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ABSTRACT

Works Councils and Performance Appraisals*

Drawing on two large German representative data sets, we analyze the role of works councils for the use of performance appraisals (PA). We distinguish between the incidence of performance appraisal systems as intended by the firm and their actual implementation on the level of the individual employee. We find that works councils tend to promote rather than restrict PA. Employees working in establishments with a works council are more likely to face a formal performance appraisal procedure. Works councils also act as a transmission institution for the actual use of an existing PA system – i.e. among the firms that claim to implement performance appraisals for all their employees, the likelihood of their employees actually having regular appraisals is substantially larger when works councils are in place. Moreover, the existence of works councils is positively related particularly to PA systems, which affects bonus payments.

JEL Classification: M54, M12, J53, J83

Keywords: performance appraisals, voice, works councils, performance pay

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Works Councils and Performance Appraisals

1. Introduction

Performance appraisals are structured processes applied by firms in order to systematically evaluate employees' performance and to provide feedback. There is an extensive literature on performance appraisals (PA, also referred to as performance reviews or (subjective) performance evaluations) in the fields of human resource management, personnel psychology, accounting and economics. Using two large and representative panel data sets, we explore in this paper the association between the existence of works councils as institutions for employee representation and the use of formal performance appraisals in firms. In particular, we investigate whether formalized appraisals are more common in firms with works councils, and whether works councils serve as a transmission mechanism between a firm's aim to implement performance appraisals and their for specific employees.

Empirical contributions find strong associations between the use of PA systems and outcome variables such as job satisfaction, job performance, or turnover intentions (Callahan et al. 2003; Poon 2004; Kuvaas 2006; Bol 2011; Cornelissen et al. 2011, Kampkötter 2017). A few empirical studies investigate individual and job-based correlates of the incidence of formal PA systems: Making use of data from the German Socioeconomic Panel, Grund and Sliwka (2009) find that PA are mainly used in larger firms, and that individual characteristics, such as higher levels of education and a higher risk tolerance, predict a higher likelihood of PA use. Based on establishment data from the Netherlands and Australia, respectively, Jirjahn and Poutsma (2013)

as well as Brown and Heywood (2015) report that union coverage is negatively related to the likelihood of PA incidence.[2]

These studies do not consider the role of codetermination in the workplace. To the best of our knowledge, there are only two papers which consider a possible relation between works councils and PA systems (albeit rather incidentally): Heywood and Jirjahn (2014) focus on the influence of foreign ownership on the incidence of different HRM practices in a sample of German establishments, using the existence of a works council as a control variable. They find that works councils (as employee representation institutions) are associated with a higher probability of PA systems when the firms are under domestic ownership. Heywood et al. (2017), in a study on the relationship between employee's personality (specifically, the locus of control) and PA, include works council as a control variable and also find a positive relationship between the existence of works councils and the use of PAs.

We build on these studies and add to the literature by investigating the relationship of works councils and the use of PA systems in more detail by making use of two complementary data sets. These are the German Linked Personnel Panel (LPP), which combines firm-based information with information provided by several of those employees, and the German socio-Economic Panel (SOEP), which is a representative longitudinal study of persons living in Germany. First, we analyze whether works councils tend to promote or restrict the use of formal PA systems for different types of employees. The formal presence of a PA system does not necessarily imply that it is actually used in the firm for appropriate employees. Second, we therefore examine the role of works councils for the transmission of the incidence of PA systems in firms to their actual usage in employee-supervisor relationships. Third, we explore a possible

[2] A related strand of the literature does not investigate the association between the use of *performance appraisal systems* in a firm and employee level outcome variables across representative samples of firms, but studies the association between the specific evaluation an employee received in a performance appraisal procedure and future career outcomes using personnel records of particular firms. Recent examples are Frederiksen et al. (2017) or Capelli and Conyon (2018).

different role of works councils for types of PA systems with regard to their monetary consequences, such as monthly gross wage, annual bonus payments, and future wage raises.

The remainder of the paper is structured as follows: Section 2 contains the theoretical considerations and hypotheses followed by a description of the data and the empirical strategy in Section 3. We present our results and discuss them in Section 4. In Section 5, we mention some limitations and conclude.

2. Theoretical considerations

Subjective PA by a supervisor can have different purposes in organizations (Cleveland et al. 1989, Grund & Sliwka 2009): providing information about employees for the human resources management in firms— e.g. for personnel planning, promotions, and performance pay— as well as providing feedback to employees and discovering training needs.

Employee representation institutions that act on the firm level, such as works councils, can play an important role for the use of performance appraisal systems. Firms may want to introduce PA if the latter's benefits exceed their costs of implementation, and works councils can affect both costs and benefits and, in turn, may either restrict or promote the use of PA systems.

In firms with formal institutions for employee representation, additional costs of PA systems are likely to occur due to the mandatory coordination between these institutions and the management of firms. In Germany, for instance, employees have a right to set up employee-elected works councils in establishments with more than five employees. According to the German Works Constitution Act, works councils have explicit codetermination rights that affect whether and how performance appraisals can be introduced.[3] Manthei and Sliwka (forthcoming) for instance

[3] Section 87 (1) of the law for instance states that "*The works council shall have a right of co-determination in the following matters in so far as they are not prescribed by legislation or collective agreement […] 6. the introduction and use of technical devices designed to monitor the behaviour or performance of the employees […] 11. the fixing*

document the case of a retail bank in Germany that wanted to use objective performance measures for the assessment of branch employees by their supervisor. Due to the codetermination law the firm had to negotiate the implementation with its works councils.[4]

Opportunity costs of time and lagged decisions may thus increase the costs of implementation. In this sense, FitzRoy and Kraft (1987) argue that co-determinations rights can dilute the property rights of the firm, and the authors find evidence of a negative relation between works councils and productivity. Moreover, as Jirjahn and Poutsma (2013) and Brown and Heywood (2015) have shown, union representation is negatively associated with the use of PA, which may indicate an opposition of employee representatives to the implementation of performance appraisals.[5]

Regarding the benefits, the introduction of PA may raise profits by increasing the productivity of employees and can generate important information for efficient decision-making. If, however, employees do not understand the design of a PA system or only reluctantly accept it, possible benefits of the use of PA may be reduced by negatively reciprocal reactions.[6] Works councils may help to alleviate such concerns: Freeman and Lazear (1996) argue that asymmetries in information between employees and employer can lead to inefficiencies which may be overcome by works councils, creating a credible communication channel between workforce and employer. As works councils have better access to information about the firm and management policies than individual employees do, they can make the management's claims more credible.

of job and bonus rates and comparable performance-related remuneration including cash coefficients; […] 13. principles governing the performance of group work […]". Besides, section 94 reads: "*(1) Staff questionnaires shall require the approval of the works council. […] (2) Subsection (1) shall apply, mutatis mutandis, to any personal data contained in written employment contracts that are to be generally used in the establishment and to the formulation of general assessment criteria.*"

[4] In fact, the firm and works council initially agreed to implement the change only in a subset of branches to evaluate its impact thus conducting a field experiment. The new appraisal system was then rolled out for all branches later on.

