# Master Thesis U.S.E.

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# The Future of Employment Representation

## An empirical study on how part time work levels impact the workplace performance of employment representation bodies across Europe (2013-2019)

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## Abstract

This empirical study investigates the relationship between part-time employment levels and the effectiveness of employment representation bodies (ERBs) in enhancing workplace performance across Europe. Utilizing 2013-2019 data from the European Company Surveys, the research analyses the perceptions of management regarding the impact of ERBs, such as works councils and labour unions, on productivity in establishments as the share of part-time employees rises. The findings reveal significant regional differences in how part-time employment influences the perceived effectiveness of ERBs. In Germanic and Scandinavian countries, higher levels of part-time employment are found to relate with a lower perceived added value of works councils. Consecutively, this effect is insignificant for labour unions and dual systems, or other country clusters. The study highlights the need for tailored policy interventions to ensure effective employee representation in increasingly part-time labour markets, contributing to the broader discourse on labour market flexibility and employee involvement. These insights are crucial for policymakers, businesses, and labour organizations aiming to balance productivity and employee representation in dynamic labour environments.

**Keywords**: part-time employment, employee representation bodies, works councils, labour unions, workplace performance, European labour market, labour productivity

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# 1. Introduction

In an overheating labour market, the Netherlands has become Europe's leader in part-time work. While this is partly related to the high share of women in employment, the numbers also indicate that over the last 10 years a big part-time job (20-35 hours per week) has gained popularity compared to full-time employment among both men and women (CBS, 2024). With the new 'Gen Z' on the rise, a generation with increased focus on individuality and a healthy work-life balance, part-time employment [PTE] is not expected to lose its popularity (Barhate & Dirani, 2022). The persistent tightness of the Dutch and European labour market has allowed employees to make these demands on working hours, while retaining a sufficient salary (NOS, 2023; European Commission, 2013). This partly explains why labour productivity levels in the Netherlands and across Europe are now falling behind, especially when compared to other world powers (Sandbu, 2024). European governments have become increasingly aware of this issue. To illustrate, the Dutch government has for instance recently allocated 75 million towards research on part-time culture adjustment interventions (Toe Laer, 2024).

Simultaneously, the role of works councils has remained quite rigid since its last significant revision in 1973 (Verhagen, 2023). The shift towards a more flexible labour force raises important questions about their impact on traditional structures of employee representation like works councils or labour unions, which have historically been designed around the norms of full-time employment. This thesis addresses empirically whether the share of part-time employees within a company affects the impact of an employee representation body [ERB] on workplace performance. The research is management focussed, meaning that workplace performance concerns the added productivity of the firm that managers perceive, rather than the added value for employees. While the aim of the paper is to uncover consequences for works councils, also labour unions and dual systems are examined. Understanding this issue is crucial for businesses, employees, labour organisations and policymakers alike.

The literature reveals opposing views on the added value of an ERB regarding firm performance. Classical Taylorism suggests that tasks should be divided to increase efficiency, and that employee involvement lowers productivity (Taylor, 1911). However this paper follows the perspective of the Stakeholder Theory, which entails that organisations should consider the interest of all stakeholders in their decision making process, to create the highest possible utility for all actors involved (Parmar, Freeman & Harrison, 2010). While multiple studies have investigated whether or not an ERB is effective in enhancing economic and social values for

both employers and employees, the position of part time workers in this matter seems to be neglected.

The issue is addressed empirically, by examining the relationship between the share of part time employees of a company and it's perceived effectiveness of the employment representation body in improving workplace performance. Two European Company Surveys [ECS], constructed by Eurofound in 2013 and 2019, act as the foundation of this quantitative research. In the surveys, management from companies across Europe answer questions regarding employee involvement at their establishment[1]. Results could urge policymakers and Human Resource Management employees to rethink how differences in part time employment shares at the company affect ERB (and therefore overall) performance of the company. This might call for different policy measures aimed to ensure representation of this marginalized group, or a different attitude towards the movement of the labour force towards the part time working sphere.

## *Societal Relevance*

The societal relevance of this thesis is threefold. First, the degree in which firms benefit economically from ERBs is expected to change as the labour market is shifting into atypical employment. Whether economic advantages arise from employee representation has been extensively debated in past research, but representation bodies are generally expected to have a positive impact on workplace performance. This is discussed extensively in chapter 2.3. As PTE is expected to lower commitment to the employer (chapter 2.2), a labour force with a higher level of PTE might not be able to provide the same added economic value trough employee representation as it's preceding labour force. This could harm firm productivity and therefore the overall economy of a country.

Second, the wellbeing of employees is at stake. Research has shown that employee voice can positively impact job satisfaction (Liang & Yeh, 2020). Furthermore, Jirjahn and Tsertsvadze (2006) find compelling evidence that the effect of works council representation on job satisfaction in Germany is positive for full-time blue-collar workers, has no significant effect on full-time white-collar workers, and is even negative for non-fulltime workers. While the ECS data does not provide a good estimator for job satisfaction, implications of this thesis

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[1] Henceforth, by using 'company' or 'firm' this is referring to the establishment level, unless stated otherwise. While a company is more than it's physical establishment, merging the definition greatly improves readability of the thesis.

results shed light on the connection between part time employment levels and perceived employee engagement in the work processes, which supports the argumentation by Jirjahn and Tsetsvadze's (2006).

Third, shedding light on the added value of works councils as the share of part-time workers increases within a firm, could address issues regarding workplace equity. To support sustainable and inclusive economic growth, part time workers also need to be effectively represented. Otherwise the gap between full time and part time workers might widen regarding both economic and welfare levels, which is not sustainable for the growth of an economy (Markey, Hodgkinson, & Kowalczyk, 2002).

### *Scientific Relevance*

This thesis contributes to the existing literature in addressing part time employment levels on the perceived effectiveness of works councils by using European Company Survey data from both 2013 and 2019 and providing a pooled cross-sectional analysis. While some research of ECS data on different forms of ERB effectiveness exists (Burdín & Pérotin 2019, Van den Berg, Grift, van Witteloostuijn, Boone & Van der Brempt, 2013), presenting an Ordered Logistic Model [OLM] regression while using a combination of 2013-2019 data is new. Furthermore, while the literature on labour unions has been voluminous for centuries, the literature on works councils has only recently gained attention (Kaufman & Levine, 2016). This thesis estimates the effect for works councils, labour unions and a dual system.

Furthermore, research on works councils often consists of the effect of the existence of a works council within the firm, on the economically relevant processes and market success of a company (Wilkinson, Donaghey, Dundon & Freeman, 2014). While characteristics like the sector of the workforce have sometimes been included (Jirjahn and Tsertsvadze, 2006), research regarding part-time employment is new. Oyetunde, Prouska and McKearney (2022) state that how workers express their voice in non-traditional employment relationships is under-explored and vouch for it's importance.

Lastly, most literature on works councils has been focussed around Germany, while recently we see that most EU countries have adapted or are strengthening the position of works councils. As of today, most EU countries have applied some form of works council and labour union representation body policies for their companies[2]. Wilkinson, Donaghey, Dundon & Freeman (2014) have emphasised that there is a need for more non-German studies on works

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[2] More on this in chapter 2.1.

councils, comparing different countries and systematically taking the national context into account. By taking effects of works councils, unions and dual systems, while considering historical country clusters with similar employment representation regulations, this research aims to fill that gap.

## *Research Question*

The introduction above shows that there is a need for extensive empirical research on this topic. Both to address societal concerns and limitations of the available literature. This thesis' research question addresses the management respondents perspectives on whether an ERB improves workplace performance, which will be empirically measured through how strongly a manager agrees or disagrees with the added value of an ERB concerning work processes. That variable is then dependent on the type of ERB that is present (works council, labour union or a combination) and interacts with part time employment levels of the establishment. The main research question is later split up into multiple sub-questions addressing theoretical assumptions and heterogeneity. Henceforth, the main research question is stated as follows:

*To what extent do part time employment levels affect the perceived added value of employment representation bodies regarding workplace performance for companies across Europe?*

## *Methodology*

In chapter 3 the methodology is fully elaborated upon. For now, it should be noted that this is an exploratory study in which the 2013-2019 European Company Survey data is pooled and an Ordered Logistic Model is applied using multiple specifications (Eurofound 2015, Eurofound 2023) [3]. This estimation model serves only as a partial explanation to the research question, because the model is likely to overestimate the effect due to unobserved heterogeneity issues[4]. But nevertheless results are relevant as a broad dataset is covered that identifies potential relationships, which could be further investigated using more rigorous methods in the future. The main model captures the 2013-2019 data on all relevant variables for the entirety of Europe.

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[3] The data is subtracted from the 'European Foundation for the Improvement of Living and Working Conditions', henceforth referred to as 'Eurofound'. The 2015 reference depicts the dataset for the 2013 European Company Survey, the 2023 reference depicts the dataset for the 2019 ECS. These records can be found in the reference list.

[4] Because an establishment identification variable is absent in the ECS data, a Fixed- or Random Effects model is impossible to compute at the establishment level. While a country cluster on year panel regression might be possible, this is not preferred as it would only be applicable to two year waves of data.

In line with research by Van den Berg, Grift, van Witteloostuijn, Boone & van der Brempt (2013), this is accompanied by regressions for specific county clusters with similar historical employment representation characteristics and regulations. Results expose whether companies in certain clusters are more or less affected by PTE levels if the country is designed to be more dependent on a specific system of employment representation.

To then be able to add some additional establishment characteristic variables, also a regression of only the 2013 data is added. Furthermore a simple Pooled Ordinary Least Squares [OLS] regression of the main model is run, to ensure robustness of the results. These models conjointly answer the sub questions provided below, that provide further insight into the research question:

SQ 1: *To what extent are heterogeneous effects found, i.e., are part time employment levels affecting the perceived effect of an employment representation body on workplace performance differently for five country clusters with distinctive ERB structures?*

SQ 2: *Do the potential findings hold in a robustness test with extra covariates? If not, how does this change the conclusions of the study?*

Trough these main- and sub-questions, the thesis is able to provide a thorough analysis of productivity issues that arise with changes in part time employment levels concerning employee participation, as well as potential solution-finding. Additionally, by merging the 2013 and 2019 ECS data, it contributes to the scientific literature by providing an additional instrument for research on employee representation across Europe.

### *Results*

This thesis finds a statistically significant relationship of the examined variables. For Germanic and Scandinavian countries, an increase in part time employment levels decreases the added value of a works council regarding workplace performance, as perceived by management. This result holds even after the robustness test with extra covariates. The effect is however insignificant for the other clusters and dual systems of representation. Labour unions show some ambiguous outcomes regarding different PTE levels, but are mostly independent and generally negative, meaning that labour unions as a type of ERB mostly decrease workplace performance perceptions by the management regardless of the share of part-time workers.

The remainder of this paper is then divided into multiple steps. First, an extensive literature review is conducted to further identify what knowledge has already been explored. Then, the methodology is presented, to allow for transparency and replicability of the research. The methodology is followed by the results. In the conclusion these results are tied back to the research question and the existing literature, along with some policy recommendations. Lastly, the discussion and limitations allow for a critical review of the research and provide suggestions for further research.

# 2. Literature Review

## 2.1 Employment Representation Bodies Across the EU

Works councils are set up differently across Europe, In the Netherlands for instance, works councils are a part of every firm with more than 50 employees. Between 10 and 50 workers the appointment of a works council is voluntary, but when employees ask for a staff representation the company has to comply. For works councils it does not matter whether these employees have a contract that is permanent or temporary, full-time or part-time. Even agency workers with more than 18 months of involvement can stand for election (Rijksdienst voor Ondernemend Nederland, 2023). Following the 'Wet op de Ondernemingsraden', this representation body for employees has the right of consent, advisory right, right of initiative and right of information from the employer (Rijksoverheid, 2023).

In most of the EU, employees are either represented trough works councils that are similar to the Dutch model, trough labour unions or trough a dual system. While works councils operate on a company or workplace level , unions mainly operate at industry, sectoral or national levels. Table 1 indicates that in 2014 most EU countries had adopted some form of 'bottom-up' employee representation body (e.g. works council) along with a 'top-down' body (e.g. labour union) (Oesingmann, 2015).

**Table 1: Workplace representation in Europe, 2014**

| | Workplace representation through employees representatives | | Workplace representation through union bodies | |
|---|---|---|---|---|
| | Works council or employee representative | Threshold | Union delegation or union representative | Threshold [a] |
| Austria | x | From 5 employees. | There is no direct trade union representation in the workplace. But in most cases the unions play a crucial part in the works councils' effective operation. | |
| Belgium | x | From 101 employees. | x | Depends on union agreement. |
| Bulgaria | x | No threshold / From 20 or 50 employees. [b] | x | Depends on union agreement. |
| Croatia | x | From 20 employees. | x | Depends on union agreement. |
| Czech Republic | x | No threshold. | x | Depends on union agreement. |
| Denmark | x [c] | From 35 employees. | x | In most agreements the right to elect a trade union representative starts once there are more than five employees in the workplace. |
| Estonia | x | No threshold. | x | Depends on union agreement. |
| Finland | x (If there are no union representatives.) | From 20 employees. | x | Each workplace has a trade union representative. |
| France | x (Two bodies: Employee delegates / Works council) | From 11 employees / From 50 employees (obligatory). | x | From 50 employees. |
| Germany | x | From 5 employees. | There is no direct trade union representation in the workplace. But the unions have a major influence on the works councils' operation. | |
| Greece | x | From 50 employees (From 20 employees if there is no union body). | x | Depends on union agreement. |
| Hungary | x | From 51 employees. | x | Depends on union agreement. |
| Ireland | x [d] | From 50 employees. | x | Depends on union agreement. |
| Italy | x | From 16 employees. | The elected employee representatives are essentially union bodies. | |
| Latvia | x | From 5 employees. | x | Depends on union agreement. |
| Lithuania | x (If there are no union representatives.) | No threshold. | x | Depends on union agreement. |
| Luxembourg | x | From 15 employees. | Unions have important rights in this structure and the majority of employee representatives are union members. | |
| Netherlands | x | From 50 employees. | In many organisations collective agreements give trade unions at work specific rights. | |
| Poland | x | From 50 employees. | x | Depends on union agreement. |
| Portugal | x | No threshold. | x | Depends on union agreement. |
| Romania | x (If there are no union representatives.) | From 21 employees. | x | Depends on union agreement. |
| Slovak Republic | x | From 50 employees. | x | Depends on union agreement. |
| Slovenia | x | From 21 employees. | x | Depends on union agreement. |
| Spain | x | From 11 employees. | x | From 250 employees. |
| Sweden | No works council. | | x | Depends on union agreement. |
| United Kingdom | x [e] | From 50 employees. | x | Depends on union agreement. |
| Norway | x | From 100 employees (obligatory). | x | The number of union representatives is linked directly to the number of union members in the company who belong to each union confederation. |
| Switzerland | x | From 50 employees. | At least some of the employee representatives are members of a trade union and/or advised by trade unions. | |

*Source: Oesingmann (2015)*

While most European countries facilitate both bodies of employee representation in some way trough regulations, each country still has their own specific regulations and historical 'dominant' form of employee representation. Nevertheless, countries can be divided into groups with similar representation characteristics. Van den Berg, Grift, van Witteloostuijn, Boone & van der Brempt (2013) present this way of country clustering based on previous research. Because ERBs in European countries have not faced major substantive changes trough recent years, this table still generally holds. In this research the same division is adopted, which is depicted in table 2. Table 3 then indicates on what characteristics the division is based.

