WORKING PAPER

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by

Christian Pfeifer

University of Lüneburg
Working Paper Series in Economics

No. 420

May 2023

www.leuphana.de/institute/ivwl/working-papers.html

ISSN 1860 - 5508

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Works councils and satisfaction with democracy in Germany

Christian Pfeifer [a) b)]

[a)] *Institute of Economics, Leuphana University Lueneburg, Universitätsallee 1, 21335 Lueneburg, Germany. E-Mail: christian.pfeifer@leuphana.de.*

ORCID: 0000-0002-6066-1017

[b)] *Forschungsinstitut zur Zukunft der Arbeit (IZA), Bonn, Germany.*

(Date of this version: 11.5.2023)

Abstract

Many citizens are relatively dissatisfied with the democratic regimes they live in, which can be a threat to political stability. This paper reports empirical evidence that workers in firms with works councils are on average significantly more satisfied with the democracy as it exists in Germany than workers in firms without such a participatory workplace institution. This result holds in regressions for subsamples, in panel regressions accounting for unobserved individual heterogeneity, and in endogenous treatment regressions. It gives support to the "spillover thesis" that participatory workplace characteristics have a broader effect on society. Consequently, strengthening worker codetermination might help to increase the overall satisfaction with the democratic regime and foster political stability.

Keywords: democracy; codetermination; satisfaction; "spillover thesis"; works councils

JEL classifications: D02; D72; J58; (J83)

1. Introduction

Democracy seems under pressure and populism as well as authoritarianism – on the right and on the left side of the political spectrum – seem on the rise in recent years.[1] New populist parties (e.g. AfD in Germany, Five-Stars in Italy, Podemos in Spain, SYRIZA in Greece, UKIP in the United Kingdom) have emerged. Some people call and vote for the "strong (wo)man" in charge (e.g., Trump in the United States, Putin in Russia, Bolsonaro in Brazil, Erdogan in Turkey), i.e., favoring autocracies. Others want more power for the people – or the street – resulting in extra-parliamentary activist movements to increase pressure on the political system for certain policies (e.g., Fridays for Future, Black Life Matters, LGBTQ). A stable democracy relies, however, on the support of its citizens. Even if the majority of citizens is in favor of democracy, regimes still differ in their degrees of democracy and stability requires that citizens are satisfied with the outcomes under the existing regime. A regime thereby presents the overall constitutional setting of a country and does not necessarily depend on a specific political party in power. The overall support of democratic regimes seems not to have declined steadily over the past decades as sometimes suggested; it fluctuates in certain times such as economic crisis or due to cultural change and higher expectations (Martini and Quaranta, 2020, chapter 1 and chapter 4).[2]

This paper is not about changes in aggregated satisfaction with democracy (SWD) over time and the reasons for those changes, but about codetermination at the workplace as a potential important determinant of individual satisfaction with democracy. Worker codetermination within German firms is usually organized via institutionalized works councils. The simple hypothesis tested with German survey data is that citizens, who work in firms with a works council, are more satisfied with the democracy as it currently exists in Germany. The potential mechanism behind this hypothesis is related to the "spillover thesis". Pateman (1970) argues that experiences with democratic practices at the workplace (e.g., worker owned or worker self-managed firms, worker cooperatives) have a positive spillover effect on behavior in the overall political spectrum such as engagement in political parties and participation in elections. Pateman (2012, p. 10) states: "*Individuals learn to participate by participating (the educative*

[1] See Guriev and Papaioannou (2022) for an extensive review about populism, authoritarianism, voting behavior, trends, current and historical examples.

[2] For a recent critical discussion in political science about the future of democracy see, for example, Welzel (2021), Fao et al. (2022), and Welzel et al. (2022).

or developmental side of participatory democracy, the aspect most often mentioned). Thus, individuals need to interact within democratic authority structures that make participation possible." Works councils as a democratic institution at the workplace are likely to have such an effect. I further argue that experiences with works councils do not only positively affect political engagement and voting behavior but also the overall perception of the democratic regime and, hence, can help to stabilize democracies.

The contributions of my paper are fourfold. First, I add works councils as an important workplace characteristic to the empirical literature about determinants of satisfaction with democracy. Second, I contribute to the empirical literature about the "spillover thesis" by adding satisfaction with democracy as an additional outcome of workplace democracy. Third, by analyzing the effects of works councils on satisfaction with democracy, I contribute to the empirical literature about the broader effects of industrial relations, which usually analyses private benefits and costs for workers and firms. Fourth, I use panel data and endogenous treatment models to address causality. The results are important in the context of strengthening worker codetermination at the workplace to foster stability of the overall democratic regime in turbulent times.