[5] A potential reason for such an opposition is that performance appraisals may lead to more differentiation between employees (for instance with respect to wage increases and bonus payments) and thus could reduce equality.

[6] Ockenfels et al. (2014), for instance, study performance appraisals in a multinational company and find evidence indicating that specific design elements in the appraisal regime used in the respective firm led to a systematic reduction in job satisfaction through the violation of employees' reference points and was also associated with a reduction in performance.

Concerning performance appraisals, works councils can therefore act as a voice institution for employees in order to improve the transmission and communication of information between management and employees (Hirshman 1970). For instance, works councils can transmit information on the PA's purpose towards employees and thus reduce uncertainty and create trust. This is relevant, as it has often been stressed that the acceptance of PA systems by employees is an important prerequisite for the former's effectiveness (Roberts 1994; Waldmann & Bowen 1998; Levy & Williams 2004). Works councils might thus lead to higher individual acceptance of such systems by rendering the process of PA more transparent. These considerations lead to two opposing hypotheses. It is an empirical question as to which arguments dominate in practice.

Hypothesis 1a: Formal performance appraisal systems are more common in firms with works councils.

Hypothesis 1b: Formal performance appraisal systems are less common in firms with works councils.

The formal intention of a firm to implement a PA system does not necessarily imply that appraisals are actually carried out throughout the organization. The reason is that supervisors must implement the appraisals and may be reluctant to do so because of time restrictions and a potential aversion to giving negative feedback. Therefore, works councils may also play an important role for the transmission from the decision to use PA on the level of the firm to their actual use in employee-supervisor-relationships. Again, assuming that works councils act as an information transmission institution between employer and employees, works councils may cause PA systems to be implemented at the employee level due to a higher likelihood of acceptance of the system. This may be induced by the voice function of the works council. Moreover, codetermination laws often require a formalization of HR policies in written agreements between employee representatives and the firm, which may facilitate the actual

implementation of HR policies, as they may create more binding commitments of supervisors to follow the agreed rules.

Hypothesis 2: The actual use of PA on the level of employees is more common in firms with works councils (given the incidence of a formalized PA system on the level of the firm).

Systems of performance appraisals typically differ with respect to whether they have monetary consequences for employees (such as for bonuses, promotions, or wage increases). PA without monetary consequences provide feedback or are used to exchange information for documentation, personnel planning or further training needs, for instance. We argue again from two perspectives: assuming that works councils want to prevent differentiation between employees, the existence of works councils would reduce the likelihood of a firm using PA with monetary consequences. However, the advantages of works councils' voice functions may be relevant, in particular, if this facilitates the acceptance of differences in outcomes with regard to wage increases, bonuses, or promotions. Previous empirical studies found that firms with works councils are more likely to use piece rates and formal incentive schemes (Heywood et al. 1998; Heywood & Jirjahn 2002). Jirjahn (2018) finds a positive association between works council incidence and employers' attitudes towards the incentives effect of different HRM practices (e.g. performance pay, profit sharing, and promotions) and thus works councils may favor the implementation of such performance-oriented work practices. Besides, it is conceivable that employees have a stronger interest in voicing their concerns with the help of a works council in firms which use performance pay based on PA. Hence, we formulate

Hypothesis 3: The positive relation between the existence of a works council and PA systems is particularly relevant if monetary consequences are involved with PA.

Heywood et al. (2017) reveal differences in the association between works council incidence and the use of PA systems with short-term and long-term monetary consequences. We build on this work, differentiating three monetary outcomes: monthly gross wages, bonus payments, as well as future wage increases.

3. Data, variables, and methodology

3.1 Data

The analysis is based on two complementary data sources: First, the German Socio-Economic Panel (SOEP), which is a wide-ranging representative longitudinal study of persons living in Germany (Goebel et al. 2019). In the years 2011 and 2016, the information on works councils and PA is provided simultaneously. Second, the Linked Personnel Panel (LPP), which is a longitudinally linked employer-employee data set of establishments and several of their employees in Germany (Bellmann et al. 2015, Kampkötter et al. 2016). Establishment information stems from a survey among managing directors and HR managers. On the establishment level, the LPP is representative of German establishments with 50 and more employees outside of the public sector. The LPP includes information on job, firm, and personnel characteristics as well as employee attitudes towards the organization. Moreover, the LPP can be linked to the IAB establishment panel, which includes additional establishment information and the information of the existence of works councils. We use the second and the third wave (2014 and 2016) of the LPP for our analysis, since information on individual PA is not available in the first wave.

Regarding the SOEP, we restrict our sample to employees who work in firms with at least five employees, in order to exclude those firms in which a works council cannot exist according to the Works Constitution Act in Germany. Furthermore, we restrict our sample to employees who

are between 18 and 65 years old. The unbalanced panel of the SOEP data includes 13,861 observations on 11,357 individuals. The unbalanced panel of the LPP includes 7,681 observations on 6,322 individuals in 919 firms.