**Table 2: European Country clustering by dominant form of employee representation**

| Germanic | French | Anglo-Saxon | Scandinavian | Transition |
|---|---|---|---|---|
| Austria | Belgium | Ireland | Denmark | Bulgaria |
| Germany | France | United Kingdom | Finland | Czechia |
| Netherlands | Greece | | Sweden | Estonia |
| | Italy | | | Hungary |
| | Luxembourg | | | Latvia |
| | Portugal | | | Lithuania |
| | Spain | | | Poland |
| | | | | Romania |
| | | | | Slovakia |
| | | | | Slovenia |

*Source: Van den Berg, Grift, van Witteloostuijn, Boone & van der Brempt (2013)[5]*


**Table 3: Key worker participation characteristics per country cluster**

| | Germanic | French | Anglo-Saxon | Scandinavian | Transition |
|---|---|---|---|---|---|
| Main representation body (at the workplace level) | Works council | Union | Union | Union | Union *or* works council* |
| Secondary representation body (at the workplace level) | − | Works council (joint*) | Joint consultative committee | Cooperation committee (joint) | Works council *or* union* |
| Information rights** | +++ | ++ | + | +++ | +/++ |
| Consultation rights** | +++ | ++ | + | +++ | +/++ |
| Co-decision rights** | +++ | − | − | ++ | −/+ |
| Main level of bargaining | Sector | Sector | Firm | Sector | Firm *or* sector* |
| European Participation Index (unweighted average per cluster)*** | 0.64 | 0.45 | 0.27 | 0.82 | 0.36 |

\*     Depending on the country at issue: see main text.

\*\*    Explanation of the symbols: − means absent, while +, ++ and +++ indicate an increasing degree of rights.

\*\*\*   Figures in this row are based on Vitols (2010:12) and show the unweighted average of three dimensions: formal workplace participation, board representation by workers, and collective bargaining representation (union density + collective agreement coverage).

*Source: Van den Berg, Grift, van Witteloostuijn, Boone & van der Brempt (2013)*

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[5] Visualisation of the literature by Van den Berg, Grift, van Witteloostuijn, Boone & van der Brempt (2013)

As can be derived from table 3, Germanic countries mostly depend on works councils in their process of employee representation, Anglo-Saxon and Scandinavian clusters rely on labour unions, however these have different rights. Transition countries have adopted either a works council or union and are in a 'conversion' phase of employee representation. In French countries both unions and works councils are quite prominent, and are therefore assumed to have a 'dual' system in this research.

## 2.2 Atypical Employment Trends and Employee Involvement

Over the past decades there has been a movement from the 'standard' working week to increased levels of flexible and atypical working arrangements like part-time work, temporary work, fixed-term work, casual and seasonal work or self-employment globally (Messenger, 2018; Eurofound, 2018). Multiple studies indicate that these types of contracts have a negative effect on workers experiences with employee voice. Sluiter, Manevska & Akkerman (2020) find that temporary and freelance work, job insecurity, replaceability and precarious values are barriers to worker voice. Markey, Hodgkinson and Kowalczyk (2002) find strong evidence that part time employees enjoy less access to participatory management practices in the workplace than their full-time counterparts. Oyetunde, Prouska & McKearney (2022) have provided a literature review on how non-traditional employment relationships [NTER] affect employee voice. They state that most studies reviewed found workers in NTERs having little or no influence over workplace decisions due to power imbalance, nature of their contract/ job and industry. Papers by Jacobsen (2000) and Giannikis & Mihail (2016) indicate that working part time generally decreases commitment and participation in the company. In conclusion, atypical employment has been studied to have a negative impact on employee commitment and participation in the firm. Research by Zwick (2004) and Bhatti and Qureshi (2007) has shown that employee involvement by ordinary 'shop floor level' workers significantly increases labour productivity. This effect is even more positive in establishments with works councils.

## 2.3 Employment Representation Effectiveness

While most likely correlated, how managers perceive the effects of employee representation on workplace performance could have disparate results to actual performance. Which determinants influence management's attitude toward employee participation has been studied by Van den Berg, Grift and van Witteloostuijn (2011) and Jirjahn and Smith (2006). But research on the connection between perceived and actual performance of an ERB seems to be absent, and

therefore this literature review is focussed on actual performance as a proxy for perceived performance. Reverse causality issues might arise, for instance when employees realise that managers have a negative perception of employee involvement, causing employees to become less engaged with the ERB, which diminishes it's positive effect on workplace performance. However, actual workplace performance metrics like productivity, profitability or employee turnover are often the same metrics that management uses to assess labour performance, and are therefore likely aligned with management perceptions.

Now, the available literature on potential positive and negative effects that each ERB (works council, union, dual) has on workplace performance will be discussed. Over the past decades, the effect of a works council regarding economic, as well as social outcomes has been thoroughly reviewed. The available literature is often dedicated to Non-Union Employee Representation [NER], which generally concerns works councils or an ERB that has largely the same characteristics (employee forums, staff associations, employee advisory boards). First, a combination of existing research is discussed regarding overall workplace performance outcomes of these NER's and works councils specifically, followed by a section dedicated to labour union and dual system effects.

Back in 1993, Freeman and Rogers discovered a large 'representation gap' in the USA, by utilizing two public opinion polls concerning the amount of employee representation that workers had, compared to how much they would like. As the US labour market was lacking establishment level representation regulations and employee influence arose mainly from collective bargaining by unions, they turned to European examples of non-union ERBs. Freeman and Rogers (1993) executed surveys on management perspectives of economic effects of works councils. While councils impose costs (slowing management decision making, taking employee and manager time away from other work, etc.) and can malfunction, they have important positive effects which in general make them a net benefit to firms. These positive effects are for instance the perceived improvement in employee communication, commitment to firm and checks on management that prevent or correct errors (Addison, Kraft & Wagner; 1993).

Nienhüser (2014) further discusses the role of works councils on the establishment level in the Handbook of Research on Employee Voice. He points out multiple studies that suggest that the existence of a works council leads to higher value added and higher productivity trough communicative advantages. However, contextual effects seem to play a role, meaning that the positive effects cannot be observed equally under all conditions. Still, he concludes that the

existence of a works council does not reduce company performance and, under certain conditions, has a productivity-enhancing or value-added-enhancing effect. For employee outcomes, the implementation of a works council is also a positive influence. Generally, the wage level increases, companies become more likely to have a family-friendly human resources policy and company-financed training, as well as lower personnel turnover.

Apart from productivity enhancing outcomes that works councils offer trough enhanced communication, other benefits arise from employee representation. Using European Working Conditions Survey data from 2015, Adolfsson, Baranowska-Rataj & Lundmark (2022) find that employee representation increases workers' access to employer-paid training, regardless of contract type. While costly for the firm, training improves productivity and therefore workplace performance in the long run. The research however makes no distinction between union or works councils. How ERBs affect working time flexibility is examined by Burdin & Pérotin (2019) and Seifert (2008). Burdin & Pérotin (2019) have used ECS data to examine whether employee representation and the utilization of flexible working-time arrangements has changed after EU legislation granted information, consultation and representation rights to employees for member countries with no previous legislation on the subject. Using a difference-in-difference estimator, results suggested a positive effect of these 'bottom-up' employment representation reforms on working time flexibility. Seifert (2008) indicates that flexible working-time arrangements impose benefits and risks, as they increase time sovereignty but also dependency on company needs. They state that works councils effectively provide a legal framework for 'regulated flexibility', meaning that the needs of company time flexibility are matched with the protection of employee needs, improving outcomes for both managers and employees. To summarize, these findings suggest that ERBs also have a positive effect on labour productivity through job training and working time flexibility, apart from their direct positive communicative effect.

Unlike the mentioned positive implications of employment representation, Dobbins and Dundon (2014) indicate less favourable outcomes of NER effectiveness. They have provided a comprehensive literature analysis of the implementation of NERs across different contexts, with particular emphasis on management's perspectives and the effectiveness of works councils. They indicate two contrasting streams of academic thought regarding NER. First, it's premised as an union avoidance strategy by employers. By allowing for establishment level representation, they take away bargaining power from workers trough unions, which might not be favourable to employee outcomes. The second stream of thought is that NER implementation

can also revolve around searching for mutual gains style outcomes or responding to global or local market competitiveness. However they conclude that in general, contextual conditions in liberal market economies, especially where cost competition is dominant, are not conducive to enduring mutual gains through NER arrangements. This is because employers inject NER with insufficient power and independence to enable employees to experience robust voice, and non-union worker representatives lack the resources and skills to engage in joint problem solving. In the absence of hard regulation or union mobilization, NER arrangements tend to be too weak to address workplace issues, owing to disconnected capitalism and models of HRM that render meaningful voice unstable and potentially prone to breakdown. This situation has intensified in an era of 'financialization' (Dobbins & Dundon, 2014). However due to the abundance of research that shows positive effects of works councils and establishment level ERBs that was mentioned in this chapter, even when the introduction of a NER might be out of union avoidance, the actual effects on labour outcomes can generally be considered positive for both employees and companies.

Unlike works councils, labour unions are structured top down. Workers sign up to a labour union and henceforth their interests are represented by the union, who bargains with companies to improve labour conditions, for instance by using threats of nationwide strikes. Often, unions protect sectors so even without a subscription, workers are still represented. In line with classical Taylorism, this bargaining power is expected to decrease workplace performance, as capital shifts from employer to employee. However, better working conditions can also improve workers attitudes and productivity, which in turn increases profits. Therefore it is not possible to use theory to predict unambiguously any union effect on productivity (Metcalf, 2002). The sign of this effect (be it either negative or positive) should then not be influenced by establishment level part time employment shares, as unions are structured top-down. Subsequently, the effect of a dual system, where both works councils and labour unions are very apparent, should be dependent on the way each ERB increases or decreases workplace performance.

## 2.4 Conclusion Literature Review

All European countries allow forms of employment representation, be it trough unions, works councils or a dual system. These countries can be divided into clusters with similar dominant employee representation structures and regulations. Research on whether these ERBs improve workplace performance with regard to productivity is extensive and abundant. Generally, we

identify positive effects of works council existence on firm performance and labour productivity. These results correspond to the stakeholder theory, meaning that organisations should consider the interest of all stakeholders in their decision making process, to create the highest possible utility for all actors involved (Parmar, Freeman & Harrison, 2010). For unions, the effect is harder to determine, as they generally impose higher costs to the firm, but also improve working conditions that potentially improve productivity. A dual system could result in a positive or negative effect, dependent on the size of the aforementioned implications of both ERBs.

Furthermore, atypical employment, in particular part-time work, seems to have a negative impact on employee voice and participation within firms, which lowers performance of the workforce. Therefore the following hypothesis arise from the literature regarding the main research question:

*HA: Higher part time employment levels within an establishment have a negative effect on workplace performance as perceived by management, compared to low part time employment levels.*

*HB: Works councils have a positive effect on workplace performance as perceived by management, compared to no employment representation body.*

Combine these two statements, and the following hypothesis arises:

*HC: Higher part time employment levels within an establishment have a negative effect on perceived workplace performance, which becomes even more negative if the employment representation is a works council, compared to establishments with no works council and low part time employment levels.*

Then with regard to unions, it is unclear whether labour unions have a dominant positive or negative effect on perceived workplace performance. As unions are often structured top-down, at a sector level for instance, it is not expected that this effect will change with part time employment levels of a certain establishment. Whether firms with a dual system are significantly affected by PTE levels would then be dependent on how much it changes perceptions of workplace performance of the works council within the dual system.

Lastly, across the country clusters with similar historical ERB structures and regulations, as depicted in chapter 2.1, results might differ. If, for instance, countries have predominantly focussed their employee representation around works councils, the negative effect of higher PTE levels might be stronger. To be able to test whether these hypotheses hold, the methodology of this research will now be elaborated upon.

# 3. Methodology

This chapter presents the data and methodology that will be used in the empirical analysis of the thesis. First, the content of ECS dataset is studied, along with how the data is modified to meet requirements to answer the research question. Second, relevant dependent, independent and control variables are presented and summarized in a descriptive statistics table. Third, the model is explained. This consists of an Ordered Logistics Model of the total sample and five country clusters. Fourth and last, the results are accompanied by two robustness tests. One estimates effects solely on 2013 data, to allow for additional relevant control variables. The other utilises a Pooled OLS model on the main results, to indicate whether the results hold under different assumptions in the modelling process.

## 3.1 Data

### 3.1.1 Dataset

The data used in this paper stems from the ECS survey, gathered by Eurofound, which is the 'European Foundation for the Improvement of Living and Working Conditions'. They are a tripartite EU agency aimed at providing knowledge to assist in the development of better social, employment and work-related policies (Eurofound, 2024). The main survey has been carried out four times since it's inception, first in 2004 and later in 2009, 2013 and 2019. Each time questionnaires were filled in by both personnel managers and (where applicable) employee representatives. The survey on management is chosen over the employee representative questionnaire, as these representatives are more likely to have a biased view of the ERB that they are a part of, and have way less observations. Due to technical disparities the surveys have not been used conjointly. Because the content of the questionnaires has differed significantly over the years, only the 2013 and 2019 data is used. In 2013, the management representatives from approximately 27,000 establishments across 32 European countries was gathered. In 2019 the number dropped but is still over 21,000 observations for 28 EU countries. In 2013,

questionnaire-based telephone interviews were conducted towards management and employee representatives. While in 2019, establishments were contacted trough telephone to identify these respondents and then all were asked to complete the questionnaire online. The target group consisted of senior managers in charge of personnel and, where present, official employee representatives in establishments with 10 or more employees, in all sectors involved in 'market activities'. The sampling strategy by Eurofound (2015, 2023) ensures that the target population is representative of the real population in terms of the distribution across sectors, size classes and countries. The technical report is included in the datafile, which thoroughly explains this sampling strategy.