My empirical analysis reveals a significant positive correlation between the existence of a works council at the own workplace and individual satisfaction with democracy as it exists in Germany using the cross section for the year 2016 from the German Socio-Economic Panel (SOEP). This finding is robust across different specifications (including control variables such as job satisfaction, risk aversion, health, affective well-being, and socio-demographics) and regression techniques (linear and ordered probit regressions). The reason for using only the cross section 2016 is that both variables of interest are only included in the same survey year 2016. By using information about works councils one year later and accepting to some degree imprecisions and a smaller estimation sample, a balanced panel data set can be constructed that allows to estimate individual fixed effects regressions to deal with unobserved time-invariant heterogeneity. Note, that such a fixed effects approach only exploits the within variance in the data, i.e., changes in the works council existence at the workplace either by workers switching between firms with and without works councils or by the introduction and the abolishment of works councils in firms. Although of lower statistical significance, the fixed effects regression results support the hypothesis that works councils and satisfaction with democracy are positively correlated. One remaining identification problem is reverse causality, if workers who

are more satisfied with the democracy would be more likely to sort themselves into firms with works councils. In order to deal with reverse causality and omitted variables biases further robustness checks are performed using linear instrumental variable regressions (IV) and extended ordered probit regression with endogenous binary treatment assignment. The estimated correlations between the error terms of the equations for works councils and satisfaction with democracy are significantly negative, i.e., unobservable characteristics reduce the probability to work in a firm with a works council and increase observed satisfaction with democracy. Consequently, conventional estimates suffer rather from a downward than an upward bias. The overall results indicate that the existence of a works council at the workplace is likely to have on average a positive causal effect on the satisfaction with democracy in Germany.

The remainder of the paper is organized as follows. In the next section, I discuss selected literature from economics, industrial relations, and political science related to satisfaction with democracy, the "spillover thesis", and works councils. Section 3 follows with information about the data, variables, and estimation approaches. Section 4 reports and discusses the estimation results. The paper concludes with a short summary of the main findings and implications.

2. Satisfaction with democracy, "spillover thesis", and works councils

In political science, satisfaction with democracy (SWD) is a frequently used survey item. It measures the level of support for how the democratic regime works in practice, i.e., regime performance rather than the level of support for normative principles of democracy, system legitimacy, a specific political party or politician (Linde and Ekman, 2003; Martini and

Quaranta, 2020, chapter 2).[3] Much empirical research in comparative political science is devoted to assessing and comparing mean levels of SWD between countries (regimes) and some studies estimate the determinants of SWD. But economic and socio-demographic variables do not seem to be in the center of attention. Quaranta and Martini (2016, page 172) state for political science: *"Although emphasis on the relevance of the direct impact of economic performance on satisfaction with democracy is present in empirical research, comparative analyses have failed to achieve conclusive findings. As a result, interest has diminished and economic conditions have lost their central position in the field. […] the uncertainty in results is mainly due to the analytical strategy, together with differences in measurements and the relatively small number of surveys used, regardless of data availability. Often, empirical approaches to the study of satisfaction with democracy do not take advantage of repeated cross-sectional surveys, and base their analysis on single cross-sections. While when longitudinal analyses are provided, these are based on aggregate data."* In their own empirical analysis using individual data from the Eurobarometers 1973-2013, Quaranta and Martini (2016) find that SWD is positively correlated with GDP growth and negatively correlated with inflation and unemployment in a country.

Economists have also been interested in SWD. For example, Wagner et al. (2009) generate the average SWD at the country level from the Eurobarometers 1990-2000, which are regressed on macroeconomic and institutional quality variables. Average SWD is larger in countries with higher GDP growth, lower inflation and unemployment rates, rule of law, well-functioning regulation, and low corruption. Halla et al. (2013) use individual data from the Eurobarometers 1973-2001 and regress SWD on variables for environmental policy and environmental quality, which are positively correlated with SWD – and to a lesser extent with overall life satisfaction.

[3] For a detailed discussion of the different meanings of satisfaction with democracy see Martini and Quaranta (2020, chapter 2). I follow in principle Martini and Quaranta (2020, page 5), who *"view political trust and satisfaction as the result of judgements regarding the functioning of the democratic system and its representative pillars. Unlike a 'culturalist approach', which assumes supportive attitudes to emerge from early-life processes of socialization outside political experience, this book follows an 'institutional approach', considering attitudes of political support to be results of assessments of the contextual situations in which citizens live and of the behaviour of authorities."* Martini and Quaranta (2020, page 9) continue that *"relevant heuristics are often derived from personal experience in the social and political realms, which are then used to assess democracy and political institutions, creating heterogeneities in how people support institutions and are satisfied with democratic functioning."* Martini and Quaranta (2020, page 24) further argue *"that both satisfaction with democracy and trust in institutions can be understood as evaluations implying individual judgements of a political object based on specific features. In the case of satisfaction with the functioning of democracy, this can be considered an assessment of regime procedures in practice, in which an individual balances her/his personal expectations against perceptions of actual performance."*

They further find that SWD is larger in countries with higher GDP and GDP growth and that unemployed individuals are less satisfied with the democracy in their country. Friedrichsen and Zahn (2014) also use individual data from the Eurobarometers 1976-2010 and regress SWD on macroeconomic variables as well as on some individual variables (employment status, married, sex, age, education). They additionally include life satisfaction to control for unobserved individual heterogeneity. The probability to be satisfied with democracy is larger for individuals living in a country with higher GDP growth, lower inflation rates, and lower unemployment rates; unemployed and lower educated individuals are less satisfied with democracy. Hence, it seems not very controversial that macroeconomic performance and economic well-being affect SWD. Pfeifer and Schneck (2017) have further presented evidence with German survey data (SOEP) that workers, who perceive their own pay or top managers' pay as unfair, are on average significantly less satisfied with the democracy in Germany. Thus, fairness perceptions in the labor market and of income inequality seem to have spillover effects on the overall satisfaction with the democratic system.

