one firm. The likely result is a superior market equilibrium with high employment stability fostering employee representation. Interestingly, Germany has been relatively resilient to the Great Recession (Dustmann et al. 2014). This may indicate that Germany has indeed realized an equilibrium with high employment stability and a high level of employee representation through non-union representation including works councils.

Employee representation is also closely linked to a just-cause dismissal policy, meaning that employees have the right to due process and the employer must have a reason for each dismissal. On the one hand, a just-cause policy ensures that employees do not fear dismissal if they exercise voice and monitor the behavior of management. On the other hand, employee representation contributes to procedural fairness including a just-cause policy. However, just-cause policies can lead to an adverse selection problem (Levine 1991a), to the extent that they attract low-motivation employees who are talented at exerting low effort without providing enough evidence to justify dismissal. This adverse selection problem is particularly severe for any single firm if there is a large share of firms in the economy without just-cause policies, probably ruling out a single firm's introduction of a just-cause

policy on its own. By contrast, if a larger share of firms pursue a just-cause policy, the “talented shirkers” are spread across a large number of firms. As the adverse selection problem is less severe for each single firm, a superior equilibrium emerges in which a sufficiently high number of firms pursue a just-cause policy and adopt employee representation. In this equilibrium, firms may provide incentives to employees through performance pay and profit sharing, instead of relying upon the threat to dismiss employees who are caught shirking.

Third, a separate argument is based on the assumption that “cohesiveness” plays an important role in the functioning of employee representation. Employee representatives are more effective in aggregating preferences and protecting the interests of the workforce if there is a high degree of cohesion among employees. Levine (1991b) argues that cohesion among employees is fostered by narrow wage and status differentials. Narrow differentials may involve not only an increase in pay at the bottom of the wage distribution, but may also occur at the expense of high-wage employees. As a consequence, high-wage employees have an incentive to exit. This problem is particularly severe if there is a large share of firms in the economy with a wide within-wage dispersion. Such firms can hire away high-skilled employees from single firms that implement narrow wage differentials. In this situation, a narrowing of wage differentials is not feasible for each single firm so a market equilibrium with wide wage inequality results. By contrast, if there is a high share of firms with narrow wage differentials, each single firm can implement more wage equality, as it is easier to keep high-skilled employees. Under these conditions, there is an equilibrium in

which an economy-wide narrowing of wage differentials fosters the adoption of employee representation.

4. External Effects on Society

Employee representation may not only solve organizational failures within firms; it may also have more far reaching positive effects on society. We focus on two external effects that have been analyzed in the literature. First, employee representation may result in increased environmental investments; second, it may stimulate employees' political or civil society participation outside the firm.

4.1 Environmental Investment

Building from Vanek (1970, 1971), Askildsen, Jirjahn and Smith (2006) argue that employee representation can lead to increased environmental investment. They distinguish between three possible scenarios. In the first scenario, employees are affected by environmental hazards caused by the firm in which they work. Environmental hazards may contribute to ill health within the workplace during hours of work or may affect employees and their families who suffer from regional pollution outside the workplace. Thus, employees are willing to trade off wages or effort for reductions in environmental hazards. Employee representation provides a mechanism allowing employees to aggregate and express their preferences and to negotiate with the employer over increased environmental investment. This effect differs in general from negotiating to improve occupational health and safety, in that the benefits of occupational health and safety accrue only within the firm.

In the second scenario, the employer prefers environmental investment because it has positive productivity effects (Porter and van der Linde 1995), belongs to the firm's corporate social responsibility (Kitzmueller and Shimshack 2012), or is required to comply with law. A successful implementation of the environmental investment requires cooperativeness of the workforce. Employee representation increases such cooperativeness, as it ensures that interests of the workforce are taken into account when technological change is implemented.

In the third scenario, employer and employees share a common interest in environmental investment. However, despite the common interest it may be difficult to implement environmental investments without employee representation. Without an institution representing the interests of the workforce, employees may fear potential employer opportunism or face problems in expressing their preferences.

Using German panel data, Askildsen, Jirjahn and Smith (2006) find a positive and robust association between employee representation and environmental investment. Their results are largely consistent with the first and the third scenario suggesting that employee representation primarily helps reduce regional environmental hazards caused by firms in particular.

The basic point is that not only the employees of the respective firm, but also stakeholders outside the firm benefit from increased environmental investment. Thus, potential welfare implications of employee representation go beyond the workforce of the single firm.

4.2 Political and Civil Society Spillovers

Increased decision-making participation in firms may provide skills, and perhaps increase tastes, for more active participation in political and social engagement in the community. Indeed, the idea that experience with decision-making participation in firms may build effective participation in democratic processes goes back at least to J.S. Mill (1909), who made this connection one of the bases of his support for encouraging worker cooperatives.

More recent political theorists including Pateman (1970) and Mansbridge (1980) have emphasized linkages between workplace participation and political democracy. Pateman used psychological variables including job satisfaction, personal feelings of efficacy, and democratic vs authoritarian personality types, as proxies to demonstrate political linkages. Mansbridge presented comparative studies of a labor managed firm and a Vermont township where all major decisions were made in direct democracy in annual meetings.

Vanek (1971) described political and economic democracy as “mutually reinforcing,” and suggested a connection between worker experience with “industrial democracy” and political liberalization. Greenberg (1981) asked workers five questions about civic involvement at five plywood manufacturing firms in the United States - four cooperative and one conventional - and showed a relationship between labor management and civic involvement. Smith (1985) analyzes survey results from almost 1400 employees at 55 U.S. firms taking part in decision-making and other participation plans; his analysis confirms a statistically significant relationship between formal firm decision-making participation plans and whether a worker

reports political behavior including starting a petition. An index of participation that includes holding ownership and profit sharing participation extends statistically significant impacts to having run for political office, worked for a candidate, and represented a group whose purpose was social change.

Jian and Jeffres (2008) found that workplace decision-making participation is positively associated with voting. They also found that associations among employees “formed outside the formal authority structure and legal labor contracts” of the firm were “positively associated with involvement in local communities,” as well as in election campaigns.

5. The German Experience with Works Councils

As discussed in the introduction, works councils are a key institution of nonunion employee representation in many West European countries. In what follows, we discuss the German experience with works councils. Compared to their counterparts in most of the other countries, works councils in Germany have acquired quite extensive powers (Jenkins and Blyton 2008). Moreover, the overwhelming majority of econometric studies on works councils has used data from Germany.

5.1 Institutional Framework

Industrial relations in Germany are characterized by a dual structure of employee representation with both works councils and unions. Collective bargaining agreements are usually negotiated between unions and employers’ associations on a broad industrial level (Jirjahn 2016). They regulate wage rates and general aspects of

the employment contract. Establishments are covered by a collective bargaining agreement if they are members of an employers' association. These associations function to coordinate member firms during union negotiations. The share of establishments covered by firm-level agreements is very small.

Works councils provide a mechanism for establishment-level codetermination. Their rights are defined in the Works Constitution Act (WCA), which was introduced in 1952 and amended in 1972, 1989, and 2001. The WCA mandates that works councils be elected by the whole workforce of establishments with five or more employees. 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, an electoral board is determined by a majority vote of those 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 calls the election, implements it and announces the results. The WCA states that the employer must not obstruct the election of a works council. Any attempt of the employer to influence the election by threats or promises is unlawful. The cost of the election as well as the cost of operating a works council is borne by the employer.

Works councils are mandatory but not automatic. Their creation depends on the initiative of the establishment's workforce. Hence, works councils are not present in all eligible establishments. Works councils appear to be present in only 10 percent of eligible establishments in the private sector (Ellguth and Kohaut 2009). However,

as larger establishments are much more likely to have a works council, about 40 percent of all employees are represented by works councils.