### 3.1.2 Cleaning of the Data

For the purpose of this paper and to control for outliers, some data and variables are restricted. For instance when respondents filled in that the question did not apply to them. Additionally, the 2013 and 2019 survey had to be aligned as good as possible. Therefore countries that don't appear in the 2019 data are dropped from the 2013 data. There don't seem to be any major ERB legislation changes for included countries between 2013-2019 that would demand further country exclusions. As the establishments provide their main activities in different sectors, the sector division applied in 2019 has been merged into the six overarching sectors that are provided in the 2013 data. Furthermore, whether or not the manager perceives it's workforce as unmotivated is likely to impact perceptions of workplace performance. But this question is almost entirely answerer with 'yes, the workforce is not unmotivated', so this research only considers establishments with workers that are 'not unmotivated'. Lastly, how questions are constructed differs sometimes between 2013 and 2019 data. To account for this, possible outcomes were aligned and non-explanatory outcomes, for instance when the questions was answered with 'non applicable' or 'skipped', have been dropped. Additionally, sometime variables have been adjusted slightly to reduce skewed distributions and exclude extreme outliers with little to no observations.  It is important to note that next to the total sampling of observations, also distinctions have been made between country clusters, in line with the research by Van den Berg, Grift, van Witteloostuijn, Boone & van der Brempt (2013). How and why this is done, is further explained in section 3.3.2.

## 3.2 Variables

### 3.2.1 Main Dependent Variable

The outcome variable that this research aims to analyse is the effectiveness of an ERB in improving labour productivity. This can be considered trough various lenses, but for this research we will limit ourselves to the following variable: *the degree to which managers perceive that the employee representation has improved workplace performance*. How ERBs improve workplace performance perceptions can be considered with regard to multiple areas, which have also been discussed in the review of the literature. Freeman and Rogers measured these positive effects for instance through perceived improvement in employee communication, commitment to firm and checks on management that prevent or correct errors (Addison, Kraft & Wagner; 1993). Or Nienhüser (2014), who measured ERB effectiveness trough value added and changes in overall productivity of the firm. Because the 2013 and 2019 datasets vary in their questioning, questions that were highly similar have been merged into a new variable concerning the perceived impact that the ERB in place has on workplace performance. The distribution of this variable follows a Likert scale where 1 is 'not at all', 2 is 'to a small extent'. 3 is 'to a moderate extent' and 4 is 'to a great extent'. The density distribution of the total dataset is depicted in figure 1. For each type of ERB, this distribution follows a similar distribution. Therefore, irrespective of type of employment representation, most managers perceive ERB as improving workplace performance to a moderate extent.

**Figure 1: Density plot on workplace performance**
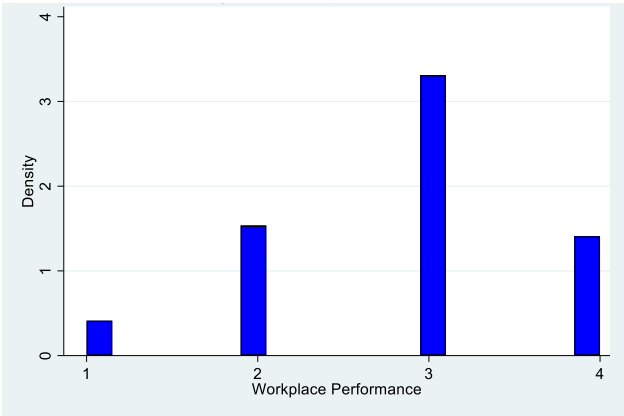


*Source: ECS (2013-2019)*

### 3.2.2 Independent Variables

This research examines whether the perceived added value of an ERB decreases as the share of part time employees increases within an establishment. Therefore my main independent

variable is the share of PTE, interacted with the type of employment representation that is present. Dummies are created for each type of ERB, where works councils are the main type of interest, and all ERB types are compared to an establishment with none of these regulated forms of representation. In both surveys the share of part time workers follows a scale of steps with a size of 20%, so these did not have to be modified individually, only merged together. However, as there are little observations where the share of PTE exceeds 40%, all observations above this threshold were merged to ensure a more normal distribution. The density distribution of part time employment levels for the total sample is exhibited in figure 2. Figure 3 depicts the correlation between part time employment levels and workplace performance for each type of ERB. In line with the literature, works councils seem to generally increase perceived workplace performance more than unions or when the formal ERB is absent. It's remarkable that a dual system outperforms a works council structure, and that workplace performance generally seems to increase as the share of PTE increases. It has to be noted that this graph is however only depicts a potential correlation and does not denote causality.

**Figure 2: Density plot on part time employment levels**
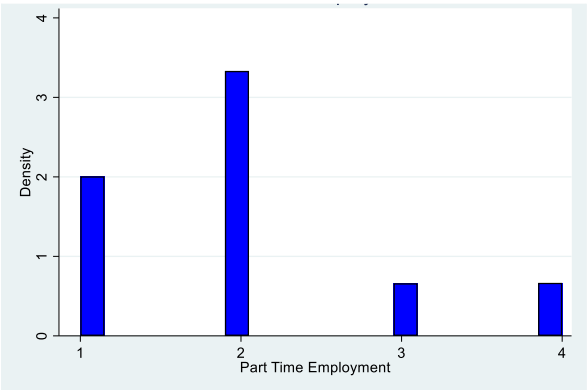


*Source: ECS (2013-2019)*

**Figure 3: Linear function of share of PTE on perceived workplace performance, by ERB**
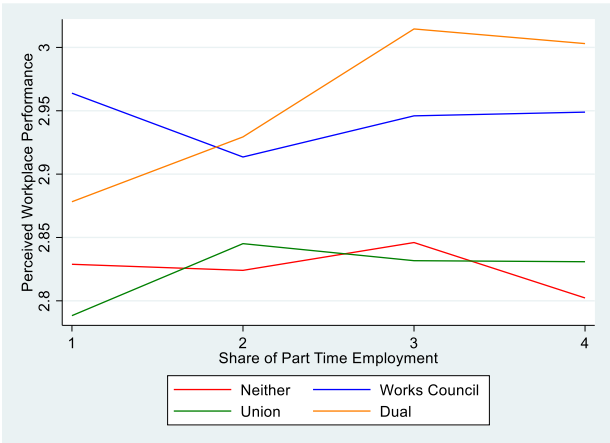


*Source: ECS (2013-2019)*

### 3.2.3 Control Variables

Trough the literature and logical reasoning we find multiple covariates that affect ERB effectiveness. To reduce omitted variable bias these covariates have to be included as control variables. However, not all relevant variables are available or measurable[6]. Covariates that are included are as follows:

Country: as countries have different employment representation regulations and differ in labour culture, this is potentially a very impactful covariate. To control the fact that observations in the same country might be correlated, I've used clustered standard errors at the country level. Furthermore, as aforementioned the countries have been divided into five clusters: Germanic, French, Anglo-Saxon, Scandinavian and Transition. These five country clusters are included in the main regression to control for cluster specific effects.

Sector: how management perceives the functioning of an employment representation body is likely to be dependent on the sector that the establishment executes its duties in. For the 2013 data Eurofound has decided to divide sectors into six groups that follow the NACE Rev. 2[7] division, in this thesis the 2019 sector categories are split in the same way. This results into a division of sectors as follows: 'industry', 'construction', 'wholesale, retail, food and accommodation', 'transport', 'financial services & real estate' and 'other services'.

Size: because bigger establishments generally have (legally) a more defined ERB, the establishment sizes has to be included. Establishments have been divided into three categories: 10-49, 50-249 or 250+ employees.

Hierarchy: a more vertically designed organisational structure might have either positive or negative effects on how ERBs perform. It might cause more communication barriers, distance between representation and decision makers or bureaucratic issues. However in a hierarchical structure, roles and responsibilities are generally more clearly defined and formalised. To measure this impact a combined variable of the amount of hierarchical levels that the manager estimates are present in the establishment is included. After tabulating this amount against the

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[6] Multiple relevant variables on firm characteristics, interaction between manager and ERB, or ERB characteristics were absent or unusable. For instance, while the question on whether the employment representation can be trusted likely affects the dependent variable, answers were highly linear and therefore not relevant (most managers trust the ERB highly or moderately).

[7] NACE Rev. 2 categories of sectors of activity: mining and quarrying (B), manufacturing (C), electricity, gas, steam and air conditioning supply (D), water supply, sewerage, waste management and remediation activities (E), construction (F), wholesale and retail trade, repair of motor vehicles and motorcycles (G), accommodation and food service activities (I), information and communication (J), transportation and storage (H), financial and insurance activities (K), real estate activities (L), professional, scientific and technical activities (M), administrative and support service activities (N), arts, entertainment and recreation (R), and other service activities (S). These are grouped into the mentioned six categories (Eurofound, 2023).

estimated size of the establishment, some extreme outliers (e.g. 70 or 100 levels) have been restricted. To increase normality of the distribution observations where six or more levels were present have been combined.

Autonomy: more autonomous teams generally will communicate more easily among themselves and give employees more ownership of their work, therefore creating a more empowered workforce that is more likely to effectively engage in an ERB. Conversely, highly autonomous teams might not feel the need for representation, so to include this effect a binary autonomy variable is adopted that indicates whether team members decide on the distribution of tasks themselves or if tasks are generally distributed by the manager.

Change in Employment: if the establishment has recently increased or decreased it's share of employees significantly, the required ERB might change. A newly incorporated works council might be more or less effective than an established entity. The variable takes on values of 'increased', 'decreased' or 'stayed about the same'.

Open Ended Contract: this is a variable on the estimated share of workers with open ended contract within the company.

Profit: this is a variable that depicts whether the manager thinks that the establishment has made a profit, a loss or broke even in the year before.

Delay: as opposed to the previous covariates, this variable does not concern firm characteristics but the interaction between manager and employee, namely whether the manager thinks employee involvement causes delay's in the implementation of changes. This variable also follows a Likert scale.

Motivated: this variable concerns the motivation of employees. From the 2013 data, managers could only answer yes or no when asked if they faced problems of low motivation.

Lastly, a year dummy is included to separate the 2013 and 2019 data. A value of one considers the data of 2013.


### 3.2.4 Summary Statistics

In table 4a provided below, a summary of the descriptive statistics of the main sample is given, while table 4b provides the same statistics for the five country clusters. The first thing to notice is that managers generally have a positive attitude towards ERBs in increasing workplace performance, as the mean value is close to 3. This value is higher in Scandinavian countries and lower in Transition countries.

Regarding share of part time employment, it is noticeable that most establishments are estimated to have less than 20% PTE. As stated in the introduction, the Netherlands, and most Northern-European countries such as the Germanic cluster, see increased levels of PTE. When compared against the other clusters, this is reflected in the sample. In line with the literature, we can clearly see the highest presence of works councils in the Germanic cluster, labour unions in the Scandinavian cluster and a dual system in the French cluster.

All six sectors are represented in the sample. however, for most clusters, the financial services are a bit underrepresented. An analysis of the mean values of sector distributions across different clusters reveals only slight variations, with a similar distribution pattern observed for each cluster. This observation supports the argument that the ESC data's sampling method is likely unbiased, as the uniformity in results across clusters suggests consistent representation of sectors in the sample.

With regard to the other control variables, Germanic establishments are on average slightly bigger, but the mean size is around 1.5 points, so between 10 to 250 employees. Anglo-Saxon companies have on average slightly more hierarchical levels and also more variance between observations, while Scandinvian and Transition establishments are less hierarchically structured. Interestingly, Germanic and Scandinavian clusters have more often an autonomous workforce. As autonomy is often assumed to largely relate to sector, it's surprising to see that even when sectors are quite evenly distributed across the clusters, these two groups on average are perceived to have more autonomous workforce. Changes in employment quite differ across clusters, Germanic and Anglo-Saxon companies have increased their employment levels significantly more than Scandinavian or Transition countries, which might have implications for the regulatory demands of employment representation these countries have on companies. French and Transition countries have a below average level of motivation. Profit perceptions across Europe are quite evenly distributed for the two year waves. Lastly, while most country observations are evenly distributed between 2013 and 2019 (year) data, the amount of Anglo-Saxon respondents is a bit more reliant on 2013 data.