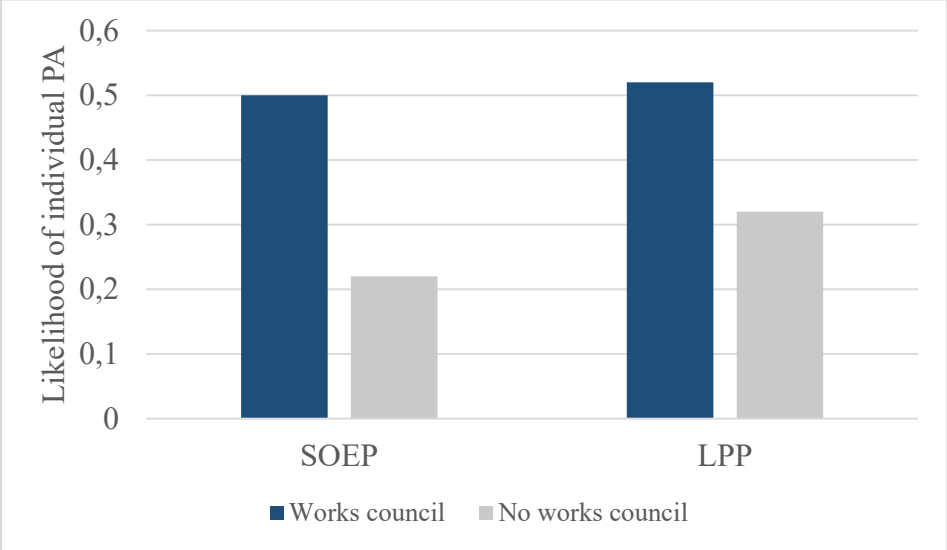
3.2 Variables

In both data sets, our dependent variable *Individual PA* is a binary variable indicating whether an employee states that his or her own performance is regularly assessed by a supervisor as part of a predefined procedure. In the SOEP data, about 0.39 of the employees received a PA, and 0.49 of the employees in the LPP. In the SOEP data, the binary variable *works council* (1=yes) is measured on the individual level (share=0.61), and a first descriptive observation is that the performance of those employees working in firms with works councils (n=8,492) is more likely to be assessed (0.50) than that of employees working in firms without works councils (0.22, n=5,369).

This is also true for the LPP: Here, the existence of a *works council* is measured on firm level as a binary variable indicating whether the firm states that it has a works council. A share of 0.82 of the employees work in firms with works council. The higher share compared to that of the SOEP data can mainly be explained by the fact that the LPP data only include firms with at least 50 employees, and the incidence of works councils is closely related to firm size (Addison et al. 2001). Differences in the use of PA systems are confirmed applying the LPP data. Employees who work in firms with a works council (n=6,329) are more likely to receive a performance appraisal (0.52) than those in firms without works councils (0.32, n=1,352). Figure 1 illustrates this first interesting observation which is also true for each firm size category in both data sets (see Figure A of the appendix). Additionally, we consider PA information measured on the firm level when investigating the LPP data. The variable *Plant performance appraisal* is a dummy

variable indicating whether the firm states that it uses performance evaluations (0.72 state that they do).

Figure 1: Performance appraisal and works council



Furthermore, we control for socio-demographic as well as individual job-related variables and further firm characteristics which have been identified as relevant for the use of PA systems in previous studies. Tables 1 and 2 show the descriptive statistics of the two respective data sets. Socio-demographic variables are *gender, age, years of schooling, being in a relationship*, and *children*. Grund and Sliwka (2009), for instance, argued that PA for older employees are less important, since the probability of promotion is smaller near the retirement age and investments in training needs are not as important as for younger employees because such investments are not likely to amortize for older employees. Moreover, the variable *risk attitude* is included as well. This variable has been identified as relevant for the use of PA systems (Grund & Sliwka 2010), since PA systems are often combined with performance pay and, according to agency theory, more risk-averse employees prefer compensation schemes with a lower share of variable pay.

Job-related variables and firm characteristics include information on *occupational status, temporary contract, concerns about job security* as an indicator for the economic situation of the firm, *firm size*, and *industry*. Grund and Sliwka 2009 argued that PA are less prevalent for blue-collar workers, as their jobs tend to be less complex. PA can also be less predominant for senior managers PA, since their possibilities of promotion are limited. However, PA should be important for younger and white-collar workers because PA could be decisive for their career development. Grund and Sliwka (2009) also find that in industries with typically more precisely defined tasks, such as agriculture or construction, PA are observed less often than, for instance, in financial services. They argue that leading employees by giving them clearly defined tasks requires less PA than more complex contents do. Firm size is a relevant determinant of the use of PA systems as well.

Table 1: Descriptive statistics (SOEP)

	Whole sample (n=13,861)				Performance appraisal (n=5,364)	No performance appraisal (n=8,497)	Works council (n=8,492)	No works council (n=5,369)
Variables	**Mean/Share**	**SD**	**Min**	**Max**	**Mean/Share**	**Mean/Share**	**Mean/Share**	**Mean/Share**
Performance appraisal	0.387		0	1	1	0	0.495	0.216
Works council	0.613		0	1	0.784	0.505	1	0
Male	0.517		0	1	0.543	0.501	0.523	0.508
Age	44.33	10.37	18	64	44.30	44.36	45.05	43.20
In relationship	0.630		0	1	0.646	0.620	0.640	0.614
Children	0.540		0	1	0.548	0.536	0.534	0.551
Years of schooling	12.81	2.665	7	18	13.34	12.48	13.05	12.44
Risk attitude (0 = risk aversion)	4.925	2.233	0	10	4.974	4.894	4.892	4.976
Full-time	0.744		0	1	0.782	0.720	0.756	0.725
Temporary contract	0.105		0	1	0.093	0.113	0.108	0.100
Occupational status			1	3				
Blue-collar worker	0.255				0.171	0.309	0.222	0.307
White-collar worker	0.500				0.491	0.505	0.500	0.499
Manager	0.245				0.338	0.186	0.278	0.194
Job tenure	11.36	10.14	0	48.60	12.442	10.677	13.355	8.203
Public sector	0.231		0	1	0.264	0.210	0.337	0.063
Firm size			2	6				
5-19 employees	0.168				0.064	0.233	0.022	0.398
20-99 employees	0.196				0.122	0.243	0.114	0.326
100-199 employees	0.105				0.096	0.111	0.111	0.097
200-1999 employees	0.252				0.292	0.227	0.341	0.112
2000 and > employees	0.279				0.426	0.186	0.412	0.067
Eastern Germany	0.221		0	1	0.196	0.236	0.208	0.240
Industry			1	6				
Agriculture	0.012				0.006	0.017	0.006	0.022
Manufacturing	0.292				0.333	0.266	0.320	0.249
Construction	0.049				0.025	0.064	0.022	0.092
Retail, tourism, and transportation	0.198				0.159	0.223	0.152	0.271
Banks, financial services	0.138				0.187	0.106	0.130	0.150
Services	0.311				0.290	0.324	0.370	0.216
Concerns about job security (3 = very concerned)	1.506	0.649	1	3	1.482	1.521	1.498	1.519