Works councils negotiate over a bundle of interrelated establishment policies. On some issues they have the right to information and consultation, on others a veto power over management initiatives, and on others the right to coequal participation in the design and implementation of policy. Their rights are strongest in social and personnel matters such as the introduction of new payment methods, the allocation of working hours and the introduction of technical devices designed to monitor employee performance.

Works councils are institutionalized bodies of employee representation that have functions that are distinct from those of unions. They are designed to increase joint establishment surplus rather than to redistribute the surplus. The WCA does not allow wage negotiations. Works council and employer are obliged by law to cooperate “in a spirit of mutual trust . . . for the good of the employees and of the establishment.” The WCA stipulates that they shall collaborate with the serious attempt to reach an agreement and to set aside differences. If council and management fail to reach an agreement, they may appeal to an internal arbitration board or to the labor court. Works councils and employers are not allowed to engage in activities that interfere with the peace within the establishment. Specifically, the works council does not have the right to strike and the employer is barred from obstructing the activities of the works council. The WCA explicitly states that members of the works council must not be discriminated against or favored because of their activities.

It is important to note that the behavior of employers and works councils is not completely specified and determined by the letter of the law. Thus, the functioning of codetermination cannot be immediately or fully derived from a reading of legislation. In particular, a works council may use its codetermination rights on social and personnel matters to obtain employer concessions on issues where it has no legal powers. For example, the works council may engage in informal wage negotiations with the employer. If employer and works council fail to reach an agreement in these informal negotiations, the council can threaten to hinder decisions in areas where its consent is necessary. Moreover, the cooperativeness of the employer can influence the functioning of codetermination. On the one hand, the employer may informally try to hinder the works council even though this is prohibited by law. On the other hand, the employer may choose to involve the works council even in issues that are not covered by the WCA. In the end, only empirical research can reveal the functioning of codetermination in practice.

5.2 Economic Consequences of Works Councils

As works councils are not present in all eligible establishments, researchers can conduct within-country studies by comparing establishments with and without a works council. Earlier studies on works councils used small data sets and found rather negative effects on the performance of establishments. By contrast, more recent studies are based on larger data sets and usually obtain neutral or positive effects (see Addison 2009 and Jirjahn 2011a for surveys). This holds for several dimensions of establishment performance.

Recent research shows that the incidence of a works council is associated with higher productivity (Frick and Moeller 2003; Mueller 2012). While works councils also increase the wage level within establishments (Addison, Schnabel and Wagner 2001), the productivity effect appears to dominate so that there is even a positive influence on profitability (Huebler 2003; Mohrenweiser and Zwick 2009; Mueller 2011). Furthermore, the incidence of a works council makes environmental investments and product innovations more likely (Askildsen, Jirjahn and Smith 2006). In particular, works councils increase the probability of incremental product innovations while they appear to have no influence on the probability of drastic product innovations (Jirjahn and Kraft 2011).

There is also evidence that works councils substantially shape the personnel policy of establishments. Works councils are positively associated with employer provided further training (Gerlach and Jirjahn 2001; Huebler 2003; Zwick 2005; Stegmaier 2012) and apprenticeship training (Kriechel et al. 2014). The performance-enhancing effects of training appear to be stronger when a works council is present (Smith 2006; Zwick 2004, 2008). Works councils also reduce personnel turnover (Frick and Moeller 2003; Grund, Martin and Schmitt 2016; Pfeifer 2011), foster internal labor markets (Heywood, Jirjahn and Tsertsvadze 2010; Zwick 2011) and help avoid labor shortages (Backes-Gellner and Tuor 2010). They increase the probability of adopting family friendly practices (Heywood and Jirjahn 2009), flexible working time arrangements (Dilger 2002; Ellguth and Promberger 2004) and performance-related payment schemes such as piece rates and profit sharing (Heywood, Huebler and Jirjahn 1998; Heywood and Jirjahn 2002).

Works councils do not only influence the use of human resource management practices; they also have an influence on managers' attitudes towards those practices. In establishments with a works council, managers are more likely to have a positive attitude toward profit sharing, performance pay, promotions, training and employee involvement in decision-making (Jirjahn 2016b). They are less likely to regard the threat of dismissal as a suitable incentive to motivate employees (Jirjahn 2016c).

Some debate has emerged as to the consequences of works councils for employment growth (see the exchange between Addison and Teixeira 2006, 2008 and Jirjahn, 2008a, 2008b). However, the basic point appears to be that positive economic effects of works councils are underestimated when the issue of endogeneity is not accounted for. Works councils are more likely to be adopted by employees of establishments that are in a poor economic situation (Jirjahn 2009) In this situation, employers are more likely to renege on implicit contracts with the employees. As a consequence, employees have an increased incentive to request works council representation to protect their interests. If the endogeneity of works council incidence is not taken into account, the estimated influence of works councils partially reflects the poor economic situation, implying a downward bias. This is confirmed by Jirjahn (2010) who shows that a positive effect of works councils on employment growth is only revealed if the endogeneity of works council incidence is accounted for.

Not only the adoption of works councils, but also their effects appear to depend on the economic situation of the establishments. Positive effects on performance are stronger in establishments that face adverse economic conditions

(Jirjahn 2012; Mueller 2015; Stettes 2010). This conforms to the hypothesis that a works council is specifically important for ensuring trustful industrial relations when the economic situation of the establishment involves a stronger incentive for the employer to behave opportunistically. A works council can contribute to overcoming a crisis by negotiating performance-enhancing changes that would not have been possible otherwise. Without a works council, information asymmetries can cause workers to refuse concessions even when the concessions may be unavoidable to overcome the crisis. If workers do not share the same economic information possessed by management, they may fear that the employer overstates the crisis to demand greater concessions. A works council can help rebuild trust. The information rights of the works council allow employees to verify the employer's claims. This, in turn, increases their willingness to make 'legitimate' concessions.

Some studies have also examined a potentially moderating role of establishment size. Addison, Schnabel and Wagner (2001) found that works councils have a positive impact on the performance of larger establishments, but not on the performance of smaller establishments. By contrast, other studies have shown that works councils can also have a positive influence on performance in smaller establishments (Jirjahn 2003a, 2003b; Jirjahn and Mueller 2014; Pfeifer 2011; Wagner 2008). While the extent of any moderating role of establishment size remains unclear, there are other moderating factors that appear to play a more important role. In what follows we turn to the moderating role of collective bargaining coverage, for which there is much more supporting evidence.

5.2 The Moderating Role of Collective Bargaining Coverage

A more comprehensive understanding of the functioning of works councils requires that other parameters of the industrial relations system in Germany are taken into account. There is a strong linkage between works councils and unions even though both institutions of employee representation are formally independent (Behrens 2009). While works councils help unions recruit new members, unions in turn provide training and legal expertise to works councils.

Crucially, a series of econometric studies show that the functioning of works councils depends on whether or not establishments are covered by collective bargaining (Huebler and Jirjahn 2003; Jirjahn 2017). Performance-enhancing effects of works councils are stronger in establishments that are covered by a collective bargaining agreement. This holds for various performance dimensions including productivity, profitability, innovativeness, and employee retention. It also holds for the use of performance-enhancing HRM measures such as training, performance pay and family friendly practices.

These findings fit the hypothesis that, in covered establishments, works councils are less involved in distributional issues and have a stronger focus on performance-enhancing activities. For several reasons, works councils' opportunities for redistribution appear to be more limited when distributional conflicts are moderated by unions and employers' associations outside the establishment on a central level. Employers' associations support the managers of establishments with expertise in case that there are lawsuits. Therefore, the opportunities for a council to obtain employer concessions on issues where it has no legal powers are more

restricted. Moreover, even unions may use their influence to prevent works councils from redistribution activities. First, negotiations between works councils and managers may undermine the unions' power and status and contribute to dispersed earnings *across* establishments. Second, the unions' interests transcend those of the workforce in an individual establishment (Svejnar 1982). Because of the centralized collective bargaining system in Germany, unions are interested in the industry-wide employment level.