Such spillover effects from labor markets to the political spectrum have been discussed in political science in the context of the "spillover thesis" based on Pateman (1970).[4] The "spillover thesis" postulates that workplace participation has a positive spillover effect on behavior in the broader political spectrum (e.g., engagement in parties, voting), because workplace participation leads to learning of participative behavior and positive experiences with democracy. Empirical evidence in political science is however not always supportive, which might partly be explained by specific study designs (e.g., comparison of worker cooperatives with conventional firms) and the use of different variables. Please see Carter (2006), Kim (2021), and Rybnikova (2022) for critical reviews of empirical studies addressing the "spillover thesis" with different political outcome variables and different participatory workplace or job characteristics. In this paper, I take works councils in Germany as a participatory workplace characteristic, which give workers codetermination rights and can be interpreted as a formal workplace democracy institution.[5]

[4] For a more detailed discussion of the "simple spillover thesis" and its modifications (e.g., interaction of workplace participation with workers' expectations and economic environment) see Carter (2006).

[5] See Jirjahn and Le (2022) for a discussion of the general effects of works councils and works councils as an institution to foster workplace democracy in the context of the "spillover thesis".

Works councils in Germany (e.g., Müller-Jentsch, 1995; Streeck, 1995; Addison et al., 2004) were already legally implemented in the year 1920 ("Betriebsrätegesetz"). But works council activities have been forbidden under the Nazi regime in 1934 and have been allowed again after World War 2 in 1946. In 1952, the Works Constitution Act ("Betriebsverfassungsgesetz") came into effect with reforms in 1972 and 2001. Legally formed works councils incorporate many participatory aspects and are organized in a democratic way. Workers can decide in establishments with at least five employees, if they want to introduce a works council, and then must elect the works councilors from their workforce. Formally the works council is independent of the unions. In practice, however, many works councilors are not only union members but also union nominees. Nevertheless, the roles of unions and works councils are clearly divided, because unions moderate distributional conflicts with the employers' associations, whereas works councils serve as an overseeing plant consultation. Thus, bargaining about wages and many other important working conditions (e.g., working time) is generally performed by unions in collective agreements with employers' associations at a regional and industry level.

Although German works councils cannot formally negotiate about wages, they have extensive legal rights in terms of information, consultation, and codetermination regarding important fields of the firms' operation and decision-making, especially employment. For example, they deal with the dates of payments, the beginning and end of the daily working time, breaks, overtime, holidays, safety and health measures, social arrangements, pay for performance measures, employee suggestion systems, teamwork arrangements, environmental issues, introduction of new technologies, human resources planning, training, hiring and layoff decisions. The number of works councilors and the codetermination rights increase with establishment size (e.g., works councils have the right to establish an economic committee in establishments with more than 100 employees). Even in areas without explicit codetermination rights, the works council is usually informed by the management and might have some say in order to avoid disagreements in areas with legal codetermination rights. An important instrument to achieve employees' objectives is missing, because works councils, unlike unions, cannot call strikes. Therefore, much of the success of works councils depends on their relationships with the firms' management. If no agreement is reached, the works council and management can take the disagreement to an internal arbitration board or even the labor court.

To the best of my knowledge the effect of works councils on SWD has not been previously analyzed. But the effects of works councils and unions on other political outcome variables have been analyzed and empirical studies mostly report positive correlations lending support to the "spillover thesis". Most closely related to my paper, are Jirjahn and Le (2022; 2023), who use German survey data (SOEP) and panel regressions to analyze if works councils have a spillover effect into the political sphere. They find for male workers that being employed in a firm with a works council, being a works councilor, and being a union member are positively correlated with political interest (Jirjahn and Le, 2022) as well as with preferences for political parties on the left spectrum (Jirjahn and Le, 2023). D'Art and Turner (2007) use data from the European Social Survey for 2002/3 and show that union members as well as non-union members in firms with a union presence are more likely to vote and to be politically active. Bryson et al. (2013) use the Canadian general social survey for 2003 and report that union members have a higher probability to vote in elections and show more civic engagement than non-union members. Using the European Social Surveys for 2002-2008, Bryson et al. (2014) further find that union members and even former union members have a higher probability to have voted in the last elections and show more civic engagement than persons, who have never been a union member. Budd et al. (2018) use the European Social Survey for 2010/11, from which they construct an individual voice score at the workplace (not related to works councils or unions) that is positively correlated with a set of measures for political participation. Timming and Summers (2020) also use data from the European Social Survey for 2010/11 and report causal evidence in support of the "spillover thesis", because participation in decision making in the firm and union membership increase interest in politics and pro-democracy affect.

Further empirical studies, which are out of the scope and not considered in this paper, analyze other types of spillovers from the labor market to political outcomes. For example, Altindag and Mocan (2010) analyze determinants of different performance measures of democracy in the World Value Survey. One of their main findings is that Europeans, who are jobless for longer than one year, have a significant higher probability to agree with statements that democracy is bad for the economy, that democracies are indecisive, and that a rogue leader would have benefits. Braakmann (2018) finds with German survey data (SOEP) that job losses due to company closures lead to lower identification with mainstream political parties among men and to less interest in politics among women.

3. Data, variables, and estimation approaches

The German Socio-Economic Panel (SOEP[6]) is a large representative panel survey of private households and persons in Germany, which provides a rather stable set of core questions asked every year (e.g., employment, education, income) and yearly topics with additional detailed questions (Goebel et al., 2019). The question about SWD ("How satisfied are you with democracy as it exists in Germany?") has been asked in the survey years 2005, 2010, and 2016.[7] Note that SWD is not a concept like life or domain satisfaction that measure individual well-being or utility. SWD measures the level of support for how the democratic regime (overall constitutional setting of a country) works in practice (regime performance) rather than the level of support for normative principles of democracy, system legitimacy, a specific political party or politician in power (Linde and Ekman, 2003; Martini and Quaranta, 2020). Unfortunately, only in 2016 respondents are also asked about the existence of a works council in the same survey. Therefore, the first estimation sample includes only observations from the cross section 2016.