Table 2: Descriptive statistics (LPP)

	Whole sample (n=7,681)				Individual PA (n=3,730)	No individual PA (n=3,951)	Works council (n=6,329)	No works council (n=1,352)
Variables	**Mean/Share**	**SD**	**Min**	**Max**	**Mean/Share**	**Mean/Share**	**Mean/Share**	**Mean/Share**
Individual performance appraisal	0.486		0	1	1	0	0.521	0.320
Works council	0.824		0	1	0.884	0.767	1	0
Plant performance appraisal	0.724		0	1	0.843	0.611	0.736	0.665
Female	0.279		0	1	0.258	0.299	0.264	0.349
Age	47.37	10.27	18	65	47.09	47.65	47.47	46.93
In relationship	0.844		0	1	0.852	0.836	0.850	0.813
Children < 14	0.239		0	1	0.247	0.232	0.243	0.223
Years of schooling	12.69	2.372	7	18	12.93	12.46	12.76	12.38
Risk attitude (0 = risk aversion)	5.657	1.806	0	10	5.713	5.605	5.666	5.617
Full-time	0.867		0	1	0.871	0.864	0.869	0.860
Temporary contract	0.036		0	1	0.035	0.037	0.031	0.060
Occupational status			1	3				
Blue-collar worker	0.374				0.321	0.425	0.364	0.423
White-collar worker	0.407				0.433	0.382	0.413	0.376
Manager	0.219				0.246	0.193	0.223	0.201
Firm size			1	4				
50-99 employees	0.118				0.076	0.157	0.075	0.318
100-249 employees	0.265				0.206	0.320	0.224	0.454
250-499 employees	0.234				0.238	0.231	0.250	0.160
500 and > employees	0.383				0.480	0.292	0.451	0.068
Region of Germany			1	4				
North	0.156				0.140	0.171	0.153	0.170
East	0.276				0.217	0.331	0.229	0.495
South	0.276				0.338	0.217	0.307	0.129
West	0.292				0.305	0.281	0.311	0.206
Industry			1	5				
Manufacturing	0.320				0.305	0.333	0.314	0.345
Metal, electrical industry	0.379				0.406	0.353	0.411	0.226
Commerce, traffic	0.109				0.099	0.120	0.098	0.164
(Financial) services	0.117				0.140	0.096	0.101	0.195
IT, communication	0.075				0.050	0.098	0.076	0.070
Concerns about job security (3 = very concerned)	1.385	0.590	1	3	1.365	1.403	1.388	1.369

The comparison between Tables 1 and 2 reveal further slight differences between the SOEP and the LPP samples with respect to gender shares and firm size, for instance. In Tables 1 and 2 we also report separate information on subsamples of employees who are individually assessed or not and who work in firms with or without works councils. For instance, employees who receive PA work more often in bigger firms and less often as blue-collar workers and have more years of firm tenure. The same pattern holds for employees who are employed in a firm with a works council.

3.3 Methodology

In order to analyze the association between the existence of a work's council and the use of PA systems (hypothesis 1), we estimate binary probit models of the form:

$$Individual\ PA_{i,t} = \beta_0 + \beta_1 * Works\ council_{i,t} + \gamma * Controls_{i,t} + \varepsilon_{i,t}\ ,$$

where *Individual PA* represents the use of PA systems in firms (1=yes). First, we insert the socio-demographic variables and individual job-related as well as firm characteristics, which are described by the vector of *Controls* in order to replicate the analysis of Grund and Sliwka (2009), who also used earlier SOEP data. To account for within-firm interdependencies, we cluster standard errors at the level of the establishment in the LPP analysis.

In order to examine the transmission of PA systems to individuals (hypothesis 2), we use the LPP data and take only employees into account working in firms which state that they have PA for all employees (n=3,208), and we run our binary probit model again including the dummy variable *works council*.

In order to explore the role of works councils for the use of performance appraisals with specific monetary consequences (hypothesis 3), we restrict our sample to employees who receive

performance appraisals. In the SOEP, employees are additionally asked whether PA affects their monthly wage, bonus payments, and/or future wage raises. Of those employees whose performance is assessed, about 27% report an impact on their monthly gross wage, 46% on annual bonus payments, and 41% on future wage raises.

4. Results

4.1 Use of Performance Appraisals

We start our empirical analysis by examining the determinants of the use of PA systems. As described above, we first re-estimate the model of Grund and Sliwka (2009), whose analysis is based on the SOEP of the year 2004. The results of our binary probit models using the SOEP data with individual PA as a dependent variable are reported in Table 3. Model (1) includes socio-demographic variables, individual job-related information, and firm characteristics. We report marginal effects. Predominantly, we find similar results to those of Grund and Sliwka (2009). Especially the employment situation and the firm size turn out to be relevant determinants for the appraisal probability. In Model (2) we include the variable *works council*. The results show that in firms with works councils the appraisal probability is about 10 percentage points higher than in those without works councils, which supports hypothesis (1a). Moreover, including the works council dummy slightly decreases the coefficients of the variable *firm size*, which indicates that the associations between PA incidence and firm size effects in model (2) are to some extent also driven by associations with works council incidence.

Table 4 reports the results on the LPP sample and confirms the SOEP results described above. Works councils turn out to be a relevant correlate to the individual appraisal probability. The inclusion of the works council dummy leads to a decrease in the firm size coefficients. In contrast to the SOEP, the LPP contains information on whether the establishment is covered by

a collective wage agreement. Since there is a positive correlation between the relevance of collective agreements and the existence of works councils in establishments (Hübler & Jirjahn 2003), we check the robustness of our results by including the variable *collective wage agreement* in our model. We find still the same results for our works council dummy (see Table A, Model 1 of the appendix). Moreover, we find very similar results also in subgroups of employees (blue collar, white collar, and managers), with respect to the association between works council incidence and individual PA (see Tables B & C in the appendix).