Collective bargaining coverage may also strengthen the effectiveness of work practices negotiated by works council and employer. While unions have little interest in supporting redistribution activities of a works council, they are likely to provide training and legal expertise in order to strengthen the trust-building role of the works council. This helps the works council create even stronger commitments of the employer so that the council is able to protect workers' interests to a larger degree. Training provided by unions allows the works council to more effectively reduce information asymmetries, to more effectively participate in a wider range of decisions and to come up with their own valuable ideas. The expertise of unions in legal issues increases the chance that the works council will win legal disputes and, thus, strengthens its ability to prevent the employer from breaking promises made to the employees. This in turn increases workers' trust and their willingness to cooperate and to provide effort implying that the practices negotiated by works council and employer are even more effective in increasing establishment performance.

5.3 The Managerial Environment

While a reading of the WCA might suggest that the employer has no or little influence on the functioning of works councils, case studies (Frege 2002) and econometric examinations (Backes-Gellner et al. 2015; Jirjahn and Smith 2006) show that in practice the functioning of works councils crucially depends on the managerial environment. In some establishments, managers with positive attitudes toward employee participation build cooperative and trustful employer-employee relationships and encourage the works council to participate in wide range of decisions. Yet, in other establishments, works council and management have extremely adversarial relationships. Managers with a negative attitude toward employee participation try to weaken, isolate or ignore the works council. Taken together, this evidence suggests that the managerial environment can have an influence on both the adoption and the effects of works councils.

Jirjahn (2003b) examines the interaction effect of works councils and profit sharing for executive managers. While both works council incidence and managerial profit sharing have a positive influence on productivity, there is a strong negative interaction effect. The size of the estimated coefficients implies that works council incidence is associated with increased productivity when there is no managerial profit sharing, but not when executives receive profit sharing. This indicates that financial incentives for managers play a role in the functioning of works councils.

Jirjahn (2009) shows that also subjective management attitudes are important. He finds that employees are more likely to introduce a works council if management has a positive attitude toward employees' involvement in decision-

making. Thus, taking the results of Jirjahn (2016b) into account, the relationship between works councils and management attitudes appears to be interdependent. On the one hand, the adoption of a works council is influenced by management's attitudes. On the other hand, the works council can contribute to a more positive management attitude toward employee involvement.

Finally, Jirjahn and Mohrenweiser (2016) find that owner-managers have an influence on the introduction and survival of works councils. Employees in owner-managed establishments are less likely to introduce a works council. Moreover, in case of an introduction, the new works council is less likely to survive if the establishment is owner-managed. The pattern of results even holds in situations that involve positive economic effects of works councils. This suggests that owner-managers oppose works councils not primarily for economic reasons. The findings are rather consistent with the hypothesis that owner-managers oppose codetermination because it reduces the utility they gain from being the ultimate bosses within the establishment. Being an owner-manager allows consuming nonpecuniary benefits that can only be obtained from within the firm. Owner-managers not only receive utility from being independent at the workplace but also from "consuming" dominance over their managers and employees. Thus, to the extent codetermination limits their discretionary power, owner-managers have a high interest in avoiding a works council. Of course, hired managers may to some extent also gain utility from "consuming" dominance over their subordinates. However, this utility is likely to be smaller as hired managers do not have ultimate control over the establishment. Thus, hired managers should have a less pronounced desire to avoid

works councils. Jirjahn and Mohrenweiser's findings suggest that non-economic factors also play an important role in the functioning of works councils. The maintenance of power for its own sake appears to be the motive as to why owner-managers more often oppose codetermination.

5.4 Foreign Owners

A particular threat to the functioning of codetermination comes from globalization. Germany is one of the largest host economies for inward FDI among developed countries (Jost 2013). Comparing the stocks of inward FDI for the year 2009, Germany was ranked position four, after the United States, the United Kingdom, and France. It experienced a dramatic growth in the inward FDI stock. The stock rose from US\$ 120 billion in the year 1990 to US\$ 929 billion in the year 2010. Foreign-owned firms in non-financial industries account for about 20 percent of total gross value added and employ more than 10 percent of all workers in those industries.

Recent econometric studies indicate that works councils are less likely to play a trust-building and performance-enhancing role in foreign-owned establishments. Dill and Jirjahn (2017) find that cooperative relationships between works council and management are less likely to be positive in foreign-owned than in domestic-owned establishments. Jirjahn and Mueller (2014) examine the influence of works councils and foreign ownership on productivity. While both works council incidence and foreign ownership are associated with increased productivity, there appears to be a large negative interaction effect. The estimated coefficients suggest that works councils have a positive influence on productivity only in domestic-owned, but not in

foreign-owned establishments. Heywood and Jirjahn (2014) analyze the influence of works councils and foreign ownership on the use of performance appraisal systems, profit sharing, and employee share ownership. They find the same pattern of results for each incentive scheme. While both works council incidence and foreign ownership are associated with a higher probability of using a given incentive scheme, there is a strong negative interaction effect. The results indicate that works councils have a positive influence on the use of performance appraisal systems, profit sharing and employee share ownership only in domestic-owned, but not in foreign-owned establishments.

From a theoretical viewpoint, several reasons indeed suggest that it is difficult for management and works council to cooperate when an establishment is owned by a foreign parent company. A high degree of information asymmetry makes it less likely that the works council can play an effective information sharing role in a foreign-owned establishment. While the works council of the establishment has no access to the information possessed by the parent company's managers, the managers of the foreign parent company lack sufficient information about the local conditions of the establishment. This can result in increased distrust and antagonism. The council is unlikely to support the implementation of the practices of the foreign parent company if the council has only limited access to relevant information. The foreign parent company's managers in turn view having to deal with codetermination as an obstacle and induce the managers of the local subsidiary to bypass the council in order to unilaterally implement the owner's preferred practices. This tendency is reinforced if the foreign parent company is more volatile and its managers have little

interest in long-term cooperation with the works council; and indeed there is evidence that foreign owners tend to operate with a shorter time horizon than domestic owners (Dill, Jirjahn and Smith 2016). The threat to transfer production abroad can effectively weaken the power of the council to cooperatively build high-trust relationships and to realize mutual gains for the establishment and the employees. In this situation, the council may use its remaining power to actively resist the implementation of the policy of the foreign parent company.

On the other hand, employees in foreign-owned establishments appear to have an increased interest desire for representation. Foreign-owned firms are more likely to have a works council than domestic-owned firms (Dill and Jirjahn 2017; Schmitt 2003). Employees see foreign owners as entailing greater risk and uncertainty (Dill and Jirjahn 2016). Thus, employees are more likely to adopt a works council, even though a council in foreign-owned firms can only provide a minimum level of protection and aggravates conflicts with the management.

On a broader scale, the studies on the role of foreign owners shed light on the ongoing discussion on the erosion of industrial relations institutions in Germany. That discussion largely focuses on the declining trend in collective bargaining and works council coverage (e.g., Ellguth and Trinczek 2016). Studies on the role of foreign owners suggest that the discussion should also take into account the quality of industrial relations. If one considered only the link between foreign ownership and works council incidence, one would conclude that foreign ownership does not contribute to the erosion of codetermination in Germany but even works against the process of erosion. Considering the quality of industrial relations yields a completely

different picture. Foreign ownership contributes to the erosion of codetermination by reducing the chance of works council-management cooperation. Works councils may be more likely to be present in foreign-owned firms. Yet, in foreign-owned firms, they do not play the trust-building and co-managerial role they often play in domestic-owned firms.

However, it is an open question whether the tensions in foreign-owned establishments only reflect permanent structural problems or simply a shorter relationship between managers and works councils. The quality of the relationship might at least partially improve as both parties accumulate experience with each other. This brings us to the role of learning processes in the functioning of works councils.