The question about works councils has however been asked in 2006 and 2011. Using this information about works councils one year later (lead t+1), the works council existence in 2006 serves as determinant for SWD in 2005 and the works council existence in 2011 as determinant for SWD in 2010. From a conceptual point of view, it is of course problematic to take a future information as a causal determinant for a current outcome. But at least information about job changes ensures that the respondents have been employed already in the same firm one year

[6] SOEP version 36: https://doi.org/10.5684/soep.core.v36eu

[7] In late 2005, Angela Merkel from the conservative CDU party was elected as German chancellor, which she was until 2021. She succeeded the social democrat Gerhard Schröder (SPD), who led a joint federal government with the Green party (Bündnis 90/ Die Grünen) since 1998. From 2005 to 2009 and from 2013 to 2021 she formed a coalition with the social democrats and from 2009 to 2013 a coalition with the liberal party (FDP). All three years, in which SWD was measured, are characterized by their own challenges. Germany had its highest unemployment rates since decades in the year 2005 and the coalition of social democrats and Green party had just started major reforms of the labor market and welfare state. The year 2010 can be characterized by the aftermath of the global financial crisis, from which the European debt crisis evolved. The major event in 2016 has been the immigration of about two million refugees into the European Union in the years 2015 and 2016. It seems surprising that the government in Germany has been quite stable in these turbulent times and has shown a low level of populism. For, example, the speeches of chancellor Angela Merkel have been ranked as being the least populistic among a rating of politician in several countries and years (Guriev and Papaioannou, 2022, pp. 765-766). But the labor market and welfare state reforms led to demonstrations, a split within the social democratic party, and essentially the break-up of the government in 2005. In the subsequent decade, a new party on the right side of the political spectrum (AfD) raised, which benefited from the "Euro and refugee crisis". Taken together, the mainstream parties in the political center have lost tremendously in members and voter support in Germany, as in many other European countries.

earlier, i.e., in the year SWD has been surveyed. However, this procedure still has the caveat of slight imprecisions and of a smaller estimation sample. This second estimation sample includes a balanced panel with individuals, who have participated in the years 2005, 2006, 2010, 2011, and 2016 to obtain information about SWD and works councils as well as sufficient within variance over a longer time period. The actual panel years for the estimations are then 2005, 2010, and 2016.

The nature of the research questions leads to some further sample restrictions. First, only German citizens (without and with indirect or direct migration background) are included, because it is about the democracy as it exists in Germany. Second, the sample includes only regular employed blue-collar and white-collar workers in part-time and full-time employment in private sector firms, who are between 18 and 65 years of age, i.e., self-employed, temporary workers, apprentices, civil servants etc. are excluded. Additionally, workers stating to be employed in private households and extra-territorial organizations and bodies are excluded. At last, observations with missing values in the used variables are dropped from the sample. The number of observations is 6085 in the cross section 2016 and 2592 for 864 individuals in the balanced panel.

The dependent variable SWD ("How satisfied are you with democracy as it exists in Germany?") is measured on an 11-point Likert scale from zero (completely dissatisfied) to ten (completely satisfied). In the cross section 2016, average SWD is only 5.75 (SD=2.33), which is relatively low compared to job satisfaction with a mean of 7.12 (SD=1.91). Because the dependent variable is measured on an 11-point Likert scale, it can be treated as quasi-continuous and ordinary least squares (OLS) can be applied (Ferrer-i-Carbonell and Frijters, 2004), which allows a straightforward quantitative interpretation of the estimated coefficients and the inclusion of individual fixed effects. As robustness check, ordered probit regressions are estimated to address the ordinal nature of the dependent variable.

We start by estimating linear regressions and ordered probit regressions for the cross section 2016. The explanatory variable of interest is the existence of a works council at the workplace, which is binary. About 48 percent of the observations in the year 2016 are employed in a firm with a works council. The first specification includes only the works council dummy and estimates the raw correlation. In the second specification, a set of control variables is added (general risk-taking preference, health status, emotional/ affective well-being (angry, worried, sad, happy), white-collar job, full-time employment, apprenticeship and college degree, age in

years, sex, migration background, number of persons living in household, having children younger than 16 in the household, four firm size categories, sixteen federal state dummies). In the third specification, job satisfaction is added, which can be interpreted as a "one-catch-all" job outcome variable that would also be positively affected by better outcomes due to works councils (e.g., pay, working time, employment security). Hence, the third specification also tells us if the effect of works councils on SWD is mediated by their effects on job satisfaction or if works councils have a direct effect on SWD. Moreover, SWD and job satisfaction are both measured on the same 11-point Likert scale from zero (completely dissatisfied) to ten (completely satisfied) so that a potential bias due to otherwise unobserved differences in answer behavior (e.g., due to differences in personality or references points) should be reduced. The sensitivity of the results is checked in subsamples (only firm size 20-1999, men vs. women, East vs. West), which might also help to detect effect heterogeneity between groups. The definitions, coding, and descriptive statistics of the used variables for the cross section 2016 are displayed in Table 1.