We run some additional robustness checks: As already mentioned above, formal PA systems are more common in larger firms. We include interaction terms of the existence of a works council and firm size categories in order to explore a possible particular role for the relation of works councils and the use of PA in small or large firms. We find no significantly different relevance of the relation between works councils and individual PA, though.[7] Moreover, works councils are often introduced during bad financial situations of firms. We therefore include the variable *financial situation* of a firm in our model (2) of Table A in the appendix. This variable measures on the firm level what the financial situation was like in the firm in the last year with possible answers from 1 (inadequate) to 5 (very good). All models above include the control variable *concerns about job security* as an indicator for the economic situation of the firm. Additionally controlling for the firm's financial situation shows the same robust results for the relation between the incidence of a works council and the use of a PA system.

[7] These results are available from the authors on request.

Table 3: Determinants of individual performance appraisals (SOEP)

	(1) Individual PA	(2) Individual PA
Works council		0.120***
		(0.011)
Male	0.007	0.004
	(0.009)	(0.010)
Age	-0.001*	-0.001*
	(0.001)	(0.000)
Years of schooling	0.009***	0.008***
	(0.002)	(0.002)
Risk attitude	0.003*	0.003*
	(0.002)	(0.002)
Full-time	0.030***	0.030***
	(0.011)	(0.011)
Eastern Germany	-0.018*	-0.016
	(0.010)	(0.010)
Job tenure (in years)	0.002***	0.001
	(0.000)	(0.000)
Employment situation		
(Reference: Blue-collar worker)		
White-collar worker	0.110***	0.110***
	(0.011)	(0.011)
Manager	0.166***	0.169***
	(0.015)	(0.015)
Concerns about job security (Reference: not concerned)		
somewhat concerned	0.003	0.001
	(0.009)	(0.009)
very concerned	0.012	0.006
	(0.015)	(0.015)
Firm size (Reference: 5-19 employees)		
20-99 employees	0.086***	0.064***
	(0.012)	(0.013)
100-199 employees	0.195***	0.143***
	(0.015)	(0.017)
200-1999 employees	0.267***	0.191***
	(0.012)	(0.015)
>= 2000 employees	0.393***	0.304***
	(0.012)	(0.016)
Industry dummies (6)	yes	yes
Year dummy	yes	yes
Pseudo R^2	0.123	0.130
# Observations	13,861	13,861

Notes: Table shows marginal effects. Cluster-robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table 4: Determinants of individual performance appraisal (LPP)

	(1)	(2)
Works council		0.105***
		(0.028)
Female	-0.024	-0.021
	(0.018)	(0.018)
Age	-0.001	-0.001
	(0.001)	(0.001)
Years of schooling	0.012***	0.011***
	(0.003)	(0.003)
Employee's risk attitude	0.006*	0.006*
	(0.003)	(0.003)
Full-time	-0.003	-0.000
	(0.023)	(0.023)
Employment situation (Reference: Blue-collar worker)		
White-collar worker	0.069***	0.066***
	(0.019)	(0.019)
Manager	0.091***	0.089***
	(0.019)	(0.019)
Concerns about job security (Reference: not concerned)		
somewhat concerned	0.007	0.004
	(0.014)	(0.014)
very concerned	-0.055**	-0.059**
	(0.028)	(0.027)
Region of Germany (Reference: North)		
East	-0.004	0.003
	(0.037)	(0.037)
South	0.094**	0.091**
	(0.038)	(0.038)
West	0.022	0.020
	(0.037)	(0.038)
Firm size (Reference: 50-99)		
100-249 employees	0.069**	0.055*
	(0.029)	(0.029)
250-499 employees	0.161***	0.130***
	(0.035)	(0.037)
500 and > employees	0.247***	0.208***
	(0.036)	(0.038)
Industry dummies (5)	yes	yes
Year dummy	yes	yes
Pseudo R^2	0.061	0.065
# Observations	7,681	7,681

Notes: Table shows marginal effects. Cluster-robust standard errors at the firm level in parentheses.
*significant at 10%, **significant at 5%, ***significant at 1%.

4.2 Transmission of PA existence to individual use

Up to now we have focused on the use of PA from an individual perspective. As described above, the LPP data additionally contain information on the existence of a formal PA system from the firm's perspective. We use this information to investigate our second hypothesis on whether works councils facilitate the transmission from firms' decisions to implement performance appraisals to the actual use of such appraisals on the level of the employees. We first re-estimate model (2) of Table 4 by including the variable *Plant PA*. This estimation shows the quite intuitive result that employees working in firms which offer performance appraisals have a significantly higher appraisal probability than do employees working in firms which report that they do not use (formal) performance appraisals (see Table 5, model (1)). However, the variable *works council* is still highly significant and comparable in size, which is a first indication in support of the transmission hypothesis.

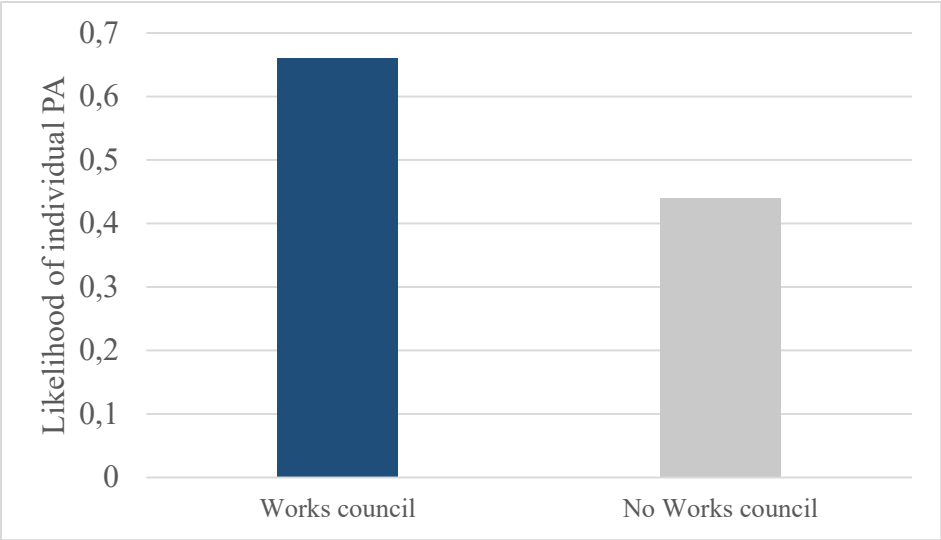
The LPP data also include information on the firm level about whether the firm intends to use appraisals for all or only a subset of employees, and 42% of employees work in establishments that state that they have PA for all of their employees. In the following we restrict our analysis to these individuals (n=3,208). Surprisingly, less than two thirds (62%) of these individuals state that their performance is actually assessed so that there is by far not a perfect transmission. This percentage differs considerably between employees in firms with (66%) and without works councils (44%) illustrated by Figure 2.