5.5 Learning

Jirjahn, Mohrenweiser and Backes-Gellner (2011) show that codetermination indeed has a dynamic dimension. Their analysis yields four key results. First, the probability of an adversarial relationship between management and council is decreasing in the age of the council. Second, the council's age is positively associated with the probability that the council has an influence even on decisions where it has no legal powers. Third, productivity is increasing in the age of the council. Fourth, the quit rate is decreasing in the age of the council. These results provide evidence that learning plays a role in the effective functioning of codetermination. However, the analysis also provides some evidence of a codetermination life cycle. After about thirty years the council's influence on decisions and its effect on productivity decrease to some extent.

At the same time, the probability of an adversarial relationship with management increases.

From a theoretical viewpoint, it is very likely that learning implies a change in the nature and scope of codetermination over time. A works council does not instantaneously live up to its potential once it has been created. Even though information rights of the works council help reduce information asymmetries between employer and employees, this does not mean that problems of asymmetric information instantaneously disappear. Particularly, a newly created council may face information problems. In order to elicit credible information from the employer, the inexperienced council is more likely to use its codetermination rights for conflictual negotiations. Cumulatively over time, learning enables worker representatives to develop the ability to understand production processes and economic issues in more detail. As an experienced council can more easily verify the information provided by management, conflictual negotiations diminish. Furthermore, to the extent the council improves its competence, its influence on decisions is likely to grow. Finally, as experienced worker representatives have a better understanding of the economic situation of the establishment, the employer's incentive to opportunistically manipulate information provided to the employees is reduced. This in turn stimulates workers' effort and cooperativeness.

A codetermination life cycle also appears to be plausible. Lessons from past interactions of works council and management are accumulated within routines. Those routines include procedures, conventions, and the structure of beliefs. Management and works council gradually adopt routines that lead to favorable

outcomes. Routines form an institutional memory of the establishment that is maintained despite the turnover of individual managers and works councilors. New managers and works councilors learn the routines through a process of socialization. However, routines are not simply the result of accumulated experiences. Once established, they guide further learning. The search for new solutions typically occurs in the neighborhood of already existing routines. On the one hand, this leads to a refinement of existing routines. On the other hand, this repeated use may contribute to increased inertia and obsolescence. Previously successful routines may be relied upon inappropriately in novel situations that require substantial change. Thus, the age of the council may indeed have an inversely u-shaped effect on cooperation and performance.

Altogether, the results of Jirjahn, Mohrenweiser and Backes-Gellner may suggest that training of works councilors and managers could be crucial for an effective functioning of employee representation. Such training is likely to accelerate learning processes. In Germany, training of works councilors indeed plays an important role. (Hovestadt 2005; Hovestadt and Teipen, 2010). The provision of training for employee representatives is also an important issue in the context of European works councils (Gilman and Marginson 2002).

From a methodological viewpoint, the findings by Jirjahn, Mohrenweiser and Backes-Gellner shed light on studies that examine the economic consequences of newly created councils or use a fixed effects approach. Those studies often find rather weak effects of works councils (e.g., Addison et al. 2004). Taking learning into account, this does not come as a surprise. If the economic effects of newly created

works councils are less strong, studies focusing on newly created councils may fail to find any significant effect. Yet clearly, the results of those studies cannot be generalized to the entire population of works councils.

5.6 Wage Inequality

Like many other industrialized countries, Germany has experienced an increase in wage inequality (Dustmann, Ludsteck and Schoenberg 2009; Gernandt and Pfeiffer 2007). While there were changes at the top of the distribution already in the 1980s, a rise in lower tail inequality happened in the 1990s. The increase in wage inequality gives rise to the question of whether works councils can contribute to more wage inequality within establishments.

A series of studies show that works councils are associated with a reduced wage differential between skilled and less skilled employees within establishments (Addison, Teixeira and Zwick 2010; Huebler and Meyer 2001; Jirjahn and Kraft 2010). Moreover, there is evidence of an interaction effect on productivity. While works council presence and wage inequality between skilled and unskilled employees are positively related to productivity, the interaction between both is negative (Jirjahn and Kraft 2007). Taken together, these findings conform to the notion that cohesion and solidarity are important for an effective representation of employee interests. In order to increase cohesion and solidarity, works councils appear to use their codetermination rights in informal wage negotiations with employers to push through more equal wage structures within the establishments.

5.7 The Gender Wage Gap

Works councils also play a role in the gender wage gap within establishments. The incidence of a works council is associated with a lower unexplained intra-establishment gender wage gap (Addison, Teixeira and Zwick 2010; Gartner and Stephan 2004; Heinze and Wolf 2010). The question at issue is whether the reduction in the unexplained gender pay gap can be seen as a decrease in wage discrimination or whether it can be viewed as a decrease in a wage differential that reflects unobserved productivity differences between male and female employees.

Building on an idea by Hellerstein, Neumark and Troske (2002), Jirjahn (2011b) addresses this question by examining the relationship between share of female employees and the establishment's profitability. If the unexplained gender wage gap solely reflects differences in unobserved productivity characteristics of men and women, the proportion of female employees should have no influence on profitability. This should specifically hold for establishments without works councils as those establishments face less restriction in downward adjusting women's wages to women's lower productivity. By contrast, there should be a negative relationship between the share of female employees and profitability in establishments with works councils. Reducing a productivity-related gender pay gap means that works councils increase women's wages beyond women's productivity. Hence, if a codetermined establishment employs a high share of women, it has a high share of employees who receive wages above their productivity.

Yet, if the unexplained gender pay gap primarily reflects discrimination, women receive wages below their productivity. Establishments employing a high

share of female employees should earn higher profits as they have a high share of workers who are paid below their productivity. This should hold particularly for establishments where no works council is present. Those establishments are subject to less regulation and, hence, have more opportunities for wage discrimination. By contrast, opportunities for discrimination are more limited in establishments with works councils. To the extent works councils reduce the discriminatory gender pay gap, the labor cost of women will rise. Hence, one should observe that the positive link between the proportion of female employees and profitability is attenuated in codetermined establishments.

Jirjahn's results provide support for the view that works councils reduce wage discrimination. His estimates show a positive link between the share of women and profitability in establishments without a works council, but no significant link in establishments with a works council. Moreover, the estimates confirm that works councils themselves are positively associated with profitability. This finding conforms to the hypothesis that works councils contribute to increased performance by creating trustful industrial relations. Altogether, the empirical results of the study fit the notion that establishment-level codetermination decreases profits that are due to discrimination while it increases profits that are due to cooperative employer-employee relations.

6. Concluding Remarks

From a theoretical viewpoint, nonunion employee representation contributes to increased welfare by solving organizational failures within firms. It improves the

information flow between employees and employer and helps avoid various types of employer opportunism. Nonunion employee representation may even have positive external effects on society through higher environmental investment and increased civic engagement of the employees. In an ideal situation, both the employer and the employees benefit from nonunion employee representation. Yet, there can be situations in which the increase in welfare cannot be decoupled from distributional issues. Even if nonunion employee representation involves a win-win situation for employer and employees, there can be market failures in the provision of nonunion employee representation requiring policy intervention. Market failures appear to be even more severe if nonunion employee representation involves a redistribution to the favor of employees.

The theoretical considerations call for empirical evidence. An increasing number of econometric studies have examined the functioning of works councils in Germany. The German experience shows that giving employees the right to implement a works council and providing the council with strong codetermination rights can yield a number of favorable outcomes. However, the German experience also shows that the outcomes depend on a series of framework conditions. Specifically, coverage by centralized collective bargaining and a supportive managerial environment play an important role. Moreover, the functioning of works councils depends on learning processes. A works council does not immediately live up to its potential once it has been created. Globalization presents a challenge to works councils in Germany. In establishments owned by foreign multinational

companies, tensions between works councils and management impair the effectiveness of works councils.