## Table 4a. Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| New Workplace Performance | 27374 | 2.857 | .818 | 1 | 4 |
| **PTE** | | | | | |
| None at all | 37497 | .301 | .459 | 0 | 1 |
| Less than 20% | 37497 | .5 | .5 | 0 | 1 |
| 20% to 39% | 37497 | .099 | .299 | 0 | 1 |
| 40% to ALL | 37497 | .1 | .3 | 0 | 1 |
| **ER Body** | | | | | |
| Neither | 37497 | .664 | .472 | 0 | 1 |
| Works Council | 37497 | .114 | .317 | 0 | 1 |
| Union | 37497 | .121 | .326 | 0 | 1 |
| Dual | 37497 | .101 | .302 | 0 | 1 |
| **Cluster** | | | | | |
| Germanic | 33905 | .124 | .33 | 0 | 1 |
| French | 33905 | .316 | .465 | 0 | 1 |
| Anglo Saxon | 33905 | .062 | .242 | 0 | 1 |
| Scandinavian | 33905 | .145 | .352 | 0 | 1 |
| Transition | 33905 | .352 | .478 | 0 | 1 |
| **Sector** | | | | | |
| Industry | 37339 | .316 | .465 | 0 | 1 |
| Construction | 37339 | .098 | .298 | 0 | 1 |
| Wholesale | 37339 | .262 | .44 | 0 | 1 |
| Transport | 37339 | .065 | .247 | 0 | 1 |
| Financial Services | 37339 | .038 | .191 | 0 | 1 |
| Other Services | 37339 | .221 | .415 | 0 | 1 |
| **Control Variables** | | | | | |
| Estimated Size | 37497 | 1.535 | .696 | 1 | 3 |
| Hierarchy | 37497 | 3.305 | 1.065 | 1 | 6 |
| Autonomy | 37497 | .943 | .636 | 0 | 2 |
| Change in Employment | 37497 | .146 | .739 | -1 | 1 |
| Open Ended Contract | 37497 | 5.895 | 1.453 | 1 | 7 |
| Motivation | 37497 | .811 | .392 | 0 | 1 |
| Profit | 37497 | 2.321 | .802 | 1 | 3 |
| Delay | 27374 | 2.148 | .812 | 1 | 4 |
| Year | 37497 | .526 | .499 | 0 | 1 |

*Source: ECS (2013-2019)*

## Table 4b. Descriptive Statistics by cluster

| | Germanic | | French | | Anglo Saxon | | Scandinavian | | Transition | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variable | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Workplace Performance | 2.851 | .823 | 2.837 | .822 | 2.877 | .868 | 2.937 | .741 | 2.795 | .855 |
| **PTE** | | | | | | | | | | |
| None at all | .145 | .352 | .35 | .477 | .188 | .391 | .25 | .433 | .389 | .488 |
| Less than 20% | .513 | .5 | .482 | .5 | .486 | .5 | .516 | .5 | .496 | .5 |
| 20% to 39% | .194 | .396 | .086 | .281 | .135 | .342 | .09 | .286 | .059 | .235 |
| 40% to ALL | .148 | .356 | .081 | .273 | .19 | .393 | .144 | .351 | .056 | .229 |
| **ER Body** | | | | | | | | | | |
| Neither | .598 | .49 | .682 | .466 | .841 | .366 | .439 | .496 | .771 | .42 |
| Works Council | .278 | .448 | .102 | .303 | .034 | .18 | .065 | .246 | .055 | .228 |
| Union | .041 | .199 | .091 | .288 | .112 | .316 | .3 | .458 | .121 | .327 |
| Dual | .082 | .274 | .125 | .33 | .013 | .114 | .197 | .398 | .052 | .222 |
| **Sector** | | | | | | | | | | |
| Industry | .31 | .462 | .325 | .469 | .219 | .413 | .245 | .43 | .355 | .478 |
| Construction | .099 | .299 | .096 | .294 | .086 | .281 | .101 | .302 | .105 | .307 |
| Wholesale | .277 | .448 | .265 | .442 | .324 | .468 | .26 | .439 | .247 | .431 |
| Transport | .059 | .236 | .066 | .248 | .067 | .25 | .068 | .252 | .068 | .251 |
| Financial Services | .05 | .218 | .025 | .157 | .047 | .212 | .058 | .235 | .034 | .182 |
| Other Services | .206 | .404 | .223 | .416 | .257 | .437 | .268 | .443 | .191 | .393 |
| **Control Variables** | | | | | | | | | | |
| Estimated Size | 1.63 | .748 | 1.491 | .676 | 1.528 | .679 | 1.551 | .699 | 1.497 | .672 |
| Hierarchy | 3.307 | 1.058 | 3.311 | 1.072 | 3.422 | 1.215 | 3.282 | 1.126 | 3.274 | .999 |
| Autonomy | 1.028 | .657 | .92 | .609 | .939 | .611 | 1.046 | .678 | .865 | .606 |
| Change in Employment | .255 | .713 | .187 | .729 | .234 | .716 | .12 | .765 | .062 | .739 |
| Open Ended Contract | 6.048 | 1.34 | 5.852 | 1.44 | 5.778 | 1.73 | 5.901 | 1.325 | 5.962 | 1.477 |
| Motivation | .888 | .316 | .786 | .41 | .872 | .334 | .891 | .311 | .749 | .434 |
| Profit | 2.398 | .749 | 2.305 | .801 | 2.446 | .738 | 2.301 | .851 | 2.313 | .823 |
| Delay | 2.128 | .807 | 2.163 | .821 | 2.024 | .78 | 2.073 | .737 | 2.185 | .85 |
| Year | .468 | .499 | .46 | .498 | .637 | .481 | .488 | .5 | .518 | .5 |

*Source: ECS (2013-2019)*

## 3.3 Estimation Strategy

As the 2013-2019 data is pooled into one dataset with a time variable but for different companies, the research is limited to a cross sectional analysis. As Nienhüser (2014) has stated, this is quite common in exploratory research, since the necessary data for a real panel regression is often unavailable. Because the dependent variable is ordinal (it takes on values 1-4), an Ordered Logistic Regression model is applied. Hence in this research cross-sectional differences are estimated between observations using robust standard errors, which are clustered at the country level for further robustness and to prevent heteroskedasticity and serial correlation. Because the data does not allow for real panel data regressions, the model is likely to overestimate the effect due to unobserved heterogeneity issues. These time-invariant individual effects are included in the regression as much as possible, for instance trough the hierarchy and autonomy level variables. Results then serve as a mere partial explanation to the research question. Nevertheless, results are relevant as a broad dataset is covered that identifies potential relationships, which could be further investigated using more rigorous methods in the future.

### 3.3.1 Ordered Logistic Model

In order to determine whether the share of part time employment within a company alters the perceived impact the ERB has on workplace performance, this study uses the following equation:

$$Work.Perf._i = \beta_0 + \beta_1 PTE_i + \beta_2 ER_{Body_i} + \beta_3 PTE_i * ER_{Body_i} + \beta_4 CV_i + \beta_5 yt_i + \varepsilon_i$$

As discussed in chapter 3.2.1, the main dependent variable, $Work.Perf._i$, considers to what extent management perceived that the ERB in place improves workplace performance. $PTE_i$ is a variable for the share of part time employees that work in company $i$, with $\beta_1$ being the parameter of interest. $ER_{Body_i}$ is a combination of the dummy variables that indicate which type of employment representation is in place at the establishment. And the main independent variable is then the interaction between these two variables: $PTE_i * ER_{Body_i}$. $CV_i$ captures the effect of the control variables that have been discussed in chapter 3.2.3. The $yt_t$ is a time dummy for the year, $\varepsilon_i$ is an idiosyncratic error term and $\beta_0$ is a constant.

To capture the total effect of the interaction between PTE and ERB, coefficients of the individual and interacted effects are summed up, and an F-test is computed to estimate the

significance. Then, as perceived workplace performance of the ERB is measured ordinally and not all intervals are necessarily equal, a Ordered Logistic Model is appropriate to estimate this coefficient. The model handles potential heteroskedasticity better than a linear model, as it models the probability of being in an ordinal category trough a log-likelihood function. Unlike a linear model, it does not assume constant variance, uses a logistic distribution for errors, and respects the ordinal structure of the dependent variable. These features make it more robust and reliable for analysing relationships in data with different variances across categories.

Because OLM coefficients are non linear (they follow a log odds scale), the size of the coefficients can't be interpreted meaningfully without further conversion. However, for this research it is sufficient to analyse trends of the coefficients for each level of PTE and identify whether the effect is either positive or negative. These analyses can be done by just interpreting the coefficients straight from the OLM regression. The interpretation of the OLM results from my main coefficient of interest (the cumulative interaction between having a works council and the level of PTE) is therefore as follows: for an increase in the share of PTE, the log-odds of achieving a higher category of workplace performance decreases/ increases/ is insignificant compared to when the company has no PTE, holding other variables constant. While interpretation of the OLM model for interaction terms is somewhat difficult to interpret, it's probably best to clarify what a confirmation of my hypothesis would entail in this regard: 'when a company with a works council has a higher share of part-time employees, it is associated with a lower likelihood of achieving higher workplace performance ratings compared to companies that do not have part-time employees, assuming all other factors are equal.' In chapter 5 it is confirmed that this hypothesis holds, but only for certain country clusters.

Because in the Ordered Logistic Model only variation between individual firms is measured and not the variation over time, endogeneity risks arise. Therefore the model is not equipped to effectively address reverse causality. For instance, workers might decide to start working part time more often when they realise that managers negatively value workers efforts in employment representation. Robustness checks mitigate this risk, but to reject this statement further research has to be conducted that is beyond the scope of this paper.

### 3.3.2 Country Clusters

All sampled countries show observations of establishments that utilise a works council, union or dual system. However, as became apparent from the literature review, countries across Europe have different historical structures and regulations for employee representation (Van

den Berg, Grift, van Witteloostuijn, Boone & van der Brempt; 2013). Therefore the Ordered Logistic Model is not only applied to the total sample, but the five country clusters as well. Results expose whether companies in certain clusters are more or less affected by PTE levels if the country is designed to be more dependent on a specific system of employment representation. This increases the likelihood that the observed effect is driven by the actual operational characteristics of the ERB in place, rather than the differences in how they are regulated. Furthermore, if the country has a dominant structure, for instance works councils, the works council is more likely to have a notable effect on workplace performance. If the share of PTE then has a negative impact on the added value of a works council, this negative effect will be more pronounced in a country with a works council structure.

### 3.3.3 Robustness Tests
#### 3.3.3.1 OLM on Demographical Differences

To validate the reliability and generalizability of my findings, modifications have been implemented on the gathered data, the way in which the model was constructed and clustering of the samples. The country clustering has been mentioned above in chapter 3.3.2. Additionally, a regression on solely the 2013 data is added, which allows for additional establishment demographic variables, while it drops about half the observations. The added variables concern the share of employees that is female, has a university degree or is over 50 years old. These were also included in similar research, for instance by Van den Berg, Grift & van Witteloostuijn (2011), as they might significantly impact the outcome variable. The motivation is that perceptions of work performance are likely to be affected by stereotypes (DeArmond, Tye, Chen, Krauss, Rogers and Sintek; 2006).

Descriptive statistics of the 2013 sample, including the additional control variables, are depicted in table 5a for the total sample and table 5b for the five country clusters. The extended tables can be found in Appendix A. The main dependent and independent variables don't differ too much from the original sample. What is interesting to see is that there are quite some disparities with regard to how much employees have a university degree on average, as estimated by the manager. For the Germanic cluster the mean is almost 0.4 point below the total sample, for the Anglo-Saxon cluster this is about 0.4 higher than the total sample. The share of women stays about 50% across the country clusters, while the share of workers older than 50 stays about 30%.

**Table 5a. Descriptive Statistics of 2013 sample (reduced form)**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Workplace Performance | 9617 | 2.985 | .728 | 1 | 4 |
| **PTE** | | | | | |
| None at all | 19740 | .309 | .462 | 0 | 1 |
| Less than 20% | 19740 | .508 | .5 | 0 | 1 |
| 20% to 39% | 19740 | .095 | .293 | 0 | 1 |
| 40% to ALL | 19740 | .088 | .283 | 0 | 1 |
| **ER Body** | | | | | |
| Neither | 19740 | .612 | .487 | 0 | 1 |
| Works Council | 19740 | .13 | .336 | 0 | 1 |
| Union | 19740 | .132 | .339 | 0 | 1 |
| Dual | 19740 | .126 | .332 | 0 | 1 |
| **Control variables** | | | | | |
| Female | 19740 | 3.434 | 1.306 | 2 | 6 |
| University | 19740 | 2.695 | 1.377 | 1 | 6 |
| Old | 19740 | 2.591 | .857 | 1 | 4 |

*Source: ECS (2013)*

**Table 5b. Descriptive Statistics of 2013 by cluster (reduced form)**

| | Germanic | | French | | Anglo Saxon | | Scandinavian | | Transition | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variable | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Workplace Performance | 3.076 | .77 | 3.042 | .728 | 3.217 | .662 | 2.832 | .713 | 2.905 | .747 |
| **PTE** | | | | | | | | | | |
| None at all | .24 | .427 | .377 | .485 | .223 | .417 | .252 | .434 | .413 | .492 |
| Less than 20% | .524 | .5 | .477 | .5 | .49 | .5 | .535 | .499 | .497 | .5 |
| 21% to 39% | .161 | .368 | .076 | .266 | .122 | .327 | .087 | .281 | .046 | .21 |
| 40& to ALL | .076 | .264 | .07 | .255 | .165 | .371 | .126 | .332 | .044 | .206 |
| **ER Body** | | | | | | | | | | |
| Neither | .543 | .498 | .639 | .48 | .854 | .353 | .422 | .494 | .691 | .462 |
| Works Council | .216 | .412 | .123 | .329 | 0 | 0 | .08 | .271 | .066 | .249 |
| Union | .078 | .268 | .094 | .293 | .146 | .353 | .283 | .451 | .16 | .366 |
| Dual | .163 | .37 | .143 | .35 | 0 | 0 | .216 | .411 | .084 | .277 |
| **Control variables** | | | | | | | | | | |
| Female | 3.413 | 1.277 | 3.442 | 1.345 | 3.359 | 1.22 | 3.529 | 1.28 | 3.482 | 1.347 |
| University | 2.313 | 1.1 | 2.76 | 1.47 | 3.151 | 1.48 | 2.94 | 1.463 | 2.77 | 1.327 |
| Old | 2.544 | .777 | 2.522 | .864 | 2.565 | .879 | 2.576 | .871 | 2.579 | .873 |

*Source: ECS (2013)*

### 3.3.3.2 Pooled OLS

Lastly, a simple Pooled OLS model is applied to control whether the observed relationship of the OLM model holds when a continuous scale of the outcome variable is assumed. Adding this model allows for a more complete interpretation as the hypothesis is tested under different assumptions. And when results hold in this Pooled OLS model, it further increases confidence in the findings. While the interpretation of the results is more straightforward, it should be acknowledged that the assumptions of this model are quite strong. Homoscedasticity (constant variance of errors), linearity, and normally distributed errors are assumed. Furthermore, it is sensitive to outliers and assumes no multicollinearity. Lastly, the model is most suitable for a continuous dependent variable, while this variable is ordinal with four steps in this research.

# 4. Results

The findings of the empirical analysis are threefold. First, the results to the main Ordered Logistic Model are interpreted for the total country sample. Second, specific country cluster results are depicted, as to examine for heterogeneity between subsamples. It is expected that different dominant ERB structures would create different outcomes. Third, the robustness test results will be reviewed. Due to readability issues, sometimes reduced form tables have been showcased in text. The extended tables can be found in appendix B. It is standard practice in economics to depict significance of the results with stars. But again to improve readability of the results, the significance levels of cumulative effects are displayed using colour coding. The legend below indicates what colour relates to what level of significance.