Although the outcome SWD is a different concept than life or domain satisfaction, the methodological concerns about unobserved individual heterogeneity and an omitted variable bias (Ferrer-i-Carbonell and Frijters, 2004) can also be relevant for the estimates of SWD. For example, unobserved individual preferences and personality characteristics can affect a worker's decision to work in a firm with a works council and her SWD ratings. Therefore, I estimate linear regressions with individual fixed effects for the constructed balanced panel. Note, that I only estimate fixed effects OLS, because of the incidental parameter problem in probit models in the balanced panel with three observations for each individual (2005, 2010, 2016). Moreover, we have a large reduction in sample size, because only 864 individuals are observed in this balanced panel and within variance (status change) in works council existence is rather low. 295 individuals are employed in firms without a works council and 442 individuals are employed in firms with a works council in all three years. Only for 127 individuals a status change in the existence of a works council is observed. Consequently, efficiency and statistical significance of the estimated coefficients for works councils is likely to be low. Another limitation is that the control variables for emotional well-being and risk-taking preferences are excluded, because they have not been included in the SOEP wave 2005. Because sex and migration background are time invariant in the data, they are also excluded from the fixed effects regressions. Having said this, the panel estimates serve only as a robustness check.

Table 1: Definitions and descriptive statistics of variables for cross section 2016

	Mean	SD	Min	Max
SWD: satisfaction with democracy (11-point Likert scale from 0 (low) to 10 (high))	5.745	2.331	0	10
Works council at workplace (dummy)	0.483		0	1
Satisfaction with job (11-point Likert scale from 0 (low) to 10 (high))	7.116	1.912	0	10
General risk-taking preferences (11-point Likert scale from 0 (low) to 10 (high))	5.112	2.259	0	10
Health status (5 categories from 1 (very good) to 5 (bad))	2.470	0.856	1	5
Emotional (affective) well-being: frequency of being angry (5 categories from 1 (very seldom) to 5 (very often))	2.879	0.978	1	5
Emotional (affective) well-being: frequency of being worried (5 categories from 1 (very seldom) to 5 (very often))	1.863	0.913	1	5
Emotional (affective) well-being: frequency of being sad (5 categories from 1 (very seldom) to 5 (very often))	2.188	0.959	1	5
Emotional (affective) well-being: frequency of being happy (5 categories from 1 (very seldom) to 5 (very often))	3.650	0.785	1	5
White-collar occupation (dummy)	0.754		0	1
Full-time employment (dummy)	0.728		0	1
Apprenticeship degree (dummy)	0.764		0	1
College degree (dummy)	0.240		0	1
Age in years	44.840	10.197	18	65
Female (dummy)	0.465		0	1
Migration background (dummy)	0.192		0	1
Number of persons in household	3.062	1.345	1	10
Children <16 years in household (dummy)	0.485		0	1
Establishment size (4 categories: <20, 20-199, 200-1999, ≥2000)	2.439	1.127	1	4
16 German federal states (dummies)				
Survey years (dummies)				

Notes: n=6085 in cross section 2016. No standard deviations (SD) for binary variables.
Source: SOEP version 36 (https://doi.org/10.5684/soep.core.v36eu). Own calculations.

A further robustness check to address unobserved heterogeneity as well as reverse causality issues are instrumental variable (IV) and endogenous treatment effects models, which are estimated for the cross section 2016. I first present linear IV regressions as standard reference, in which the first and the second stage are estimated with OLS. To account for the ordinal nature of the of SWD variable and the binary character of the works council variable, extended ordered probit regression with endogenous binary treatment assignment are more appropriate, i.e., binary probit in the first stage and ordered probit in the second stage. Both models have in common that instruments should be significantly correlated with the existence of a works

council at a workplace but not with individual ratings of SWD (exclusion restriction). This is of course the standard problem in the literature when estimating causal effects of works councils and there is no "golden bullet". Nevertheless, I apply a similar logic as Jirjahn and Mohrenweiser (2021) and Jirjahn et al. (2022), who analyze German establishment data and use the share of firms with a works council in an industry and region as instrument for the existence of a works council in an establishment. Following Jirjahn and Mohrenweiser (2021) and Jirjahn et al. (2022), I argue that sector belonging and the works council share in a specific sector are correlated with the existence of a works council in firms via spillover effects within a sector. I acknowledge that sector belonging and the works council share can also affect job characteristics and job satisfaction via spillover effects and might, consequently, not be a valid instrument for outcome variables related to own utility or well-being. But for estimating SWD it is more reasonable to assume that average sector characteristics are not significantly correlated with SWD, especially if SWD is further conditioned on job satisfaction. I use four different instruments based on the explained logic: (a) dummies for 54 detailed NACE sectors, (b) the works council share in each of these 54 detailed NACE sectors (based on the estimation sample), (c) dummies for 14 aggregated NACE sections, (b) the works council share in each of these 14 aggregated NACE sections (based on the estimation sample). Due to some missing information in the NACE sector variable, the estimation sample for the cross section 2016 includes 5733 observations.