There is a strong need for further research. First of all, evidence from other countries is needed. Most econometric studies on works councils focus on Germany. Only few studies consider other countries. Exceptions are the studies by Fairris and Askenazy (2010) for France, Kato et al. (2005) and Kleiner and Lee (1997) for South Korea, van den Berg, Grift and van Witteloostuijn (2011a, 2011b) for the Netherlands, and van den Berg, van Witteloostuijn and Van der Brempt. (2017) for Belgium. There is also need for comparative cross-country studies. Some important steps in this direction have been made by Burdin and Perotin (2016) and Forth, Bryson and George (2017).

Research on works councils has almost exclusively focused on economic outcomes. However, as suggested by the political spillover theory, codetermination may also have an influence non-work behavior of employees. Examining this influence in detail and, thus, testing the political spillover theory with data on works councils is an important topic for future research.

Furthermore, insights from behavioral economics - together with findings from the health and epidemiological literature - could be fruitfully incorporated into research on works councils. For example, trust plays a key role in the functioning of works councils; and trustful relationships apparently promote psychological wellbeing (Griep et al. 2016). This suggests that codetermination may have significant psychological dimensions. Psychological stress is higher when employees perceive a lack of control over their job; and lack of control has adverse health consequences

(Karasek et al. 1988). While unemployment has well known negative psychological effects, re-employment into low-quality jobs - including those with low autonomy and high insecurity as well as low pay - may lead to even worse health outcomes (Chandola and Zhang, 2017); again a key channel may be through chronic stress. It is perhaps surprising that the psychological and health dimensions of works councils appear to have been largely neglected (but see Jirjahn and Lange 2015 and Sapulete, van Witteloostuijn and Kaufmann 2014 for exceptions).

More research on the role of globalization is also needed. It would be interesting to examine if the tensions between local managers and works councils depend on the country of origin of the foreign parent firm. Attention is also needed into whether market failures requiring policy intervention are the same in a globalized world. Moreover, the issue of migration should be taken into account when examining the functioning of works councils.

Furthermore, implications of the “gig economy” for nonunion employee representation should be examined. Precarious work and crowd working have been increasing in many countries. What meaning does it have for Uber drivers or internet-based contractors to enjoy some participation rights?

Finally, future research should consider the influence of technological change on employee representation. Specifically, robots and other computer-assisted technologies appear to entail a huge threat to employment and wages (Acemoglu and Restrepo 2017). Beyond this, advances in artificial intelligence have been very rapid – the progress has been faster than widely predicted just a few years ago. This creates

an even stronger threat – some argue that it is an existential one – but it is possible that it opens new avenues for participation (Freeman 2015).

In sum, research on the economics of works councils has made considerable progress in recent years; but there remains a substantial and indeed growing agenda for high priority research.

References

- Acemoglu, Daron and Pascual Restrepo. 2017. "Robots and Jobs: Evidence from US Labor Markets," MIT Department of Economics Working Paper No. 17-04.
- Adams, Roy J. 1985. "Should Works Councils Be Used as Industrial Relations Policy?" *Monthly Labor Review* 108: 25 – 29.
- Addison, John T. 2009. *The Economics of Codetermination – Lessons from the German Experience*. Palgrave Macmillan.
- Addison, John T., Lutz Bellmann, Claus Schnabel and Joachim Wagner. 2004. "The Reform of the German Works Constitution Act: A Critical Assessment," *Industrial Relations* 43: 125 – 48.
- Addison, John T., Claus Schnabel and Joachim Wagner. 2001. "Works Councils in Germany: Their Effects on Establishment Performance," *Oxford Economic Papers* 53: 659 – 694.
- Addison, John T. and Paulino Teixeira. 2006. "The Effect of Works Councils on Employment Change," *Industrial Relations* 45: 1 – 25.
- Addison, John T. and Paulino Teixeira. 2008. "Works Councils and Employment Growth: A Rejoinder to Uwe Jirjahn's Critique," *German Journal of Industrial Relations* 15: 427 – 435.
- Addison, John T., Paulino Teixeira and Thomas Zwick. 2010. "German Works Councils and the Anatomy of Wages," *Industrial and Labor Relations Review* 63: 247 – 270.
- Aghion, Philippe and Benjamin Hermalin. 1990. "Legal Restrictions on Private Contracts Can Enhance Efficiency," *Journal of Law, Economics and Organization* 6: 381 – 409.
- Aghion, Philippe and Jean Tirole. 1994. "The Management of Innovation," *Quarterly Journal of Economics* 109: 1185 – 1210.
- Askildsen, Jan Erik, Uwe Jirjahn and Stephen C. Smith. 2006. "Works Councils and Environmental Investment: Theory and Evidence from German Panel Data," *Journal of Economic Behavior and Organization* 60: 346 – 372.
- Backes-Gellner, Uschi, Jens Mohrenweiser and Kerstin Pull. 2015. "The Effectiveness of Codetermination Laws in Cooperative and Adversarial Employment Relations: When Does Regulation Have Bite?" *Economic and Industrial Democracy* 36: 215 - 238.
- Backes-Gellner and Simone N. Tuor. 2010. "Avoiding Labor Shortages by Employer Signaling – On the Importance of Good Work Climate and Labor Relations," *Industrial and Labor Relations Review* 63: 271 – 86.
- Baker, George, Robert Gibbons and Kevin J. Murphy. 1994. "Subjective Performance Measures in Optimal Incentive Contracts," *Quarterly Journal of Economics* 109: 1125 – 1156.

- Bardhan, Pranab, Samuel Bowles and Herbert Gintis. 2000. "Wealth Inequality, Wealth Constraints and Economic Performance," in Anthony Atkinson and Francios Bourguignon, eds., *Handbook of Income Distribution*, Vol. 1, Elsevier: 541 – 603.
- Behrens, Martin. 2009. "Still Married after All These Years? Union Organizing and the Role of Works Councils in German Industrial Relations," *Industrial and Labor Relations Review* 63: 275 – 93.
- Berle, A. and G. Means. 1932. *The Modern Corporation and Private Equity*. New York.
- Bertrand, Marianne. 2004. "From the Invisible Handshake to the Visible Hand? How Import Competition Changes the Employment Relationship," *Journal of Labor Economics* 22: 723 – 765.
- Blair, M.M. 1999. "Firm-specific Human Capital and Theories of the Firm," in *Employees and Corporate Governance*, edited by M.M. Blair and M.J. Roe, Washington: Brookings.
- Bowles, Samuel and Herbert Gintis. 1994 "Credit Market Imperfections and the Incidence of Worker Owned Firms," *Metroeconomica* 45: 209 – 223.
- Bull, C. 1987. "The Existence of Self-enforcing Implicit Contracts," *Quarterly Journal of Economics* 102: 147 – 159.
- Burdin, Gabriel and Virginie Perotin. 2016. "Employee Representation and Flexible Working Time," IZA Discussion Paper No. 10437, Bonn.
- Chandola, Tarani and Nan Zhang. 2017. "Re-employment, Job Quality, Health and Allostatic Load Biomarkers: Prospective Evidence from the UK Household Longitudinal Study," *International Journal of Epidemiology*, Forthcoming.
- Conlin, M. and T. Furusawa. 2000. "Strategic Delegation and Delay in Negotiations over the Bargaining Agenda," *Journal of Labor Economics* 18: 55 – 73.
- Demougin, D. and H. Illing. 1993. "Property Rights and Regulation of Environmental Quality under Asymmetric Information," *Journal of Economics and Statistics* 211: 385 – 402.
- Department for Business, Energy, and Industrial Strategy. 2016. "Corporate Governance Reform: Green Paper," https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/584013/corporate-governance-reform-green-paper.pdf
- Dilger, Alexander. 2002. *Ökonomik betrieblicher Mitbestimmung*. München und Mering: Rainer Hampp Verlag.
- Dill, Verena and Uwe Jirjahn. 2016. "Foreign Owners and Perceived Job Insecurity in Germany: Evidence from Matched Employer-Employee Data," *International Journal of Manpower* 37: 1286 – 1303.
- Dill, Verena and Uwe Jirjahn. 2017. "Foreign Owners and the Quality of Industrial Relations in Germany," *Economic and Industrial Democracy* 38: 5 – 25.