Table 5: Determinants of individual PA also considering Plant PA

	(1) Whole sample with plant PA included	(2) Only employees in firms with PA for all employees
Works council	0.104***	0.146***
	(0.025)	(0.038)
Plant performance appraisal	0.240***	-
	(0.022)	
Female	-0.020	-0.010
	(0.017)	(0.026)
Age	-0.000	-0.002*
	(0.001)	(0.001)
Years of schooling	0.009***	0.006
	(0.003)	(0.005)
Employee's risk attitude	0.006*	0.001
	(0.003)	(0.005)
Full-time	0.007	-0.002
	(0.022)	(0.031)
Employment situation (Reference: Blue-collar worker)		
White-collar worker	0.061***	0.063**
	(0.017)	(0.026)
Manager	0.091***	0.100***
	(0.018)	(0.027)
Concerns about job security (Reference: not concerned)		
somewhat concerned	0.003	-0.005
	(0.014)	(0.021)
very concerned	-0.050*	-0.072*
	(0.027)	(0.041)
Region of Germany (Reference: North)		
East	-0.020	-0.025
	(0.034)	(0.046)
South	0.060	0.030
	(0.037)	(0.046)
West	0.018	-0.047
	(0.036)	(0.050)
Firm size (Reference: 50-99)		
100-249 employees	0.051*	0.007
	(0.027)	(0.046)
250-499 employees	0.098***	0.063
	(0.033)	(0.053)
500 and > employees	0.170***	0.144***
	(0.035)	(0.051)
Industry dummies (5)	yes	Yes
Year dummy	yes	Yes
Pseudo R^2	0.101	0.053
# Observations	7,681	3,208

Notes: Table shows marginal effects. Cluster-robust standard errors at the firm level in parentheses.
*significant at 10%, **significant at 5%, ***significant at 1%.

Figure 2: Works councils and individual PA for individuals in firms with plant PA for all employees



In order to examine hypothesis (2) further, we run our binary probit model again on the subsample of employees in firms that claim to use performance appraisals for all employees (see Table 5, model (2)). Indeed, the relation is highly significant and also economically meaningful. The individual use of PA is even 15 percentage points higher for employees with works councils for this subsample compared to employees working in firms without works councils. This is in line with our hypothesis (2).

4.3 Works councils and monetary consequences of PA

We now distinguish between three possible monetary consequences of PA. Individuals in the SOEP survey report whether their PA is attached to (i) their monthly gross wage, (ii) an annual bonus payment, and (iii) future wage raises. In the following we take only employees into account whose performance is assessed, and we distinguish individuals who claim that PA have monetary consequences of each type separately. The number of observations differ slightly because of some non-respondents. Table 6 reports the results of the corresponding binary probit

estimations regarding the perceived impact of appraisals on the monthly gross wage (1=yes, Model 1), annual bonus payments (Model 2), and future wage raises (Model 3). Employees in firms with works councils state significantly more often that performance appraisals affect annual bonus payments than do employees in firms without works councils (Model 2). However, performance appraisals which affect the monthly gross wage or future wage raises are significantly less likely in firms with works councils (Models 1 and 3).

Our results are related to Heywood et al. (2017), who also distinguish between PA systems with and without monetary consequences. However, they combine consequences with respect to wage raises and bonus payments into a category of short-term consequences and investigate a joint relation. Our divergent results show the importance of disentangling the monetary consequences of PA in more detail. Whereas there is a positive relation between the incidence of works councils and the link of PA systems and bonus payments, PA with consequences for wages or future wage raises are less common in firms with works councils. One potential reason is that wage increases are more likely to be determined by collective bargaining coverage, for which we cannot control in the SOEP data. As we mentioned above, Hübler and Jirjahn (2003) find a positive correlation between collective bargaining coverage and works councils; thus, we cannot rule out that some part of the relation of works councils and individual PA systems is driven by collective bargaining coverage. In contrast, the voice mechanism of works councils seems to be relevant, particularly when bonus payments are linked to the outcomes of PA. Then, it is especially important that employees understand PA systems and the way in which the assessment is related to bonus levels.

Table 6: Determinants of individual PA and perceived monetary consequences (SOEP)

	(1) PA and monthly gross wages	(2) PA and annual bonus payments	(3) PA and future wage raises
Works council	-0.057***	0.069***	-0.068***
	(0.018)	(0.021)	(0.020)
Male	0.036**	0.046***	-0.002
	(0.015)	(0.018)	(0.017)
Age	-0.002**	0.001	-0.004***
	(0.001)	(0.001)	(0.001)
Years of schooling	0.000	0.009***	0.011***
	(0.003)	(0.003)	(0.003)
Risk attitude	0.002	0.007**	0.005*
	(0.003)	(0.003)	(0.003)
Full-time	0.028	0.025	0.087***
	(0.018)	(0.020)	(0.019)
Eastern Germany	-0.058***	-0.001	-0.104***
	(0.017)	(0.019)	(0.018)
Job tenure (in years)	0.000	0.002***	-0.003***
	(0.001)	(0.001)	(0.001)
Employment situation (Reference: Blue-collar worker)			
White-collar worker	-0.023	0.056**	0.059***
	(0.019)	(0.022)	(0.021)
Manager	-0.016	0.145***	0.146***
	(0.022)	(0.026)	(0.025)
Concerns about job security (Reference: not concerned)			
somewhat concerned	-0.001	-0.038**	0.021
	(0.013)	(0.015)	(0.015)
very concerned	0.038	-0.047*	-0.005
	(0.024)	(0.027)	(0.026)
Firm size (Reference: 5-19 employees)			
20-99 employees	-0.046	-0.011	0.001
	(0.030)	(0.034)	(0.034)
100-199 employees	-0.027	0.014	-0.012
	(0.032)	(0.037)	(0.036)
200-1999 employees	-0.015	-0.014	-0.038
	(0.029)	(0.034)	(0.035)
>= 2000 employees	0.026	-0.024	-0.018
	(0.030)	(0.034)	(0.033)
Industry dummies (6)	yes	yes	yes
Year dummy	yes	yes	yes
Pseudo R^2	0.111	0.060	0.136
# Observations	5,088	5,135	4,790