*Legend of Significance Levels*

| Colour | Significant at the: |
|---|---|
| | ***$p < 0.01$ |
| | **$p < 0.05$ |
| | *$p < 0.10$ |
| | p-value is close to the 0.10 significance level |

## 4.1 Main Results

**Table 6: Ordered Logistic Model on the perceived workplace performance of the ERB (2013-2019)[8]**

| VARIABLES | (1)<br>Total | (2)<br>Germanic | (3)<br>French | (4)<br>Anglo-Saxon[a] | (5)<br>Scandinavian | (6)<br>Transition |
|---|---|---|---|---|---|---|
| Neither | - | - | - | - | - | - |
| | | | | | | |
| Works Council | 0.135 | 0.211* | 0.0819 | | 0.252*** | 0.106 |
| | (1.022) | (1.757) | (0.308) | | (3.305) | (0.433) |
| Union | -0.289** | -0.0297 | 0.139 | 0.407*** | -0.376* | -0.419** |
| | (-2.170) | (-0.150) | (0.608) | (5.759) | (-1.679) | (-2.025) |
| Dual | -0.0940 | 0.0371 | 0.0178 | | -0.0140 | -0.135 |
| | (-0.802) | (0.196) | (0.0754) | | (-0.120) | (-0.523) |
| PTE 1 | - | - | - | - | - | - |
| | | | | | | |
| PTE 2 | -0.0452 | 0.177 | -0.121** | 0.265** | 0.138 | -0.0234 |
| | (-1.019) | (0.826) | (-2.177) | (2.194) | (0.981) | (-0.323) |
| PTE 3 | 0.0163 | 0.107 | -0.0102 | 0.658*** | 0.514*** | 0.0532 |
| | (0.195) | (0.520) | (-0.0761) | (2.899) | (4.560) | (0.374) |
| PTE 4 | -0.108 | 0.0513 | -0.235*** | 0.351** | -0.0978 | 0.206 |
| | (-1.385) | (0.241) | (-3.330) | (2.567) | (-0.707) | (1.004) |
| Neither * PTE | - | - | - | - | - | - |
| | | | | | | |
| Works Council * PTE 1 | - | - | - | - | - | - |
| | | | | | | |
| Works Council * PTE 2 | -0.0912 | -0.126 | -0.133 | | -0.128 | -0.161 |
| | (-0.681) | (-1.419) | (-0.582) | | (-0.562) | (-0.987) |
| Works Council * PTE 3 | -0.227 | -0.119 | -0.462 | | -0.641** | -0.0652 |
| | (-1.158) | (-0.354) | (-1.072) | | (-2.010) | (-0.227) |
| Works Council * PTE 4 | -0.0915 | -0.236** | 0.285 | | 0.858*** | -0.436 |
| | (-0.566) | (-2.365) | (0.691) | (6.541) | (2.886) | (-1.191) |
| Union * PTE 1 | - | - | - | - | - | - |

[8] The presented coefficients are based on coefficient not marginal effects, so directions and sign can be interpreted, not the size.

[a] The Anglo-Saxon cluster contains too little observations to gain enough statistical power to interpret the results for works councils and a dual system. Therefore only the Union results are interpreted for all results.

| | | | | | | |
|---|---|---|---|---|---|---|
| Union * PTE 2 | 0.124 | -0.153 | -0.282 | -0.253*** | 0.231 | 0.144 |
| | (1.049) | (-0.527) | (-0.788) | (-7.439) | (0.734) | (0.917) |
| Union * PTE 3 | 0.00752 | 0.321 | -1.021*** | -0.552* | 0.00186 | -0.827*** |
| | (0.0424) | (0.339) | (-2.633) | (-1.710) | (0.0186) | (-3.387) |
| Union * PTE 4 | 0.166 | 0.832 | -0.376 | -0.721** | 0.294** | 0.116 |
| | (1.088) | (0.536) | (-0.811) | (-2.380) | (2.152) | (0.206) |
| Dual * PTE 1 | - | - | - | - | - | - |
| - | | | | | | - |
| Dual * PTE 2 | 0.164* | -0.161 | 0.139 | | -0.0501 | 0.0362 |
| | (1.859) | (-0.840) | (0.725) | | (-0.200) | (0.232) |
| Dual * PTE 3 | 0.246 | -0.190 | 0.298 | | -0.516*** | 0.383 |
| | (1.396) | (-1.016) | (0.919) | | (-8.664) | (0.648) |
| Dual * PTE 4 | 0.479** | 0.304 | 0.810** | | 0.282 | -0.114 |
| | (2.294) | (0.963) | (2.497) | | (0.693) | (-0.169) |
| Scandinavian | - | | | | | |
| Germanic | -0.249 | | | | | |
| | (-1.466) | | | | | |
| French | -0.152 | | | | | |
| | (-0.917) | | | | | |
| Anglo-Saxon | -0.129 | | | | | |
| | (-1.128) | | | | | |
| Transition | -0.132 | | | | | |
| | (-0.819) | | | | | |
| Construction | - | - | - | - | - | - |
| Industry | 0.160** | 0.244** | 0.146 | -0.0564 | 0.384*** | 0.0369 |
| | (2.574) | (2.489) | (1.003) | (-0.587) | (5.425) | (0.517) |
| Wholesale | 0.246*** | 0.113* | 0.308** | -0.0425 | 0.647*** | 0.0964 |
| | (3.450) | (1.850) | (2.431) | (-0.233) | (5.704) | (0.988) |
| Transport | 0.0391 | -0.0510 | 0.0523 | -0.423*** | 0.0891*** | 0.0407 |
| | (0.529) | (-0.615) | (0.398) | (-6.660) | (2.613) | (0.216) |
| Financial Services | 0.321*** | 0.530*** | 0.393* | 0.217 | 0.515*** | 0.00360 |
| | (3.522) | (5.355) | (1.867) | (0.686) | (3.697) | (0.0217) |
| Other Services | 0.358*** | 0.243* | 0.404** | 0.0470 | 0.725*** | 0.248** |
| | (5.029) | (1.923) | (2.450) | (0.136) | (10.61) | (2.425) |
| Estimated Size | -0.118*** | -0.0534 | -0.233** | -0.235*** | -0.0452 | -0.0575 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (-3.023) | (-1.295) | (-2.544) | (-5.719) | (-0.440) | (-1.347) |
| Hierarchy | 0.0664*** | 0.0559** | 0.113*** | 0.0635 | 0.0536 | 0.0704** |
| | (3.718) | (2.428) | (3.693) | (1.427) | (0.801) | (2.123) |
| Autonomy | 0.271*** | 0.261** | 0.190** | 0.116 | 0.421*** | 0.233*** |
| | (5.691) | (2.525) | (2.185) | (1.403) | (5.883) | (2.710) |
| Change in Emp | 0.175*** | 0.128*** | 0.181*** | 0.200* | 0.0641 | 0.245*** |
| | (7.154) | (4.586) | (5.691) | (1.829) | (1.076) | (7.720) |
| Open Ended Contract | 0.0179 | 0.0272* | -0.0488* | 0.0184 | 0.0680 | 0.0389* |
| | (1.055) | (1.897) | (-1.905) | (0.569) | (1.427) | (1.666) |
| Profit | 0.0714*** | -0.00721 | 0.111* | 0.215*** | 0.00956 | 0.0232 |
| | (2.753) | (-0.281) | (1.955) | (5.991) | (0.330) | (0.555) |
| Delay | -0.0294 | -0.0215*** | 0.00803 | 0.137** | -0.254*** | 0.0798* |
| | (-0.808) | (-2.921) | (0.165) | (2.057) | (-10.93) | (1.671) |
| dout | -0.177** | -0.390** | -0.203 | -0.547*** | 0.0987*** | -0.244* |
| | (-2.322) | (-2.481) | (-1.222) | (-3.133) | (6.247) | (-1.707) |
| Year | 0.438*** | 0.789*** | 0.787*** | 1.084*** | -0.282*** | 0.364** |
| | (3.513) | (3.182) | (3.529) | (21.15) | (-16.96) | (2.065) |
| /cut1 | -2.322*** | -1.982** | -2.335*** | -1.402*** | -2.697*** | -1.915*** |
| | (-10.85) | (-2.557) | (-12.90) | (-4.400) | (-5.869) | (-5.716) |
| /cut2 | -0.395* | 0.0359 | -0.539* | 0.516 | -0.445*** | 0.000938 |
| | (-1.862) | (0.0539) | (-1.764) | (1.395) | (-3.062) | (0.00280) |
| /cut3 | 1.946*** | 2.283*** | 1.951*** | 2.617*** | 2.216*** | 2.117*** |
| | (9.306) | (2.930) | (5.573) | (5.107) | (85.14) | (5.584) |
| | | | | | | |
| Observations | 22,071 | 2,872 | 6,538 | 960 | 3,634 | 6,063 |

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

**Table 7: cumulative effect of share of PTE, ERB that is present and their interaction, significance provided trough F-test with colour coding (2013-2019)**

Total

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 - | -0.05 (0.3080) | 0.02 (0.8456) | -0.11 (0.1661) |
| | Works Council | 0.14 (0.3069) | -0.00 (0.2112) | -0.08 (0.6087) | -0.06 (0.1065) |
| | Union | -0.29 (0.0300) | -0.21 (0.0780) | -0.26 (0.0727) | -0.23 (0.1475) |
| | Dual | -0.09 (0.4228) | 0.02 (0.2607) | 0.17 (0.2408) | 0.28 (0.1517) |

Germanic

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 - | 0.18 0.4087 | 0.11 0.6030 | 0.05 0.8098 |
| | Works Council | 0.21 0.0789 | 0.26 0.2101 | 0.20 0.8725 | 0.03 0.1193 |
| | Union | -0.03 0.8807 | -0.01 0.6628 | 0.40 0.7956 | 0.85 0.8628 |
| | Dual | 0.04 0.8447 | 0.05 0.1647 | -0.05 0.7954 | 0.39 0.2083 |

French

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 - | -0.12 0.0295 | -0.01 0.9393 | -0.23 0.0009 |
| | Works Council | 0.08 0.7583 | -0.17 0.0674 | -0.39 0.3808 | 0.13 0.0080 |
| | Union | 0.14 0.5431 | -0.26 0.0481 | -0.89 0.0147 | -0.47 0.0016 |
| | Dual | 0.02 0.9399 | 0.04 0.0829 | 0.31 0.5635 | 0.59 0.0006 |

Anglo-Saxon

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 - | 0.27 0.0283 | 0.66 0.0037 | 0.35 0.0103 |
| | Works Council | ... ... | ... ... | ... ... | ... ... |
| | Union | 0.41 0.0000 | 0.42 0.0283 | 0.51 0.0873 | 0.04 0.0173 |
| | Dual | ... ... | ... ... | ... ... | ... ... |

Scandinavian

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 - | 0.14 0.3266 | 0.51 0.0000 | -0.10 0.4795 |
| | Works Council | 0.25 0.0010 | 0.26 0.0006 | 0.12 0.0000 | 1.01 0.0148 |
| | Union | -0.38 0.0932 | -0.01 0.0960 | 0.14 0.0247 | -0.18 0.2425 |
| | Dual | -0.01 0.9048 | 0.07 0.4754 | -0.02 0.0000 | 0.17 0.6494 |

Transition

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 - | -0.02 0.7469 | 0.05 0.7082 | 0.21 0.3155 |
| | Works Council | 0.11 0.6651 | -0.08 0.0096 | 0.09 0.9680 | -0.12 0.6374 |
| | Union | -0.42 0.0428 | -0.30 0.0019 | -1.19 0.0000 | -0.10 0.0188 |
| | Dual | -0.13 0.6012 | -0.12 0.9589 | 0.30 0.8025 | -0.04 0.2043 |

*Source: ECS (2013-2019)*

**4.1.1 Total Sample**

By running the OLM regression on the total sample and five country clusters, we receive table 6 provided above. The first column represents the regression for the total of sampled European countries, followed by the five cluster samples. Coefficients that result from the Ordered Logistic Model indicate the change in the log odds of the dependent variable being in a higher versus a lower category for a one-unit increase in the independent variable, ceteris paribus. As mentioned in the methodology, the total effect of the interaction between PTE and the type of ERB has been captured by summing up the individual effects and interacted effect of these variables. This cumulative coefficient is depicted in table 7 for each type of ERB and each level of PTE, along with the F-test for significance in brackets. The colours align with the significance levels, as displayed in the legend. What insights can be deducted from these tables will now be discussed, as well as how the results relate to the hypotheses.

When taking the output from the total sample of countries, table 7 indicates that the main hypothesis cannot be rejected, as the effect of a works council on perceived workplace performance is insignificant for all levels of PTE. however, for very high levels of PTE (40% or more) the effect is almost significant at 10%. Since the coefficient is negative, this is a cautious suggestion that very high levels of PTE do decrease workplace performance through works councils. However, the total sample does not control for the effect of dominant historical structures and legislation of countries trough country clusters.

What is striking however, is that there seems to be a quite apparent negative interaction between labour unions and perceived workplace performance, regardless of the level of PTE. This effect is significant at the 5% level for companies with no PTE, and at the 10% level for PTE levels up until 39%. As Metcalf (2013) discussed, labour unions can either improve or decrease workplace performance trough various channels. For European companies, the negative effects seem to outweigh positive effects overall. However, as the variable concerns perceptions by managers, it is likely that managers might not value the long run positive effects of labour unions as such, and therefore drive these negative results. Furthermore, the coefficients stay between the -0.2 and -0.3 level, suggesting that there is not a strong interaction between Union and PTE levels. The effect is rather driven by a negative perception of managers on labour unions overall.

Lastly, the covariates seem to significantly interact with the outcome variable. Sectors are weighted against 'Construction' companies and, apart from 'Transport', managers from all sectors seem to have higher perceptions of ERB effectiveness than managers in construction. Bigger establishments assign a negative value to the estimated effect, while both more

hierarchical and autonomous companies see increased values of management perceptions in this regard. It's interesting to see that managers who saw an increase in the amount of employees at their company assign a significantly more positive value to ERB performance, possibly driven by restructuring of the ERB that improves perceptions. Profits do increase the outcome variable and in 2013 overall management views on the subject were more positive than in 2019, significant at the 1% point.

### 4.1.2 Cluster Differences

The country cluster regressions then are essentially computed in the same way as the total model. However, at the bottom of table 6 we can see that this leads to unequal amounts of observations. For the Anglo-Saxon cluster this becomes a problem, as too little observations for works councils and dual systems remove any statistical power. Therefore only the effect of Unions is included. Still, from table 7 we can derive the conclusion that when controlled for clusters of countries with similar historical employee voice structures and regulations, way more variables become significant.

Regarding hypothesis A that the share of part time employment decreases perceived workplace performance, only the French cluster seems to confirm the hypothesis, while the Anglo-Saxon view argues the opposite. In the Germanic and Scandinavian cluster hypothesis B is confirmed that works councils improve perceived workplace performance. This effect seems insignificant for the other clusters. As expected, the perceptions of unions are ambiguous and context specific, as they seem to significantly decrease ERB workplace performance perceptions in the Scandinavian and Transition cluster, while the Anglo-Saxon managers view a positive effect.