- Dill, Verena, Uwe Jirjahn and Stephen C. Smith. 2016. "Do Foreign Owners Favour Short-Term Profit? Evidence from Germany," *Cambridge Journal of Economics* 40: 123 – 140.
- Doucouliaqos, Hristos, Richard B. Freeman and Patrice Laroche. 2017. *The Economics of Trade Unions: A Study of a Research Field and Its Findings*. Routledge, New York, NY.
- Dow, Gregory. 1987. "The Function of Authority in Transaction Cost Economics," *Journal of Economic Behavior and Organization* 8: 13 – 38.
- Drèze, Jacques. 1976. "Some Theory of Labor Management and Participation," *Econometrica* 44: 1125 – 1140.
- Drèze, Jacques and Kare P. Hagen. 1978. "Choice of Product Quality: Equilibrium and Efficiency," *Econometrica* 46: 493 – 513.
- Dustmann, C., B. Fitzenberger, U. Schönberg and A. Spitz-Oener. 2014. "From Sick Man of Europe to Economic Superstar: Germany's Resurgent Economy," *Journal of Economic Perspectives* 28: 167 – 188.
- Dustmann, Christian, Johannes Ludsteck and Uta Schoenberg. 2009. "Revisiting the German Wage Structure." *Quarterly Journal of Economics* 124: 843-81.
- Eger, Thomas. 2004. "Opportunistic Termination of Employment Contracts and Legal Protection against Dismissal in Germany and the United States," *International Review of Law and Economics* 23: 381 – 403.
- Eguchi, Kyota. 2002. "Unions as Commitment Devices," *Journal of Economic Behavior and Organization* 47: 407 – 421.
- Ellguth, Peter and Susanne Kohaut. 2009. "Tarifbindung und betriebliche Interessenvertretung in Ost und West: Schwund unterm sicheren Dach," IAB Forum 2/2009.
- Ellguth, Peter and Markus Promberger. 2004. "Arbeitszeitsituation und Betriebsrat – eine Matched-Pair-Analyse mit Daten des IAB-Betriebspanels," in: Lutz Bellmann and Claus Schnabel, eds., *Betriebliche Arbeitszeitpolitik im Wandel*. Nuremberg: BeitrAB: 111 – 131.
- Ellguth, Peter and Rainer Trinczek. 2016. "Erosion der betrieblichen Mitbestimmung – Welche Rolle spielt der Strukturwandel?" *WSI Mitteilungen* 69: 172 – 182.
- Fairris, David and Philippe Askenazy. 2010. "Works Councils and Firm Productivity in France," *Journal of Labor Research* 31: 209 – 229.
- Fauver, L. and M. Fuerst. 2006. "Does Good Corporate Governance Include Employee Representation? Evidence from German Corporate Boards," *Journal of Financial Economics* 82: 673 – 710.

- Forth, John, Alex Bryson and Anitha George. 2017. "Explaining Cross-National Variation in Workplace Employee Representation," *European Journal of Industrial Relations*, Forthcoming.
- Foss, Kirsten, Nicolai J. Foss and Xose H. Vazquez. 2006. "Tying the Manager's Hands: Constraining Opportunistic Managerial Intervention," *Cambridge Journal of Economics* 30: 797 – 818.
- Freeman, Richard B. 1976. "Individual Mobility and Union Voice in the Labor Market," *American Economic Review* 66: 361 – 377.
- Freeman, Richard B. 2015. "Who Owns the Robots Rules the World," *IZA World of Labor*, at: <https://wol.iza.org/articles/who-owns-the-robots-rules-the-world/long>
- Freeman, Richard B. and Edward P. Lazear. 1995. "An Economic Analysis of Works Councils," in *Works Councils – Consultation, Representation and Cooperation in Industrial Relations*, edited by Joel Rogers and Wolfgang Streeck, Chicago: University of Chicago Press: 27 – 52.
- Freeman, Richard B. and James L. Medoff. 1979. "The Two Faces of Unionism," *The Public Interest* 57: 69 – 93.
- Freeman, Richard B. and James L. Medoff. 1984. *What Do Unions Do?* New York: Basic Books.
- Freeman, R.B. and J. Rogers. 1999. *What Workers Want*. Cornell University Press ILR Press.
- Frege, Carola M. 2002. "A Critical Assessment of the Theoretical and Empirical Research on German Works Councils," *British Journal of Industrial Relations* 40: 221 – 248.
- Frick, Bernd and Iris Moeller. 2003. "Mandated Works Councils and Firm Performance: Labor Productivity and Personnel Turnover in German Establishments," *Journal of Applied Social Science Studies* 123: 423 – 454.
- Gartner H. and G. Stephan. 2004. "How Collective Contracts and Works Councils Reduce the Gender Wage Gap," Nuremberg, IAB Discussion Paper No. 07.
- Gerlach, Knut and Uwe Jirjahn. 2001. "Employer Provided Further Training: Evidence from German Establishment Data," *Journal of Applied Social Science Studies* 121: 1-26.
- Gernandt, Johannes and Friedhelm Pfeiffer. 2007. "Rising Wage Inequality in Germany," *Journal of Economics and Statistics* 227: 358 – 380.
- Gilman, Mark and Paul Marginson. 2002. "Negotiating European Works Councils: Contours of Constrained Choice," *Industrial Relations Journal*. 33: 36-51.
- Greenberg, Edward S., 1981. "Industrial Democracy and the Individual Citizen," *Journal of Politics*, 43, 4.
- Griep, Yannick, et al, 2016. "The effects of unemployment and perceived job insecurity: a comparison of their association with psychological and somatic complaints, self-rated

- health and life satisfaction," *International Archives of Occupational and Environmental Health* 89: 147 – 162.
- Grund, Christian, Johannes Martin and Andreas Schmitt. 2016. "Work Councils, Quits and Dismissals," *German Journal of Human Resource Management* 30: 53 – 75.
- Hashimoto, Masanori and Ben T. Yu. 1980. "Specific Capital, Employment Contracts, and Wage Rigidity," *Bell Journal of Economics* 11: 536 – 549.
- Heinze A. and E. Wolf. 2010. "The Intra-firm Gender Wage Gap: A New View on Wage Differentials Based on Linked Employer-Employee Data," *Journal of Population Economics* 23: 851 – 879.
- Hellerstein J., D. Neumark and K. Troske. 2002. "Market Forces and Sex Discrimination," *Journal of Human Resources* 37: 353 – 380.
- Heywood, John S., Olaf Huebler and Uwe Jirjahn. 1998. "Variable Payment Schemes and Industrial Relations: Evidence from Germany," *Kyklos* 51: 237 – 257.
- Heywood, John S. and Uwe Jirjahn. 2002. "Payment Schemes and Gender in Germany," *Industrial and Labor Relations Review* 56: 44 – 64.
- Heywood, John S. and Uwe Jirjahn. 2009. "Family Friendly Practices and Worker Representation: German Evidence," *Industrial Relations* 48: 121 – 145.
- Heywood, John S. and Uwe Jirjahn. 2014. "Variable Pay, Industrial Relations and Foreign Ownership: Evidence from Germany," *British Journal of Industrial Relations* 52: 521 – 552.
- Heywood, John S. and Uwe Jirjahn. 2016. "The Hiring and Employment of Older Workers in Germany," *Journal for Labour Market Research* 49: 349 – 366.
- Heywood, John S., Uwe Jirjahn and Georgi Tsertsvadze. 2010. "Hiring Older Workers and Employing Older Workers: German Evidence," *Journal of Population Economics* 23: 595 – 615.
- Hogan, C. 2001. "Enforcement of Implicit Contracts through Unions," *Journal of Labor Economics* 19: 171 – 195.
- Hovestadt, Gertrud, 2005. „Wissenserwerb und Lernverhalten von Betriebsratsmitgliedern,“ Hans-Böckler-Stiftung, Arbeitspapier 107, Düsseldorf.
- Hovestadt, Gertrud and Katrin Teipen, 2010. "Institute zur Schulung betrieblicher Arbeitnehmervertreter. Eine empirische Studie," edition der Hans-Böckler-Stiftung No. 246, Düsseldorf.
- Huebler, Olaf. 2003. "Zum Einfluss des Betriebsrats in mittelgroßen Unternehmen auf Investitionen, Löhne, Produktivität und Renten – Empirische Befunde," in: Goldschmidt N., ed., *Wunderbare Wirtschaftswelt – Die New Economy und ihre Herausforderungen*, Nomos, Baden-Baden: 77 – 94.