Notes: Table shows marginal effects. Cluster-robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

5. Conclusion

We study the relation between the existence of works councils and the use of performance appraisals on the level of the individual employee in Germany by using two broad and complementary data sets. First, we find that the existence of works councils promotes rather than restricts the use of performance appraisals systems in firms, independent of the occupational status of employees. Moreover, using a linked employer-employee data set enables us to disentangle the incidence of a PA system in a firm and the individual use of appraisals in a supervisor-employee relationship. We hypothesized that works councils facilitate the transmission between the decision of a firm to use performance appraisals and the actual implementation of such on the level of the employees. We indeed find that the individual appraisal probability for employees working in firms that claim to use appraisals for all employees is significantly higher when a works council exists in a firm. This result hints at a higher acceptance of PA systems in firms with works councils. It seems likely that the stronger formalization of such systems necessitated by codetermination laws increases the likelihood of supervisors consistently carrying out such appraisals. Finally, we find that works councils lead to differences in the consequences which are linked to PA systems. Given that performance is assessed, works councils are positively related to consequences with regard to bonus payments, but negatively to effects on wages or future wage increases. By using more than one data set we are able to show that the results concerning works councils and PA systems are quiet robust. Unfortunately, we cannot make use of the panel character of the two data sets, since the two waves lead to very small variation of the data regarding both individual PA and works councils.

While we advise caution, as we are not claiming to have identified a causal channel, the substantial differences do indicate an important role of works councils for the use of HR policies in firms. The observed patterns are well in line with the idea put forward, for instance by

Freeman and Lazear, that works councils may facilitate the implementation of changes, as such institutions can create a credible communication channel between employers and employees.

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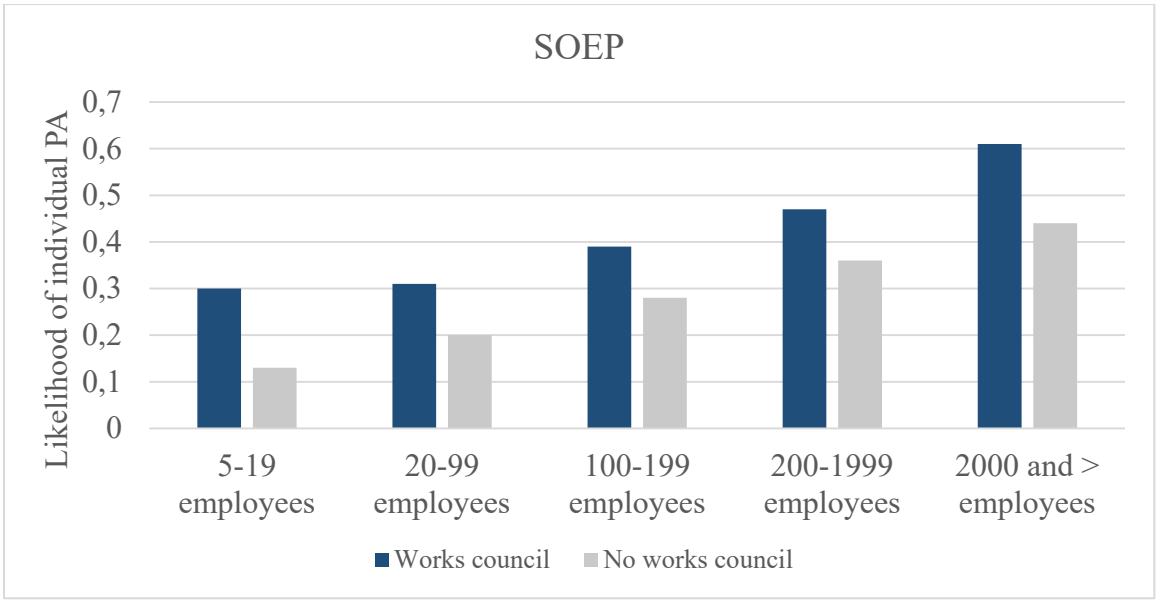
Appendix