Consecutively, the interaction of hypothesis A and B has formed hypothesis C: *Higher part time employment levels within an establishment have a negative effect on perceived workplace performance, which becomes even more negative if the employment representation is a works council, compared to establishments with no works council and low part time employment levels.* This hypothesis can be cautiously confirmed, but only for certain country clusters. For the Germanic cluster we can draw a cautious conclusion that for higher shares of PTE the positive effect of an works council diminishes. This is stated cautiously, as the effect only is significant at the 10% level when the company has no part time workers, and almost significant as the company has a share of over 40% of PTE. For these points, the coefficient drops from 0.21 to 0.03. Meaning that the hypothesis HC would be confirmed for countries with a dominant employee voice structure of works councils.

For French countries the results are unexpected. A higher share of PTE flips the negative sign of the effect of a works council on management perceptions into a positive sign, and increases perceptions on the dual system. Meaning that as more workers in a French company work part time, that perceptions on the ERB go from a hindrance to an enabler of good workplace performance. A possible explanation could be that as French employees are notorious for strikes, and that full time employees are more likely to participate in a strike, this could affect perceptions management has of employee representation within the company.

The Anglo-Saxon and Transition results show no relevant contribution, while the Scandinavian cluster confirms the hypothesis up until the 39% share of PTE mark, and then surprisingly works council effectiveness perceptions increase for very high shares of PTE. Possibly this is due to Scandinavian countries being more heavily dependent on unions than works councils, and once PTE levels are high enough unions might enhance collaboration with the works council, which in turn improves management perceptions.

With regard to unions, it is expected that PTE levels would not influence outcomes. While this is true for the Germanic cluster, some variation of the significant coefficients arises for the other clusters. It's especially interesting to see that union perceptions flip from a negative to positive sign as PTE levels increase in Scandinavian clusters. Again possibly due to union intervention might increase as more people start to work part time. This should however be cause for further research. The dual system effect seems to be only significant in the French cluster, likely because that structure is dominant there. Coefficients follow the same pattern as the works council coefficients regarding PTE, and as the dual system is a combination of the union and works council effect, the results are probably driven more by the works council effect than the union effect.

Lastly, while covariates differ in size of impact and sometimes lose their significance for certain clusters, coefficients roughly represent the same results as the total cluster. There are no noteworthy alterations between the sign of the coefficients between the cluster samples and the total, therefore interpretation of the control variables largely follows the interpretation of the total sample.

## 4.2 Robustness Checks

### 4.2.1 OLM on Demographical Differences

As mentioned, this robustness check consists of an Ordered Logistic Model where only the 2013 data has been included. Therefore the number of observations is dropped by roughly half the sample, but potentially relevant variables such as the share of women, share of employees with a university degree and share of employees that is over 50 years old can now be included. The results are depicted in table 8 below.

**Table 8: Ordered Logistic Model on the perceived workplace performance of the ERB (2013) (reduced form)[10]**

| VARIABLES | (1) Total | (2) Germanic | (3) French | (4) Anglo-Saxon | (5) Scandinavian | (6) Transition |
|---|---|---|---|---|---|---|
| Neither | - | - | - | - | - | - |
| Works Council | 0.226 | 0.511 | 0.442 | | 0.262* | -0.183 |
| | (0.758) | (1.311) | (1.140) | | (1.929) | (-0.345) |
| Union | -0.467 | -0.225** | 0.321 | 0.341 | -0.382 | -0.978** |
| | (-1.567) | (-2.554) | (0.927) | (0.694) | (-0.606) | (-2.185) |
| Dual | -0.0762 | -0.157 | 0.505 | | 0.0237 | -0.550 |
| | (-0.253) | (-0.665) | (0.989) | | (0.0705) | (-1.143) |
| PTE 1 | - | - | - | - | - | - |
| PTE 2 | 0.0618 | -0.0235 | 0.177 | 0.106 | 0.0210 | -0.0820 |
| | (0.486) | (-0.363) | (1.197) | (0.680) | (0.353) | (-0.322) |
| PTE 3 | 0.487** | 0.147 | 1.029*** | -0.0776 | 0.514 | 0.567** |
| | (2.116) | (1.074) | (2.734) | (-0.0887) | (0.454) | (2.232) |
| PTE 4 | 0.199 | 0.457** | 0.511* | -0.276 | 0.651*** | 0.0425 |
| | (0.780) | (2.371) | (1.784) | (-0.434) | (4.796) | (0.0419) |
| Neither * PTE | - | - | - | - | - | - |
| Works Council * PTE 1 | - | - | - | - | - | - |
| Works Council * PTE 2 | -0.246 | -0.141 | -0.415 | | -0.269 | -0.223 |

---

[10] The presented coefficients are based on coefficient and not marginal effects, so directions and sign can be interpreted, not the size.

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | (-1.290) | (-0.325) | (-1.624) |  | (-1.474) | (-0.590) |
| Works Council * PTE 3 | -0.875*** | -0.693*** | -1.713*** |  | -0.809 | -0.715 |
|  | (-3.065) | (-6.201) | (-4.410) |  | (-1.249) | (-1.456) |
| Works Council * PTE 4 | -0.385 | -1.142*** | -0.922* |  | -0.0375 | -0.414 |
|  | (-1.198) | (-3.141) | (-1.666) |  | (-0.0510) | (-0.317) |
| Union * PTE 1 | - | - | - | - | - | - |
|  |  |  |  |  |  |  |
| Union * PTE 2 | 0.0524 | 0.101 | -0.307 | -0.444*** | 0.240 | 0.137 |
|  | (0.289) | (0.291) | (-1.150) | (-3.401) | (0.781) | (0.438) |
| Union * PTE 3 | -0.497 | -0.649** | -1.868*** | -0.0405 | 0.310 | -1.653*** |
|  | (-1.394) | (-2.500) | (-3.664) | (-0.0373) | (0.308) | (-4.600) |
| Union * PTE 4 | -0.228 | -1.263*** | -0.661** | -0.164 | -0.400 | -0.384 |
|  | (-0.765) | (-6.876) | (-2.109) | (-1.119) | (-1.081) | (-0.289) |
| Dual * PTE 1 | - | - | - | - | - | - |
|  |  |  |  |  |  |  |
| Dual * PTE 2 | 0.0702 | 0.246*** | -0.203 |  | -0.112 | -0.0115 |
|  | (0.355) | (2.851) | (-0.472) |  | (-0.832) | (-0.0353) |
| Dual * PTE 3 | -0.0989 | -0.278 | -0.454 |  | -0.678 | -0.211 |
|  | (-0.313) | (-1.108) | (-0.653) |  | (-0.563) | (-0.224) |
| Dual * PTE 4 | 0.262 | 0.107 | 0.898 |  | -0.840* | 0.0983 |
|  | (0.574) | (0.294) | (1.521) |  | (-1.695) | (0.0777) |
| /cut1 | -4.753*** | -6.346*** | -5.026*** | -3.946 | -2.442*** | -5.140*** |
|  | (-9.673) | (-9.702) | (-9.289) | (-1.422) | (-5.343) | (-6.560) |
| /cut2 | -2.620*** | -4.518*** | -3.029*** | -1.584 | -0.317 | -2.826*** |
|  | (-5.591) | (-7.229) | (-8.485) | (-1.037) | (-1.531) | (-3.818) |
| /cut3 | 0.234 | -1.836*** | -0.0537 | 1.385 | 2.798*** | -0.121 |
|  | (0.499) | (-4.107) | (-0.207) | (1.299) | (26.79) | (-0.163) |
|  |  |  |  |  |  |  |
| Observations | 7,509 | 796 | 1,882 | 266 | 1,206 | 1,838 |

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

**Table 9: cumulative effect of share of PTE, ERB that is present and their interaction, significance provided trough F-test with colour coding (2013)**

Total

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 . | 0.06 0.6270 | 0.49 0.0343 | 0.20 0.4356 |
| | Works Council | 0.23 0.4483 | 0.04 0.4885 | -0.16 0.0000 | 0.04 0.6411 |
| | Union | -0.47 0.1171 | -0.35 0.0209 | -0.48 0.0000 | -0.50 0.0146 |
| | Dual | -0.08 0.8006 | 0.06 0.3013 | 0.31 0.0000 | 0.38 0.0855 |

Germanic

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 . | -0.02 0.7170 | 0.15 0.2829 | 0.46 0.0177 |
| | Works Council | 0.51 0.1900 | 0.35 0.0759 | -0.04 0.0000 | -0.17 0.0058 |
| | Union | -0.23 0.0106 | -0.15 0.0351 | -0.73 0.0380 | -1.03 0.0000 |
| | Dual | -0.16 0.5062 | 0.07 0.7945 | -0.29 0.4583 | 0.41 0.1320 |

French

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 . | 0.18 0.2314 | 1.03 0.0063 | 0.51 0.0744 |
| | Works Council | 0.44 0.2543 | 0.20 0.4493 | -0.24 0.0000 | 0.03 0.1410 |
| | Union | 0.32 0.3537 | 0.19 0.2810 | -0.52 0.0032 | 0.17 0.0501 |
| | Dual | 0.50 0.3225 | 0.48 0.0013 | 1.08 0.0000 | 1.91 0.0000 |

Anglo-Saxon

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 . | 0.11 0.4962 | -0.08 0.9293 | -0.28 0.6646 |
| | Works Council | ... | ... | ... | ... |
| | Union | 0.34 0.4876 | 0.00 0.4876 | 0.22 0.9703 | -0.10 0.6646 |
| | Dual | ... | ... | ... | ... |

Scandinavian

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 . | 0.02 0.7242 | 0.51 0.6500 | 0.65 0.0000 |
| | Works Council | 0.26 0.0537 | 0.01 0.1121 | -0.03 0.1000 | 0.88 0.1470 |
| | Union | -0.38 0.5443 | -0.12 0.7370 | 0.44 0.8117 | -0.13 0.0000 |
| | Dual | 0.02 0.9438 | -0.07 0.5512 | -0.14 0.3032 | -0.16 0.0000 |

Transition

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 . | -0.08 0.7474 | 0.57 0.0256 | 0.04 0.9666 |
| | Works Council | -0.18 0.7297 | -0.49 0.6759 | -0.33 0.0021 | -0.55 0.9140 |
| | Union | -0.98 0.0289 | -0.92 0.0048 | -2.06 0.0000 | -1.32 0.1208 |
| | Dual | -0.55 0.2528 | -0.64 0.4223 | -0.19 0.0000 | -0.41 0.6564 |

*Source: ECS (2013-2019)*

### 4.2.1.1 Total Sample

The results in table 8 and 9 are structured in the same way as the main results, as again an Ordered Logistic Model is applied. By including the variables 'Female', 'University' and 'Old' we control for potentially relevant characteristics of the workforce at the establishment. If found to be relevant, these might create that the initial results could potentially be biased. From table 8 we can deduct that the share of women and the share of workers that are over 50 years old are mostly insignificant in changing management perceptions of how effective the ERB in place is. The share of workers with a university degree however seems to have a significant positive effect. It will now be discussed whether including these variables and taking only the 2013 observations would still confirm the aforementioned results.

The computed F-tests indicate, similarly to the initial outcome, that there is no significant trend visible regarding the main hypothesis when considering the total sample. Again, only for a higher share of part time employees, there seems to be a significant negative interaction between works councils and the outcome variable at -0.16 point. Remarkably, this is at the PTE3 instead of PTE4 point. While the PTE4 coefficient is insignificant, the cautious suggestion that high levels of PTE decrease workplace performance through works councils holds for the total sample.

Moving to the union effect, the negative perceptions that labour unions have on the outcome variable hovers around the -0.5 point. While this is a bit lower at PTE2, we can still conclude that management perceptions of unions are negative overall and mostly independent of PTE levels. As opposed to the main results, in 2013 we see that the dual system improves workplace performance perceptions across Europe as PTE levels increase. Potentially this is due to increased interaction between the union and works council when more people work part time, but testing this is beyond the scope of this research. Lastly, by adding the three workforce characteristic covariates, the other variates seem to decrease in significance, which might signal that the main results have some risk of overestimated significance. This harms the results of the sector differences, which all become insignificant. Which could be for instance because women, senior workers or workers with a university degree shift to certain sectors, resulting the sector effect to become insignificant. Still, the significant coefficients of other covariates don't switch sings and stay mostly significant. Therefore the interpretation of these results hold.

### 4.2.1.2 Cluster Differences

Now, robustness of the results for the individual country clusters is reviewed. The main hypothesis that works councils become less effective as perceived by management when the

share of PTE increases again holds for the Germanic and Scandinavian cluster. Surprisingly, the negative perceptions of unions seem to increase as PTE increases for the Germanic and Transition cluster, while this result was mostly insignificant or constant in the main results. Possibly in 2013 PTE had a stronger impact on union performance perceptions than in 2019, causing the effect to show up only in the robustness check.

While the works council effect becomes insignificant for French (dualistic) countries, the effect of a dual model remains inverted to the expectations, as management perceptions rise with share of PTE. It's interesting to see that the Anglo-Saxon results become completely insignificant, which could be due to the lack of observations. Lastly, while sector effects seem to become more relevant for French countries than expected, most covariates follow the same pattern as previous findings or become insignificant.