4. Estimation results for the effect of works councils on satisfaction with democracy

We start by estimating three specifications with linear (OLS) regressions for the complete cross section 2016 in Table 2. In the first specification, satisfaction with democracy (SWD) is regressed only on the binary indicator if a works council exists at the workplace. This raw correlation is 0.248 and statistically significant at $p<0.001$. Adding the set of control variables changes little about the positive significant correlation. It is reduced only to 0.200 ($p=0.007$) in the second specification. The third specification includes additionally job satisfaction. Even though job satisfaction is positively correlated with SWD by itself, it does not change the coefficient of the works council variable, which is still 0.202 ($p=0.006$). Thus, the results do not indicate a mediation effect via increased job satisfaction due to works councils. They rather indicate a direct effect of works councils on SWD.

Table 2: OLS regressions for complete cross section 2016

	(1)	(2)	(3)
Works council	0.248 ***	0.200 ***	0.202 ***
	(<0.001)	(0.007)	(0.006)
Job satisfaction			0.151 ***
			(<0.001)
General risk-taking preference		-0.030 **	-0.036 ***
		(0.016)	(0.004)
Health status		-0.355 ***	-0.288 ***
		(<0.001)	(<0.001)
Angry		-0.392 ***	-0.324 ***
		(<0.001)	(<0.001)
Worried		-0.112 ***	-0.092 ***
		(0.002)	(0.010)
Sad		-0.090 **	-0.081 **
		(0.010)	(0.019)
Happy		0.144 ***	0.107 ***
		(<0.001)	(0.005)
White-collar occupation		0.508 ***	0.483 ***
		(<0.001)	(<0.001)
Full-time employment		-0.057	-0.066
		(0.452)	(0.380)
Apprenticeship degree		0.004	0.007
		(0.957)	(0.927)
College degree		0.788 ***	0.818 ***
		(<0.001)	(<0.001)
Age		0.003	0.003
		(0.364)	(0.304)
Female		0.053	0.032
		(0.452)	(0.644)
Migration background		0.396 ***	0.382 ***
		(<0.001)	(<0.001)
Number of persons in household		0.166 ***	0.161 ***
		(<0.001)	(<0.001)
Children <16 years in household		-0.072	-0.086
		(0.342)	(0.250)
Establishment size categories (ref. <20)			
20-199 employees		-0.077	-0.058
		(0.323)	(0.450)
200-1999 employees		-0.112	-0.080
		(0.247)	(0.405)
≥2000 employees		-0.217 **	-0.200 **
		(0.029)	(0.043)
Federal states (16 dummies)	No	Yes	Yes
Constant	5.625 ***	6.605 ***	5.274 ***
	(<0.001)	(<0.001)	(<0.001)
R-squared	0.003	0.183	0.195
Adjusted R-squared	0.003	0.179	0.191

Notes: Number of observations is 6085 workers from the cross section 2016 in all regressions. Outcome variable of interest is SWD (satisfaction with democracy measured on 11-point Likert scale from 0 (low) to 10 (high)). Coefficients estimated with OLS regressions. p-values in parentheses. *** p<0.01, ** p<0.05, * p<0.10.
Source: SOEP version 36 (https://doi.org/10.5684/soep.core.v36eu). Own calculations.

The ordered probit regressions in Table 3 acknowledge the ordinal character of the dependent variable. The results are robust, revealing coefficients for works councils around 0.1, which are statistically significant at $p<0.01$. Because the estimated coefficients with OLS can be interpreted quantitatively straightforward and be compared better, the subsequent focus is on them. The estimated OLS coefficients of 0.2 are not only significant in statistical terms, they are also sizable. If we consider the average SWD of 5.7 points on the 11-point Likert scale, a change of 0.2 points has a relative size of $0.2/5.75=0.035$, i.e., the existence of a works council is on average correlated with 3.5 percent higher SWD ratings. Table 2 and Table 3 further reveal that some of the control variables are highly significant. Higher general risk-taking preferences, a worse health status, being more often angry, worried or sad are correlated with lower SWD. Being more often happy, working in a white-collar occupation, having a college degree, having a migration background, and living with more persons in a household are correlated with higher SWD.

Table 3: Ordered probit regressions for complete cross section 2016

	(1)	(2)	(3)
Works council	0.104 ***	0.098 ***	0.099 ***
	(<0.001)	(0.005)	(0.005)
Job satisfaction			0.072 ***
			(<0.001)
General risk-taking preference		-0.017 ***	-0.019 ***
		(0.006)	(0.001)
Health status		-0.175 ***	-0.145 ***
		(<0.001)	(<0.001)
Angry		-0.193 ***	-0.162 ***
		(<0.001)	(<0.001)
Worried		-0.052 ***	-0.042 **
		(0.003)	(0.014)
Sad		-0.046 ***	-0.042 **
		(0.006)	(0.012)
Happy		0.061 ***	0.044 **
		(0.001)	(0.017)
White-collar occupation		0.240 ***	0.230 ***
		(<0.001)	(<0.001)
Full-time employment		-0.015	-0.020
		(0.674)	(0.586)
Apprenticeship degree		-0.006	-0.004
		(0.868)	(0.905)
College degree		0.380 ***	0.397 ***
		(<0.001)	(<0.001)
Age		0.001	0.001
		(0.459)	(0.390)
Female		0.020	0.011
		(0.545)	(0.749)
Migration background		0.206 ***	0.200 ***
		(<0.001)	(<0.001)
Number of persons in household		0.086 ***	0.084 ***
		(<0.001)	(<0.001)
Children <16 years in household		-0.042	-0.049
		(0.250)	(0.179)
Establishment size categories (ref. <20)			
20-199 employees		-0.051	-0.042
		(0.174)	(0.258)
200-1999 employees		-0.069	-0.054
		(0.138)	(0.245)
≥2000 employees		-0.118 **	-0.111 **
		(0.013)	(0.020)
Federal states (16 dummies)	No	Yes	Yes
Cut point 1	-1.825	-2.545	-1.929
Cut point 2	-1.545	-2.240	-1.623
Cut point 3	-1.188	-1.850	-1.230
Cut point 4	-0.878	-1.508	-0.884
Cut point 5	-0.609	-1.208	-0.581
Cut point 6	-0.144	-0.688	-0.056
Cut point 7	0.241	-0.256	0.378