Figure A: Performance appraisal and works council for each firm size category



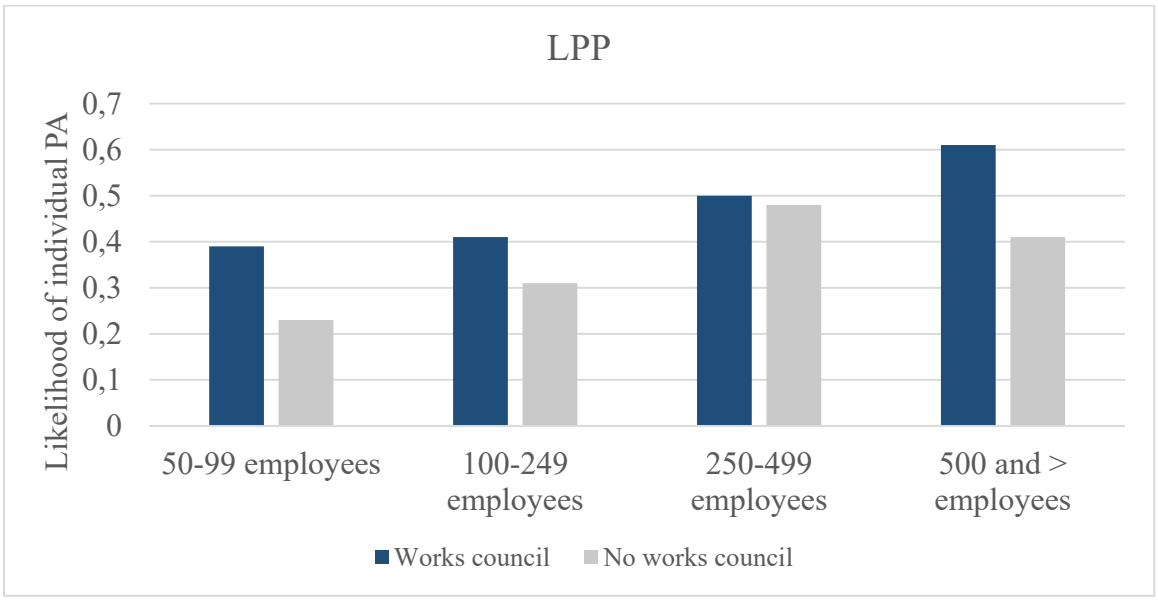


Table A: Determinants of individual PA (robustness checks LPP)

	(1)	(2)
Works council	0.107***	0.114***
	(0.030)	(0.027)
Collective wage agreement	-0.005	
	(0.027)	
Female	-0.023	-0.019
	(0.018)	(0.018)
Age	-0.001	-0.000
	(0.001)	(0.001)
Years of schooling	0.011***	0.011***
	(0.003)	(0.003)
Employee's risk attitude	0.006*	0.006*
	(0.003)	(0.003)
Full-time	-0.000	0.005
	(0.023)	(0.024)
Employment situation (Reference: Blue-collar worker)		
White-collar worker	0.066***	0.068***
	(0.019)	(0.019)
Manager	0.089***	0.087***
	(0.019)	(0.019)
Concerns about job security (Reference: not concerned)		
somewhat concerned	0.004	0.005
	(0.014)	(0.014)
very concerned	-0.055**	-0.053*
	(0.027)	(0.027)
Financial situation (Reference: inadequate)		
sufficient		0.052
		(0.045)
satisfying		0.073*
		(0.041)
good		0.079**
		(0.039)
very good		0.154***
		(0.047)
Region of Germany	yes	yes
Industry dummies (5)	yes	yes
Firm size	yes	yes
Year dummy	yes	yes
Pseudo R^2	0.065	0.068
# Observations	7,659	7,443

Notes: This table shows marginal effects. Cluster-robust standard errors at the firm level in parentheses.
*significant at 10%, **significant at 5%, ***significant at 1%.

Table B: Determinants of individual PA for different groups of employees (SOEP)

	(1) Blue-collar worker	(2) White-collar worker	(3) Manager
Works council	0.100***	0.140***	0.097***
	(0.019)	(0.015)	(0.023)
Male	0.009	0.004	-0.007
	(0.020)	(0.014)	(0.020)
Age	-0.000	-0.001*	-0.000
	(0.001)	(0.001)	(0.001)
Years of schooling	0.012**	0.012***	0.001
	(0.005)	(0.003)	(0.003)
Risk attitude	0.000	0.004	0.005
	(0.003)	(0.003)	(0.004)
Full-time	-0.000	0.030**	0.062**
	(0.026)	(0.014)	(0.027)
Eastern Germany	0.015	-0.023	-0.034*
	(0.018)	(0.015)	(0.021)
Job tenure (in years)	0.002**	0.001	-0.001
	(0.001)	(0.001)	(0.001)
Concerns about job security (Reference: not concerned)			
somewhat concerned	-0.026*	0.007	0.022
	(0.015)	(0.012)	(0.018)
very concerned	0.006	0.014	-0.021
	(0.022)	(0.022)	(0.035)
Firm size (Reference: 5-19 employees)			
20-99 employees	0.031	0.066***	0.137***
	(0.026)	(0.021)	(0.032)
100-199 employees	0.076**	0.164***	0.193***
	(0.030)	(0.024)	(0.038)
200-1999 employees	0.115***	0.202***	0.260***
	(0.027)	(0.022)	(0.034)
>= 2000 employees	0.225***	0.270***	0.408***
	(0.028)	(0.022)	(0.033)
Industry dummies (6)	yes	yes	yes
Year dummy	yes	yes	yes
Pseudo R^2	0.097	0.103	0.133
Observations	3,540	6,922	3,399

Notes: This table shows marginal effects. Cluster-robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table C: Determinants of individual PA for different groups of employees (LPP)

	(1) Blue-collar worker	(2) White-collar worker	(2) Manager
Works council	0.099***	0.111***	0.093**
	(0.034)	(0.037)	(0.046)
Female	-0.010	-0.010	-0.075**
	(0.032)	(0.022)	(0.036)
Age	-0.001	-0.000	-0.003***
	(0.001)	(0.001)	(0.001)
Years of schooling	-0.005	0.014***	0.010**
	(0.008)	(0.004)	(0.005)
Employee's risk attitude	0.002	0.007	0.012*
	(0.005)	(0.005)	(0.007)
Full-time	-0.015	0.005	0.057
	(0.051)	(0.028)	(0.057)
Firm size (Reference: 50-99 employees)			
100-249 employees	0.064	0.045	0.068
	(0.040)	(0.041)	(0.055)
250-499 employees	0.135***	0.132***	0.122**
	(0.046)	(0.050)	(0.060)
500 and > employees	0.186***	0.212***	0.212***
	(0.047)	(0.049)	(0.059)
Concerns about job security (Reference: not concerned)			
somewhat concerned	0.017	0.002	-0.026
	(0.022)	(0.022)	(0.028)
very concerned	-0.059	-0.029	-0.122**
	(0.041)	(0.049)	(0.059)
Region of Germany	yes	yes	yes
Industry dummies (5)	yes	yes	yes
Year dummy	yes	yes	yes
Pseudo R^2	0.040	0.078	0.085
# Observations	2,878	3,123	1,680

Notes: This table shows marginal effects. Cluster-robust standard errors at the firm level in parentheses.
*significant at 10%, **significant at 5%, ***significant at 1%.