### 4.2.2 Pooled OLS

**Table 10: Pooled OLS model on the perceived workplace performance of the ERB (2013-2019) (Reduced form)**

| VARIABLES | (1) Total | (2) Germanic | (3) French | (4) Anglo-Saxon | (5) Scandinavian | (6) Transition |
|---|---|---|---|---|---|---|
| Neither | - | - | - | - | - | - |
| | | | | | | |
| Works Council | 0.0698 | 0.0625 | 0.0469 | -0.876** | 0.0999** | 0.0775 |
| | (1.362) | (1.231) | (0.466) | (-12.75) | (4.799) | (0.760) |
| Union | -0.111* | -0.0651 | 0.0730 | 0.152 | -0.135 | -0.172* |
| | (-1.948) | (-0.873) | (0.838) | (3.211) | (-1.531) | (-1.921) |
| Dual | -0.0270 | 0.0512 | 0.00563 | 0.0658 | 0.00627 | -0.0423 |
| | (-0.561) | (0.619) | (0.0591) | (0.420) | (0.150) | (-0.377) |
| PTE 1 | - | - | - | - | - | - |
| | | | | | | |
| PTE 2 | -0.0105 | 0.0693 | -0.0416* | 0.123 | 0.0572 | -0.00535 |
| | (-0.648) | (0.852) | (-2.096) | (5.227) | (1.316) | (-0.201) |
| PTE 3 | 0.0138 | 0.0411 | 0.00187 | 0.309 | 0.179* | 0.0125 |
| | (0.434) | (0.478) | (0.0365) | (3.928) | (4.136) | (0.213) |
| PTE 4 | -0.0370 | 0.0100 | -0.0937** | 0.172 | -0.0292 | 0.0830 |
| | (-1.158) | (0.111) | (-2.712) | (3.055) | (-0.431) | (0.955) |
| Neither * PTE | - | - | - | - | - | - |
| | | | | | | |
| Works Council * PTE 1 | - | - | - | - | - | - |
| | | | | | | |
| Works Council * PTE 2 | -0.0507 | -0.0305 | -0.0521 | 1.038* | -0.0586 | -0.100 |
| | (-0.963) | (-0.836) | (-0.629) | (11.34) | (-0.655) | (-1.546) |
| Works Council * PTE 3 | -0.0964 | -0.0237 | -0.174 | 0.890 | -0.191 | -0.00866 |
| | (-1.249) | (-0.186) | (-1.046) | (2.087) | (-1.459) | (-0.0721) |
| Works Council * PTE 4 | -0.0503 | -0.0820 | 0.108 | 1.275 | 0.300 | -0.222 |
| | (-0.818) | (-1.616) | (0.652) | (4.626) | (2.734) | (-1.404) |
| Union * PTE 1 | - | - | - | -- | - | - |
| | | | | | | |
| Union * PTE 2 | 0.0509 | -0.00700 | -0.116 | -0.0934 | 0.0895 | 0.0612 |
| | (1.027) | (-0.0572) | (-0.874) | (-4.990) | (0.722) | (0.938) |
| Union * PTE 3 | -0.0191 | 0.217 | -0.430** | -0.269 | -0.0157 | -0.362*** |

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | (-0.271) | (0.589) | (-2.698) | (-2.966) | (-0.549) | (-3.436) |
| Union * PTE 4 | 0.0714 | 0.313 | -0.149 | -0.279 | 0.115 | 0.0464 |
| | (1.167) | (0.586) | (-0.785) | (-1.737) | (2.844) | (0.186) |
| Dual * PTE 1 | - | - | - | - | - | - |
| Dual * PTE 2 | 0.0618* | -0.100 | 0.0578 | -0.0567 | -0.0159 | 0.0116 |
| | (1.747) | (-1.332) | (0.782) | (-5.428) | (-0.163) | (0.165) |
| Dual * PTE 3 | 0.105 | -0.0963 | 0.127 | -0.710 | -0.159* | 0.171 |
| | (1.569) | (-1.229) | (1.061) | (-5.686) | (-3.665) | (0.725) |
| Dual * PTE 4 | 0.171** | 0.0105 | 0.289* | 0.501 | 0.0969 | -0.0217 |
| | (2.242) | (0.0764) | (2.402) | (3.371) | (0.704) | (-0.0723) |
| Constant | 2.607*** | 2.427** | 2.655*** | 2.219** | 2.634*** | 2.439*** |
| | (29.40) | (7.562) | (21.98) | (13.14) | (40.92) | (16.98) |
| | | | | | | |
| Observations | 22,071 | 2,872 | 6,538 | 960 | 3,634 | 6,063 |
| R-squared | 0.044 | 0.082 | 0.060 | 0.125 | 0.059 | 0.045 |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

*Source: ECS (2013-2019)*

**Table 11: cumulative effect of share of PTE, ERB that is present and their interaction, significance provided trough F-test with colour coding (2013-2019)**

Total

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 [-] | -0.01 [0.5225] | 0.01 [0.6679] | -0.04 [0.2569] |
| | Works Council | 0.07 [0.1844] | 0.01 [0.2351] | -0.01 [0.5329] | -0.02 [0.1174] |
| | Union | -0.11 [0.0619] | -0.07 [0.1517] | -0.12 [0.1023] | -0.08 [0.2501] |
| | Dual | -0.03 [0.5792] | 0.02 [0.2796] | 0.09 [0.1237] | 0.11 [0.1897] |

Germanic

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 [-] | 0.07 [0.4839] | 0.04 [0.6801] | 0.01 [0.9215] |
| | Works Council | 0.00 [0.3436] | 0.04 [0.5384] | 0.08 [0.8738] | -0.07 [0.5197] |
| | Union | 0.06 [0.4747] | 0.12 [0.6084] | 0.32 [0.7690] | 0.39 [0.8502] |
| | Dual | -0.07 [0.5989] | -0.10 [0.6962] | -0.12 [0.8358] | -0.04 [0.9398] |

French

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | -0.09 [-] | -0.14 [0.0809] | -0.09 [0.9721] | -0.19 [0.0350] |
| | Works Council | 0.00 [0.6574] | -0.09 [0.1952] | -0.13 [0.6250] | 0.01 [0.1440] |
| | Union | 0.00 [0.4342] | -0.16 [0.1757] | -0.43 [0.1013] | -0.24 [0.0855] |
| | Dual | 0.05 [0.9548] | 0.06 [0.1609] | 0.18 [0.2144] | 0.24 [0.0860] |

Anglo-Saxon

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.31 [-] | 0.43 [0.1203] | 0.62 [0.1587] | 0.48 [0.2014] |
| | Works Council | ... | ... | ... | ... |
| | Union | 0.00 [0.1922] | 0.03 [0.1922] | 0.04 [0.2070] | -0.11 [0.3326] |
| | Dual | ... | ... | ... | ... |

Scandinavian

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.06 [-] | 0.11 [0.3187] | 0.24 [0.0538] | 0.03 [0.7087] |
| | Works Council | 0.18 [0.0408] | 0.18 [0.4844] | 0.09 [0.0313] | 0.45 [0.2047] |
| | Union | -0.03 [0.2653] | 0.12 [0.3208] | 0.13 [0.3010] | 0.06 [0.4424] |
| | Dual | 0.00 [0.8945] | 0.04 [0.4242] | 0.02 [0.0769] | 0.07 [0.7810] |

Transition

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 [-] | -0.01 [0.8450] | 0.01 [0.8364] | 0.08 [0.3644] |
| | Works Council | -0.01 [0.4665] | -0.11 [0.0182] | 0.08 [0.8650] | -0.14 [0.5913] |
| | Union | 0.01 [0.0870] | 0.07 [0.0160] | -0.34 [0.0002] | 0.14 [0.0975] |
| | Dual | 0.08 [0.7150] | 0.09 [0.9796] | 0.27 [0.8527] | 0.14 [0.3886] |

*Source: ECS (2013-2019)*

To finalize, the main regression is run using a simple Pooled OLS model, depicted in table 10 and 11. The tables are structured in the same way, but unlike the OLM, coefficients can be straightforwardly interpreted as the effect the independent variable has on the dependent variable when it's value increases with 1. Results then become mostly insignificant, which is likely due to the model being less fitting for an ordinal variable, as mentioned in chapter 3.3.3. However, again the effect that high levels of PTE have on the perceived added value works councils in workplace performance can be cautiously stated as negative. So from this Pooled OLS estimation, very high levels of PTE (40% or more) are associated with lower workplace performance perceptions than the base of no PTE levels. While the results become insignificant for the Germanic cluster, the Scandinavian cluster still presents this decrease in the positive effect that works councils have on perceived added value of the ERB on workplace performance as the share of PTE increases. The union effect is again ambiguous. The conclusion that labour union effects are generally negative holds for the total and French sample, while it is positive for the Transition cluster. This is unexpected as in the main regression and first robustness test the effect for this cluster was negative. Again this might be related to the goodness of fit of this model.

# 5. Conclusion & Policy Implications

Rising shares of part time employment create new challenges for employee representation across Europe. The issue has become ever more pressing in a labour market that is persistently overheated and doesn't enjoy the same growth in productivity as competing global forces. However, employee representation can be used as a tool to increase workplace efficiency and therefore labour productivity. This means that well functioning employee representation bodies are relevant to ensure global competitiveness, apart from their positive effects on labour outcomes.

This thesis has contributed to the academic literature on this issue regarding employee representation bodies in four different ways. First, an extensive review of the existing literature was presented. Here, the different structures of dominant employee representation bodies were presented for countries across Europe, along with literature that reveals the expected effect of part time employment on employee involvement. This was followed by how ERBs affect company outcomes trough employee involvement. Second, by combining two European Company Surveys, a large dataset was constructed that was used to allow for a pooled cross sectional analysis of the effect of the share of part time employment within a company on how managers perceive that the ERB in place affects workplace performance. Third, these results

are interpreted not only for the total sample, but for country clusters as well. This allows for isolation of the effects when the establishment of interest was situated in a country that has certain historical structures and regulations regarding employee participation. And fourth, by including more covariates and only 2013 data, as well as providing a Pooled OLS regression, a more robust interpretation of the results could be presented.

The results mostly aligned with the hypotheses that arose from the literature review, however there are some differences. PTE levels did not unilaterally decrease perceived workplace performance, neither did works councils unilaterally increase this outcome. However, the combined effect is visible, especially for individual clusters. When countries with a dominant works council structure (Germanic) or dominant union structure (Scandinavian) are considered, the main hypothesis holds, even after the robustness tests. So to answer the research question: *To what extent do part time employment levels affect the perceived added value of employment representation bodies regarding workplace performance for companies across Europe?'* For Germanic and Scandinavian countries, an increase in part time employment levels decreases the perceived added value of a works council regarding workplace performance. This effect is however insignificant for the other clusters and dual systems of representation. While labour unions show some ambiguous outcomes regarding different PTE levels, this is mostly independent of PTE and generally negative, meaning that labour unions mostly decrease workplace performance perceptions by the management.

What should national/ European policymakers then do with these results? First and foremost, the main objective of employee representation bodies is to protect the interests of employees. In protecting these interests, ERBs have to consider both short term interests like higher wages or extra days off, as well as the economic situation of the firm in order to protect people's jobs in the future. Focussing on the latter, increased productivity would be beneficial, especially when this is derived from constructive interaction between the company and it's workers. The results suggest that in countries where a works council structure or union structure is dominant, part-time employment has a negative externality of decreased workplace performance perceptions, which is likely connected to decreased actual workplace performance. Policymakers could account for this negative externality either by breaking trough the part-time norm, or by redesigning employment representation bodies to effectively represent part-time workers. Government already look into the former. For instance, as mentioned in the introduction, the Dutch government has dedicated millions to research on how to change the part time culture in the Netherlands. The latter would require further investigation.

Policymakers could demand that works councils include a share of part time workers that is proportionate to the share at the company. Furthermore, through training and awareness campaigns management can be encouraged to let part time workers participate in the decision-making process and bolster a fruitful collaboration. Lastly, by enhancing communication practices between workers, be it full time or part time, management can ensure that both the economic and social positive benefits of employee representation are secured. Based on the results of this research, these policy suggestions primarily apply to companies with works councils in the Germanic and Scandinavian country clusters. For labour unions or French, Anglo-Saxon or Transition countries, the results are insignificant. Therefore policies that account for this externality can be neglected in these situations.

# 6. Discussion & Limitations

This thesis applied various methods to increase robustness of the results. Most importantly through country clustering, but also by including different covariates and applying single-year data. However, all models and research setups have their limitations. Despite best efforts, further research on this topic could improve the robustness of the results if the following limitations can be addressed.

First, the ECS data did not allow for a real panel regression, which has limited the research to a pooled cross sectional analysis. By merging two surveys this thesis looks somewhat beyond a snapshot study, but still has its limitations. For instance, it's likely to overestimate results as there is no test of unobserved heterogeneity, and that reverse causality issues arise. Furthermore, the way in which the data is computed does not allow for potential delayed effects, where the share of part time workers or ERB that is in place now has an impact on management perceptions in the following years.

Second, the outcome variable concerns perceptions managers have of the effect of the ERB on workplace performance. While likely related, this does not mean that outcomes affect actual workplace performance, as perception bias issues arise. However, this was the most relevant variable available in the data, as taking profits for instance would be dependent on way more covariates than provided in the dataset. As more European datasets are available online regarding this subject, further research might deal with actual productivity outcomes that ERBs create, as well as potentially include more independent variables that affect the outcome variable.

Third, some variables, like the share of part-time employment or hierarchy levels, are simplified into ordinal categories that might not capture the full complexity of these concepts. Companies with 21% PTE are treated equally as 39% PTE, which is a loss of potentially relevant detail. A (more) continuous variable would capture this effect better.

A fourth and therefore last limitation is that labour unions are likely to be perceived differently than works councils in general, as managers often have to negotiate with unions, while they cooperate more often with personnel. Also, union representatives don't need to be employed at the firm that they are negotiating with. External representatives could have very different interactions with managers than the works council representatives in the firm. This could a mitigation on how applicable the research question is with regard to labour unions, especially when compared to works councils.

To conclude, while this exploratory research has its limitations, a unique and new hypothesis was examined and found to be partially confirmed. As part time employment shares seem to rise in the future, the issue becomes ever more important. Therefore further research is essential, as this will increase validity and generalizability of the results.