- Huebler, Olaf and Uwe Jirjahn. 2003. "Works Councils and Collective Bargaining in Germany: The Impact on Productivity and Wages," *Scottish Journal of Political Economy* 50: 1 – 21.
- Huebler, Olaf and Wolfgang Meyer. 2001. "Industrial Relations and the Wage Differentials within Firms," *Journal of Applied Social Science Studies* 121: 285 – 312.
- Illing, H. 1992. "Private Information as Transaction Costs: The Coase Theorem Revisited," *Journal of Institutional and Theoretical Economics* 148: 558 – 576.
- Jenkins, Jean and Paul Blyton. 2008. "Works Councils," in P. Blyton, N. Bacon, J. Fiorito and E. Heery, eds., *The Sage Handbook of Industrial Relations*, London: Sage: 346 – 357.
- Jensen, M.C. and W.H. Meckling. 1979. "Rights and Production Functions: An Application to Labor Managed Firms and Codetermination," *Journal of Business* 52: 469 – 506.
- Jian, Guowei and Leo Jeffres, 2008. "Spanning the Boundaries of Work: Workplace Participation, Political Efficacy, and Political Involvement," *Communication Studies* 59: 35 – 50.
- Jirjahn, Uwe. 2003a. "Produktivitätswirkungen betrieblicher Mitbestimmung – Welchen Einfluss haben Betriebsgröße und Tarifbindung?" *Zeitschrift für Betriebswirtschaft* 73: 63 – 85.
- Jirjahn, Uwe. 2003b. "Executive Incentives, Works Councils and Firm Performance," *Journal of Applied Social Science Studies* 123: 397 – 421.
- Jirjahn, Uwe. 2005. "Ökonomische Wirkungen des novellierten Betriebsverfassungsgesetzes," *Journal for Labour Market Research* 38: 241 – 267.
- Jirjahn, Uwe. 2008a. "Betriebsräte und Beschäftigungswachstum: Spielt die Spezifikation der Betriebsgröße eine Rolle für den geschätzten Zusammenhang?" *German Journal of Industrial Relations* 15: 279 – 291.
- Jirjahn, Uwe. 2008b. "Works Councils and Employment Growth: A Reply to Addison and Teixeira," *German Journal of Industrial Relations* 15: 436 – 449.
- Jirjahn, Uwe. 2009. "The Introduction of Works Councils in German Establishments: Rent Seeking or Rent Protection?" *British Journal of Industrial Relations* 47: 521 – 545.
- Jirjahn, Uwe. 2010. "Works Councils and Employment Growth in German Establishments," *Cambridge Journal of Economics* 34: 475 – 500.
- Jirjahn, Uwe. 2011a. "Ökonomische Wirkungen der Mitbestimmung in Deutschland: Ein Update," *Journal of Applied Social Science Studies* 131: 3 – 57.
- Jirjahn, Uwe. 2011b. "Gender, Worker Representation and the Profitability of Firms in Germany," *European Journal of Comparative Economics* 8: 281 – 298.
- Jirjahn, Uwe. 2012. "Nonunion Worker Representation and the Closure of Establishments: German Evidence on the Role of Moderating Factors," *Economic and Industrial Democracy* 33: 4 – 26.

- Jirjahn, Uwe 2016a. "The Contribution of Labour Economics to the Analysis of Unions and Collective Bargaining in Germany," in I. Artus et al., eds., *Developments in German Industrial Relations*, Cambridge Scholars Publishing, Cambridge: 187 – 220.
- Jirjahn, Uwe. 2016b. "Works Councils and Employer Attitudes toward the Incentive Effects of HRM Practices," Research Papers in Economics No. 07/16, University of Trier.
- Jirjahn, Uwe. 2016c. "Which Employers Regard the Threat of Dismissal as a Suitable Incentive to Motivate Workers?" *Applied Economics Letters* 23: 614 – 617.
- Jirjahn, Uwe. 2017. "Works Councils and Collective Bargaining in Germany: A Simple Theoretical Extension to Reconcile Conflicting Empirical Findings," *Journal of Institutional and Theoretical Economics* 173: 322 – 346.
- Jirjahn, Uwe and Kornelius Kraft. 2007. "Intra-Firm Wage Dispersion and Firm Performance – Is There a Uniform Relationship?" *Kyklos* 60: 231 – 253.
- Jirjahn, Uwe and Kornelius Kraft. 2010. "Teamwork and Intra-Firm Wage Dispersion among Blue-Collar Workers," *Scottish Journal of Political Economy* 57: 404 – 429.
- Jirjahn, Uwe and Kornelius Kraft. 2011. "Do Spillovers Stimulate Incremental or Drastic Product Innovations? Evidence from German Establishment Data," *Oxford Bulletin of Economics and Statistics* 73: 509 – 538.
- Jirjahn, Uwe and Vanessa Lange. 2015. "Reciprocity and Workers' Tastes for Representation," *Journal of Labor Research* 36: 188 – 209.
- Jirjahn, Uwe and Jens Mohrenweiser 2016. "Owner-Managers and the Failure of Newly Adopted Works Councils," *British Journal of Industrial Relations* 54: 815 – 845.
- Jirjahn, Uwe, Jens Mohrenweiser and Uschi Backes-Gellner. 2011. "Works Councils and Learning: On the Dynamic Dimension of Codetermination," *Kyklos* 64: 427 – 447.
- Jirjahn, Uwe and Steffen Mueller. 2014. "Nonunion Worker Representation, Foreign Owners and Firm Performance," *Oxford Economic Papers* 66: 140 – 163.
- Jirjahn, Uwe and Stephen C. Smith. 2006. "What Factors Lead to Management to Support or Oppose Employee Participation – with and without Works Councils? Hypotheses and Evidence from Germany," *Industrial Relations* 45: 650 – 680.
- Joshi, Sumit and Stephen C. Smith. 2008. "Endogenous Formation of Coops and Cooperative Leagues," *Journal of Economic Behavior and Organization* 68, 217–233.
- Jost, Thomas. 2013. "Inward FDI in Germany and Its Policy Implications, 2012," *Columbia FDI Profiles*, April 2013, Vale Columbia Center on Sustainable International Investment.
- Karasek, R. A., et. al. 1988. "Job characteristics in relation to the prevalence of myocardial infarction in the US health examination survey and the health and nutrition examination survey," *American Journal of Public Health* 78, 910 – 918.