Cut point 8	0.733	0.289	0.927
Cut point 9	1.373	0.999	1.641
Cut point 10	1.959	1.644	2.290
Pseudo R-squared	0.001	0.047	0.050

Notes: Number of observations is 6085 workers from the cross section 2016 in all regressions. Outcome variable of interest is SWD (satisfaction with democracy measured on 11-point Likert scale from 0 (low) to 10 (high)). Coefficients estimated with ordered probit regressions. p-values in parentheses. *** p<0.01, ** p<0.05, * p<0.10.
Source: SOEP version 36 (https://doi.org/10.5684/soep.core.v36eu). Own calculations.

As a first sensitivity check, the third (complete) specification is estimated with OLS for several subsamples in the cross section 2016. The first column in Table 4 depicts the OLS results for the complete sample as reference (see also column (3) in Table 2). Because small firms (less than 20 employees) and very large firms (more than 2000 employees) have rather low and high probabilities of works councils and might be different in other unobserved characteristics, only establishments with 20 to 1999 employees are considered in the subsample in column (2). The works council coefficient is slightly smaller than in the complete sample, but still significant and positive. The sample split between men and women in columns (3) and (4) reveals no noteworthy sex differences. If anything, the correlation between works councils and SWD is more pronounced among women. This contradicts in part previous findings about sex differences for different variables related to spillovers from the labor market to the political sphere. Using also the SOEP, Braakmann (2018) could only find lower identification with mainstream political parties for men and lower interest in politics for women after a job loss, whereas Jirjahn and Le (2022; 2023) find only for men that being employed in a firm with a works council, being a works councilor, and being a union member are positively correlated with political interest and left political party preferences. Jirjahn and Le (2022) argue that women might be less affected by works councils as a democratic workplace institution due to potential underrepresentation by works councils and gender norms.

In columns (5) and (6) of Table 4, a regional sample split based on living in a West or in an East German federal state reveals significant differences. Although the coefficients for works councils are positive and statistically significant for workers in both regions, the coefficient is twice as large in East Germany (0.334) than in West Germany (0.164). Given that average SWD is about one point lower in East Germany (4.94) than in West Germany (5.96), the larger size of the works council coefficient for workers living in East German federal states with their socialist history is remarkable. Also note that about 50 percent of workers in the West and only 41 percent of workers in the East are employed in firms with a works council. Hence, establishing more works councils in firms in the "new" Eastern German federal states might

have not only private economic returns but also lead to a higher acceptance of the "new" democratic regime.

Table 4: OLS results for subsamples in cross section 2016

Sample:	(1) All	(2) Firm size 20-1999	(3) Men	(4) Women	(5) West	(6) East
Works council	0.202 ***	0.168 **	0.182 *	0.212 **	0.164 **	0.334 **
	(0.006)	(0.042)	(0.075)	(0.043)	(0.046)	(0.031)
+ Controls with job satisfaction	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	6085	2970	3253	2832	4821	1264
R-squared	0.195	0.208	0.198	0.201	0.167	0.201
Adjusted R-squared	0.191	0.199	0.189	0.192	0.162	0.186
Mean (SD) SWD	5.75 (2.33)	5.72 (2.30)	5.76 (2.38)	5.73 (2.27)	5.96 (2.29)	4.94 (2.32)
Mean works council	48%	52%	54%	42%	50%	41%

Notes: Different subsamples of the cross section 2016. Outcome variable of interest is SWD (satisfaction with democracy measured on 11-point Likert scale from 0 (low) to 10 (high)). Column (1) depicts the OLS results for the complete sample as reference (see also column (3) in Table 2). Coefficients estimated with OLS regressions. p-values in parentheses. *** p<0.01, ** p<0.05, * p<0.10. Complete regression results can be requested from the author.
Source: SOEP version 36 (https://doi.org/10.5684/soep.core.v36eu). Own calculations.

Threats to the interpretation of the correlation between works councils and SWD as causal effect might be reverse causality and unobserved individual heterogeneity, which would lead to an omitted variable bias, i.e., unobserved characteristics might affect sorting in firms with works councils as well as the perception of the overall democratic regime. To deal with time-invariant unobserved heterogeneity, I use the constructed balanced panel for the years 2005, 2010, and 2016 to estimate linear regressions with individual fixed effects in Table 5. Note again, that we have a large reduction in sample size, because we can observe only 864 individuals (3*864=2592 observations) in the balanced panel, and only for 127 individuals a status change in the existence of a works council is observed. Consequently, it is not surprising that statistical significance of the estimated coefficients for works councils is low due to larger standard errors. The works council coefficients in all three specifications are still significant at p<0.20 and have about the same size as in the cross section sample 2016.