- Kato, Takao, Ju Ho Lee, Kang-Sung Lee and Jang-Soo Ryu. 2005. "Employee Participation and Involvement in Korea: Evidence from a New Survey and Field Research," *International Economic Journal* 19: 251 – 281.
- Kaufman, Bruce E. and David I. Levine. 2000. "An Economic Analysis of Employee Representation," in *Nonunion Employee Representation: History, Contemporary Practice, and Policy*, edited by Bruce E. Kaufman and David I. Levine, New York: M.E. Sharpe: 149 – 175.
- Kitzmüller, M. and J. Shimshack. 2012. "Economic Perspectives on Corporate Social Responsibility," *Journal of Economic Literature* 50: 51–84.
- Kleiner, Morris M. and Young Myon Lee. 1997. "Works Councils and Unionization: Lessons from South Korea," *Industrial Relations* 36: 1 – 16.
- Kreps, D. M. 1990. "Corporate Culture and Economic Theory," in J.E. Alt and J.A. Shepsle, eds., *Perspectives on Positive Political Economy*, Cambridge, Cambridge University Press: 90 – 143.
- Kriechel, B., S. Muehlemann, H. Pfeifer and M. Schütte. 2014. "Works Councils, Collective Bargaining, and Apprenticeship Training – Evidence From German Firms," *Industrial Relations* 53: 199 – 222.
- Laffont, J.J. 1990. "Analysis of Hidden Gaming in a Three-Level Hierarchy," *Journal of Law, Economics and Organizations* 6: 301 – 24.
- Lazear, Edward P. 1979. "Why Is There Mandatory Retirement?" *Journal of Political Economy* 87 1261 – 1284.
- Lazear, Edward P. 1981. "Agency, Earnings Profiles, Productivity, and Hours Restrictions." *American Economic Review* 71: 606 – 621.
- Levine, David I. 1991a. "Just-Cause Employment Policies in the Presence of Worker Adverse Selection," *Journal of Labor Economics* 9: 294 – 305.
- Levine, David I. 1991b. "Cohesiveness, Productivity and Wage Dispersion," *Journal of Economic Behavior and Organization* 15: 237 – 255.
- Levine, David I. 1995. *Reinventing the Workplace: How Businesses and Employees Can Both Win*. Brookings Institution, Washington DC.
- Levine, D.I and R.J. Parkin. 1994. "Work Organization, Employment Security, and Macroeconomic Stability," *Journal of Economic Behavior and Organization* 24: 251 – 271.
- Mansbridge, Jane, 1980. *Beyond Adversarial Democracy*, New York: Basic Books
- McCain, R. A. 1980. "A Theory of Codetermination," *Zeitschrift für Nationalökonomie* 40: 65 – 90.

- Milgrom, Paul and John Roberts. 1992. *Economics, Organization and Management*. Englewood Cliffs, NJ: Prentice-Hall International.
- Mill, J. S., 1909. *Principles of Political Economy with Some of their Applications to Social Philosophy*, New York: Longmans, Green & Co.
- Mohrenweiser, Jens and Thomas Zwick. 2009. "Why Do Firms Train Apprentices? The Net Cost Puzzle Reconsidered," *Labour Economics* 16: 631 – 637.
- Mueller, Steffen. 2011. "Works Councils and Firm Profits Revisited," *British Journal of Industrial Relations* 49: s27 – s43.
- Mueller, Steffen. 2012. "Works Councils and Establishment Productivity," *Industrial and Labor Relations Review* 65: 880 – 898.
- Mueller, Steffen. 2015. "Works Councils and Labour Productivity: Looking beyond the Mean," *British Journal of Industrial Relations* 53: 308 – 325.
- Pateman, Carole (1970). *Participation and Democratic Theory*, Cambridge: Cambridge University Press
- Pfeifer, Christian. 2011. "Works Councils, Union Bargaining, and Quits in German Firms," *Economic and Industrial Democracy* 32: 243 – 260.
- Porter, M.E. and C. van der Linde. 1995. "Toward a New Conception of the Environment Competitiveness Relationship," *Journal of Economic Perspectives* 9: 97 – 118.
- Prendergast, C.J. 1995. "A Theory of Responsibility in Organizations," *Journal of Labor Economics* 13: 387 – 400.
- Prendergast, C.J. and R.H. Topel. 1996. "Favoritism in Organizations," *Journal of Political Economy* 104: 958 – 978.
- Rogers, J. and W. Streeck. 1995. *Works Councils – Consultation, Representation and Cooperation*. Chicago: University of Chicago Press.
- Sapulete, Saraï, Arjen van Witteloostuijn and Wesley Kaufmann. 2014. "An Experimental Study into the Influence of Works Council Advice on Managerial Decision-Making" *Scandinavian Journal of Management* 30: 358 – 371.
- Schmitt, Matthias. 2003. "Deregulation of the German Industrial Relations System via Foreign Direct Investment: Are the Subsidiaries of Anglo-Saxon MNCs a Threat for the Institutions of Industrial Democracy in Germany?" *Economic and Industrial Democracy* 24: 349 – 377.
- Smith, Stephen C. 1985. "Political Behavior as an Economic Externality: Econometric Evidence on the Spillover of Participation in U.S. Firms to Participation in Community Affairs," *Advances in the Economic Analysis of Participatory and Labor Managed Firms*, 1, 123-136.

- Smith, Stephen C. 1991. "On the Economic Rationale for Codetermination Law," *Journal of Economic Behavior and Organization* 16: 261 – 281.
- Smith, Stephen C. 1993. "Worker Participation and Workplace Public Goods: Some Theory and Attitudinal Evidence from U.S. Labor-Managed and Codetermined Firms," in S. Mahalingham et. al., eds., *Labour Participatory Economy*, Mittal: 69 – 93.
- Smith, Stephen C. 2003. "Network Externalities and Co-operative Networks: Stylized Facts and Theory," and "A Comparative Case Study of Mondragon and La Lega With Implications for Developing and Transition Countries," chapters 7-8, pp 181-241, in *Ownership and Governance of Enterprises*, World Institute of Development Economics Research, Laixiang Sun, ed., Palgrave Macmillan.
- Smith, Stephen C. 2006. "Employee Participation Rights in Corporate Governance: Economic Rationale, a Test of a Leading Theory, and Some Modest Policy Proposals," *Advances in the Economic Analysis of Participatory and Labor Managed Firms*, Vol. 9, Elsevier: 105 – 146.
- Stegmaier, Jens. 2012. "Effects of Works Councils on Firm Provided Further Training," *British Journal of Industrial Relations* 50: 667 – 689.
- Stettes, Oliver. 2010. "Verbreitung und ökonomische Effekte von Betriebsräten und alternativen Mitbestimmungsformen in der Industrie und deren Verbundbranchen," *Sozialer Fortschritt* 59: 199 – 209.
- Svejnar, Jan. 1982. "On the Theory of a Participatory Firm," *Journal of Economic Theory* 27: 313 – 330.
- Van den Berg, Annette, Yolanda Grift and Arjen van Witteloostuijn. 2011a. "Managerial Perceptions of Works Councils' Effectiveness in the Netherlands," *Industrial Relations* 50: 497 – 513.
- Van den Berg, Annette, Yolanda Grift and Arjen van Witteloostuijn. 2011b. "Works Councils and Organizational Performance: The Role of Top Managers' and Works Councils' Attitudes in bad vis-à-vis good times," *Journal of Labor Research* 32: 136 – 156.
- Van den Berg, Annette, Arjen van Witteloostuijn and Olivier Van der Brempt. 2017. "Employee Workplace Representation in Belgium: Effects on Firm Performance," *International Journal of Manpower* 38: 130 – 144.
- Vanek, Jaroslav, 1970. *The General Theory of Labor-Managed Market Economies*. Cornell University Press, Ithaca, NY.
- Vanek, Jaroslav, 1971. *The Participatory Economy*. Cornell University Press, Ithaca, NY.
- Wagner, Joachim. 2008. "German Works Councils and Productivity: First Evidence from a Nonparametric Test," *Applied Economics Letters* 15: 727 – 730.
- Zwick, Thomas. 2004. "Weiterbildungsintensität und betriebliche Produktivität," *Zeitschrift für Betriebswirtschaft* 74: 651 – 668.

- Zwick, Thomas. 2005. "Continuing Vocational Training Forms and Establishment Productivity in Germany," *German Economic Review* 6: 155 – 184.
- Zwick, Thomas. 2008. "Works Councils and the Productivity Effects of Different Continuing Training Measures," *Zeitschrift für Betriebswirtschaft* 78 (Special Issue 1): 137 – 149.
- Zwick, Thomas. 2011. "Seniority Wages and Establishment Characteristics," *Labour Economics* 18: 853 – 861.