Table 5: Fixed effects OLS results for balanced panel (2005, 2010, 2016)

	(1)	(2)	(3)
Works council	0.236 #	0.213 #	0.230 #
	(0.134)	(0.198)	(0.161)
+ Controls without job satisfaction + Survey years	No	Yes	Yes
+ Job satisfaction	No	No	Yes
Within R-squared	0.001	0.022	0.041

Notes: Number of observations is 2592 from 864 different workers in the balanced panel 2005, 2010, and 2016. Outcome variable of interest is SWD (satisfaction with democracy measured on 11-point Likert scale from 0 (low) to 10 (high)). Coefficients estimated with OLS panel regressions with individual fixed effects using the within transformation. The individual error terms (fixed effects) are jointly significant in a F-test at $p<0.01$ in all regressions. p-values in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.10$, # $p<0.20$. Complete regression results can be requested from the author.
Source: SOEP version 36 (https://doi.org/10.5684/soep.core.v36eu). Own calculations.

Even if the main results pass the robustness check for unobserved time-invariant heterogeneity, unobserved time-variant heterogeneity and reverse causality might still bias the results. Thus, I estimate instrumental variable (IV) regressions with OLS and extended ordered probit regressions with endogenous binary treatment assignments for the cross section 2016 in Table 6. The first column presents as reference the results from the standard OLS and ordered probit regressions for the complete specification. Works councils are instrumented with (a) dummies for 54 detailed NACE sectors, (b) the works council share in each of these 54 detailed NACE sectors (based on the estimation sample), (c) dummies for 14 aggregated NACE sections, and (d) the works council share in each of these 14 aggregated NACE sections (based on the estimation sample). All four instruments are significantly correlated with the existence of a works councils at $p<0.01$ in the first stage regressions. Moreover, the correlations of the error terms between the first stage for works councils and the second stage for SWD are significantly negative, which indicates that unobserved characteristics increase the probability to work in a firm with a works council and decrease SWD so that conventional estimates should suffer from a downward bias. For example, preferences for direct participation might increase the probability to work in a firm with a works council and might decrease SWD, if the individual perceives the possibilities for direct participation in the German democratic system as insufficient. The estimated works council effect is indeed significantly larger after accounting for the endogenous nature of works councils (columns (2) to (5)) than in the standard OLS and ordered probit regressions (column (1)). Consequently, the estimated works council effect on SWD of about 0.2 points can be seen as a lower bound of the unbiased causal works council effect on SWD.

Table 6: IV and endogenous treatment regression results for cross section 2016

	IV (OLS)				
	(1)	(2)	(3)	(4)	(5)
Works council	0.184 **	0.882 ***	0.995 ***	0.668 *	0.534 #
	(0.014)	(0.006)	(0.008)	(0.077)	(0.209)
Instrument for works council in first stage	None	54 NACE sector dummies (***)	works council share in each NACE sector (***)	14 NACE section dummies (***)	works council share in each NACE section (***)
	Ordered probit with endogenous binary treatment assignment				
	(1)	(2)	(3)	(4)	(5)
Works council	0.095 ***	0.558 ***	0.548 ***	0.451 ***	0.402 **
	(0.009)	(<0.001)	(<0.001)	(0.004)	(0.021)
Correlation of error terms between first stage (works councils) and second stage (SWD)		-0.286 ***	-0.276 ***	-0.216 **	-0.184 *
Instrument for works council in first stage	None	54 NACE sector dummies (***)	works council share in each NACE sector (***)	14 NACE section dummies (***)	works council share in each NACE section (***)

Notes: Number of observations is 5733 workers from the cross section 2016 in all regressions. Outcome variable of interest is SWD (satisfaction with democracy measured on 11-point Likert scale from 0 (low) to 10 (high)). All regressions include the complete set of control variables (incl. job satisfaction). Column (1) depicts the results from standard OLS and ordered probit regressions as reference. p-values in parentheses. *** p<0.01, ** p<0.05, * p<0.10, # p<0.21. Complete regression results (incl. first and second stages) can be requested from the author. Source: SOEP version 36 (https://doi.org/10.5684/soep.core.v36eu). Own calculations.

5. Conclusion

The empirical analysis of German survey data has revealed that works councils are positively and significantly correlated with satisfaction with democracy (SWD) as it currently exists in Germany. The works council effect on SWD is about 0.2 points in cross sectional and panel estimates. Accounting explicitly for endogeneity, the causal works council effect seems to be even larger. Moreover, the separate estimates for East and West German federal states have revealed a larger works council effect on SWD for workers living in East Germany. Given the socialist history of East Germany and the lower average SWD in East Germany, works councils and other forms of worker codeterminations might be of special importance in transformation countries.

My findings have shown that works councils as a formal institution of workplace codetermination and workplace democracy are an important determinant of SWD. More

general, the empirical literature about SWD should give more attention to workplace characteristics due to the importance of spillovers from the labor market. My findings also lend strong support to the "spillover thesis" and suggest, together with findings by other industrial relations researchers, that worker representation via works councils and unions can have positive effects on the broader society. Furthermore, SWD is an important alternative outcome that is rather a construct to measure satisfaction with the overall democratic regime than individual political engagement and preferences as in most studies about the "spillover thesis". Whereas SWD is related to political stability, individual political engagement and specific preferences can also lead to political instability (e.g., extra-parliamentary groups, engagement and voting for more extremist political parties and referendums). To conclude, strengthening worker codetermination at the workplace can foster stability of the overall democratic regime in turbulent times.

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Postfach 2440
D-21314 Lüneburg
Tel.: ++49 4131 677 2321
email: christina.korf@leuphana.de

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