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# Appendix A – Extended Descriptive Statistics

**Table 5a: Descriptive Statistics of the 2013 sample using additional control variables**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Workplace Performance | 9617 | 2.985 | .728 | 1 | 4 |
| **PTE** | | | | | |
| None at all | 19740 | .309 | .462 | 0 | 1 |
| Less than 20% | 19740 | .508 | .5 | 0 | 1 |
| 20% to 39% | 19740 | .095 | .293 | 0 | 1 |
| 40% to ALL | 19740 | .088 | .283 | 0 | 1 |
| **ER Body** | | | | | |
| Neither | 19740 | .612 | .487 | 0 | 1 |
| Works Council | 19740 | .13 | .336 | 0 | 1 |
| Union | 19740 | .132 | .339 | 0 | 1 |
| Dual | 19740 | .126 | .332 | 0 | 1 |
| **Cluster** | | | | | |
| Germanic | 16834 | .117 | .322 | 0 | 1 |
| French | 16834 | .293 | .455 | 0 | 1 |
| Anglo Saxon | 16834 | .08 | .271 | 0 | 1 |
| Scandinavian | 16834 | .143 | .35 | 0 | 1 |
| Transition | 16834 | .367 | .482 | 0 | 1 |
| **Sector** | | | | | |
| Industry | 19582 | .334 | .472 | 0 | 1 |
| Construction | 19582 | .087 | .281 | 0 | 1 |
| Wholesale | 19582 | .248 | .432 | 0 | 1 |
| Transport | 19582 | .068 | .251 | 0 | 1 |
| Financial Services | 19582 | .042 | .201 | 0 | 1 |
| Other Services | 19582 | .221 | .415 | 0 | 1 |
| **Control Variables** | | | | | |
| Estimated Size | 19740 | 1.606 | .728 | 1 | 3 |
| Hierarchy | 19740 | 3.506 | 1.186 | 1 | 6 |
| Autonomy | 19740 | .994 | .639 | 0 | 2 |
| Change in Employment | 19740 | .016 | .764 | -1 | 1 |
| Open Ended Contract | 19740 | 5.881 | 1.43 | 1 | 7 |
| Motivation | 19740 | .802 | .398 | 0 | 1 |
| Profit | 19740 | 1.994 | .784 | 1 | 3 |
| Delay | 9617 | 2.14 | .716 | 1 | 4 |
| Female | 19740 | 3.434 | 1.306 | 2 | 6 |
| University | 19740 | 2.695 | 1.377 | 1 | 6 |
| Old | 19740 | 2.591 | .857 | 1 | 4 |

**Table 5b: Descriptive Statistics of the 2013 sample using additional control variables, by cluster**

Descriptive Statistics

| Variable | Germanic Mean | Std. Dev. | French Mean | Std. Dev. | Anglo Saxon Mean | Std. Dev. | Scandinavian Mean | Std. Dev. | Transition Mean | Std. Dev. |
|---|---|---|---|---|---|---|---|---|---|---|
| Workplace Performance | 3.076 | .77 | 3.042 | .728 | 3.217 | .662 | 2.832 | .713 | 2.905 | .747 |
| **PTE** | . | . | . | . | . | . | . | . | . | . |
| None at all | .24 | .427 | .377 | .485 | .223 | .417 | .252 | .434 | .413 | .492 |
| Less than 20% | .524 | .5 | .477 | .5 | .49 | .5 | .535 | .499 | .497 | .5 |
| 21% to 39% | .161 | .368 | .076 | .266 | .122 | .327 | .087 | .281 | .046 | .21 |
| 40& to ALL | .076 | .264 | .07 | .255 | .165 | .371 | .126 | .332 | .044 | .206 |
| **ER Body** | . | . | . | . | . | . | . | . | . | . |
| Neither | .543 | .498 | .639 | .48 | .854 | .353 | .422 | .494 | .691 | .462 |
| Works Council | .216 | .412 | .123 | .329 | 0 | 0 | .08 | .271 | .066 | .249 |
| Union | .078 | .268 | .094 | .293 | .146 | .353 | .283 | .451 | .16 | .366 |
| Dual | .163 | .37 | .143 | .35 | 0 | 0 | .216 | .411 | .084 | .277 |
| **Sector** | | | | | | | | | | |
| Industry | .333 | .471 | .349 | .477 | .216 | .412 | .288 | .453 | .37 | .483 |
| Construction | .093 | .291 | .098 | .298 | .083 | .276 | .069 | .253 | .086 | .28 |
| Wholesale | .241 | .428 | .244 | .43 | .323 | .468 | .232 | .422 | .25 | .433 |
| Transport | .066 | .247 | .069 | .253 | .082 | .275 | .065 | .247 | .067 | .25 |
| Financial Services | .051 | .22 | .03 | .171 | .052 | .223 | .05 | .219 | .044 | .205 |
| Other Services | .216 | .412 | .209 | .407 | .243 | .429 | .295 | .456 | .183 | .387 |
| **Control variables** | | | | | | | | | | |
| Estimated Size | 1.654 | .755 | 1.552 | .71 | 1.561 | .689 | 1.68 | .761 | 1.575 | .706 |
| Hierarchy | 3.554 | 1.195 | 3.505 | 1.251 | 3.485 | 1.344 | 3.663 | 1.223 | 3.498 | 1.099 |
| Autonomy | 1.056 | .66 | .982 | .617 | .958 | .635 | 1.058 | .625 | .929 | .608 |
| Change in Employment | .181 | .762 | .012 | .756 | .229 | .733 | -.072 | .788 | -.084 | .752 |
| Open Ended Contract | 6.281 | 1.151 | 5.879 | 1.502 | 6.002 | 1.28 | 5.732 | 1.29 | 5.878 | 1.489 |
| Motivation | .844 | .363 | .765 | .424 | .854 | .353 | .818 | .386 | .762 | .426 |
| Profit | 2.025 | .743 | 1.925 | .76 | 2.312 | .744 | 1.888 | .827 | 1.944 | .801 |
| Delay | 2.118 | .767 | 2.084 | .724 | 2.161 | .705 | 2.239 | .699 | 2.145 | .701 |
| Female | 3.413 | 1.277 | 3.442 | 1.345 | 3.359 | 1.22 | 3.529 | 1.28 | 3.482 | 1.347 |
| University | 2.313 | 1.1 | 2.76 | 1.47 | 3.151 | 1.48 | 2.94 | 1.463 | 2.77 | 1.327 |
| Old | 2.544 | .777 | 2.522 | .864 | 2.565 | .879 | 2.576 | .871 | 2.579 | .873 |

# Appendix B – Extended Results

**Table 6: Ordered Logistic Model on the perceived workplace performance of the ERB (2013-2019)**

| VARIABLES | (1) Total | (2) Germanic | (3) French | (4) Anglo-Saxon[a] | (5) Scandinavian | (6) Transition |
|---|---|---|---|---|---|---|
| Neither | - | - | - | - | - | - |
| | | | | | | |
| Works Council | 0.135 | 0.211* | 0.0819 | | 0.252*** | 0.106 |
| | (1.022) | (1.757) | (0.308) | | (3.305) | (0.433) |
| Union | -0.289** | -0.0297 | 0.139 | 0.407*** | -0.376* | -0.419** |
| | (-2.170) | (-0.150) | (0.608) | (5.759) | (-1.679) | (-2.025) |
| Dual | -0.0940 | 0.0371 | 0.0178 | | -0.0140 | -0.135 |
| | (-0.802) | (0.196) | (0.0754) | | (-0.120) | (-0.523) |
| PTE 1 | - | - | - | - | - | - |
| | | | | | | |
| PTE 2 | -0.0452 | 0.177 | -0.121** | 0.265** | 0.138 | -0.0234 |
| | (-1.019) | (0.826) | (-2.177) | (2.194) | (0.981) | (-0.323) |
| PTE 3 | 0.0163 | 0.107 | -0.0102 | 0.658*** | 0.514*** | 0.0532 |
| | (0.195) | (0.520) | (-0.0761) | (2.899) | (4.560) | (0.374) |
| PTE 4 | -0.108 | 0.0513 | -0.235*** | 0.351** | -0.0978 | 0.206 |
| | (-1.385) | (0.241) | (-3.330) | (2.567) | (-0.707) | (1.004) |
| Neither * PTE | - | - | - | - | - | - |
| | | | | | | |
| Works Council * PTE 1 | - | - | - | - | - | - |
| | | | | | | |
| Works Council * PTE 2 | -0.0912 | -0.126 | -0.133 | | -0.128 | -0.161 |
| | (-0.681) | (-1.419) | (-0.582) | | (-0.562) | (-0.987) |
| Works Council * PTE 3 | -0.227 | -0.119 | -0.462 | | -0.641** | -0.0652 |
| | (-1.158) | (-0.354) | (-1.072) | | (-2.010) | (-0.227) |
| Works Council * PTE 4 | -0.0915 | -0.236** | 0.285 | | 0.858*** | -0.436 |
| | (-0.566) | (-2.365) | (0.691) | (6.541) | (2.886) | (-1.191) |
| Union * PTE 1 | - | - | - | - | - | - |
| | | | | | | |
| Union * PTE 2 | 0.124 | -0.153 | -0.282 | -0.253*** | 0.231 | 0.144 |
| | (1.049) | (-0.527) | (-0.788) | (-7.439) | (0.734) | (0.917) |
| Union * PTE 3 | 0.00752 | 0.321 | -1.021*** | -0.552* | 0.00186 | -0.827*** |
| | (0.0424) | (0.339) | (-2.633) | (-1.710) | (0.0186) | (-3.387) |
| Union * PTE 4 | 0.166 | 0.832 | -0.376 | -0.721** | 0.294** | 0.116 |
| | (1.088) | (0.536) | (-0.811) | (-2.380) | (2.152) | (0.206) |
| Dual * PTE 1 | - | - | - | - | - | - |
| - | - | | | | | |
| Dual * PTE 2 | 0.164* | -0.161 | 0.139 | | -0.0501 | 0.0362 |
| | (1.859) | (-0.840) | (0.725) | | (-0.200) | (0.232) |
| Dual * PTE 3 | 0.246 | -0.190 | 0.298 | | -0.516*** | 0.383 |

[a] The Anglo-Saxon cluster contains too little observations to gain enough statistical power to interpret the results for works councils and a dual system. Therefore only the Union results are interpreted for all results.

| | | | | | | |
|---|---|---|---|---|---|---|
| | (1.396) | (-1.016) | (0.919) | | (-8.664) | (0.648) |
| Dual * PTE 4 | 0.479** | 0.304 | 0.810** | | 0.282 | -0.114 |
| | (2.294) | (0.963) | (2.497) | | (0.693) | (-0.169) |
| Scandinavian | - | | | | | |
| Germanic | -0.249 | | | | | |
| | (-1.466) | | | | | |
| French | -0.152 | | | | | |
| | (-0.917) | | | | | |
| Anglo-Saxon | -0.129 | | | | | |
| | (-1.128) | | | | | |
| Transition | -0.132 | | | | | |
| | (-0.819) | | | | | |
| Construction | - | - | - | - | - | - |
| Industry | 0.160** | 0.244** | 0.146 | -0.0564 | 0.384*** | 0.0369 |
| | (2.574) | (2.489) | (1.003) | (-0.587) | (5.425) | (0.517) |
| Wholesale | 0.246*** | 0.113* | 0.308** | -0.0425 | 0.647*** | 0.0964 |
| | (3.450) | (1.850) | (2.431) | (-0.233) | (5.704) | (0.988) |
| Transport | 0.0391 | -0.0510 | 0.0523 | -0.423*** | 0.0891*** | 0.0407 |
| | (0.529) | (-0.615) | (0.398) | (-6.660) | (2.613) | (0.216) |
| Financial Services | 0.321*** | 0.530*** | 0.393* | 0.217 | 0.515*** | 0.00360 |
| | (3.522) | (5.355) | (1.867) | (0.686) | (3.697) | (0.0217) |
| Other Services | 0.358*** | 0.243* | 0.404** | 0.0470 | 0.725*** | 0.248** |
| | (5.029) | (1.923) | (2.450) | (0.136) | (10.61) | (2.425) |
| Estimated Size | -0.118*** | -0.0534 | -0.233** | -0.235*** | -0.0452 | -0.0575 |
| | (-3.023) | (-1.295) | (-2.544) | (-5.719) | (-0.440) | (-1.347) |
| Hierarchy | 0.0664*** | 0.0559** | 0.113*** | 0.0635 | 0.0536 | 0.0704** |
| | (3.718) | (2.428) | (3.693) | (1.427) | (0.801) | (2.123) |
| Autonomy | 0.271*** | 0.261** | 0.190** | 0.116 | 0.421*** | 0.233*** |
| | (5.691) | (2.525) | (2.185) | (1.403) | (5.883) | (2.710) |
| Change in Emp | 0.175*** | 0.128*** | 0.181*** | 0.200* | 0.0641 | 0.245*** |
| | (7.154) | (4.586) | (5.691) | (1.829) | (1.076) | (7.720) |
| Open Ended Contract | 0.0179 | 0.0272* | -0.0488* | 0.0184 | 0.0680 | 0.0389* |
| | (1.055) | (1.897) | (-1.905) | (0.569) | (1.427) | (1.666) |
| Profit | 0.0714*** | -0.00721 | 0.111* | 0.215*** | 0.00956 | 0.0232 |
| | (2.753) | (-0.281) | (1.955) | (5.991) | (0.330) | (0.555) |
| Delay | -0.0294 | -0.0215*** | 0.00803 | 0.137** | -0.254*** | 0.0798* |
| | (-0.808) | (-2.921) | (0.165) | (2.057) | (-10.93) | (1.671) |
| dout | -0.177** | -0.390** | -0.203 | -0.547*** | 0.0987*** | -0.244* |
| | (-2.322) | (-2.481) | (-1.222) | (-3.133) | (6.247) | (-1.707) |
| Year | 0.438*** | 0.789*** | 0.787*** | 1.084*** | -0.282*** | 0.364** |
| | (3.513) | (3.182) | (3.529) | (21.15) | (-16.96) | (2.065) |
| /cut1 | -2.322*** | -1.982** | -2.335*** | -1.402*** | -2.697*** | -1.915*** |
| | (-10.85) | (-2.557) | (-12.90) | (-4.400) | (-5.869) | (-5.716) |
| /cut2 | -0.395* | 0.0359 | -0.539* | 0.516 | -0.445*** | 0.000938 |
| | (-1.862) | (0.0539) | (-1.764) | (1.395) | (-3.062) | (0.00280) |
| /cut3 | 1.946*** | 2.283*** | 1.951*** | 2.617*** | 2.216*** | 2.117*** |
| | (9.306) | (2.930) | (5.573) | (5.107) | (85.14) | (5.584) |
| Observations | 22,071 | 2,872 | 6,538 | 960 | 3,634 | 6,063 |

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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**Table 7: cumulative effect of share of PTE, ERB that is present and their interaction, significance provided trough F-test with colour coding (2013-2019)**

Total

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 - | -0.05 (0.3080) | 0.02 (0.8456) | -0.11 (0.1661) |
| | Works Council | 0.14 (0.3069) | -0.00 (0.2112) | -0.08 (0.6087) | -0.06 (0.1065) |
| | Union | -0.29 (0.0300) | -0.21 (0.0780) | -0.26 (0.0727) | -0.23 (0.1475) |
| | Dual | -0.09 (0.4228) | 0.02 (0.2607) | 0.17 (0.2408) | 0.28 (0.1517) |

Germanic

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 - | 0.18 0.4087 | 0.11 0.6030 | 0.05 0.8098 |
| | Works Council | 0.21 0.0789 | 0.26 0.2101 | 0.20 0.8725 | 0.03 0.1193 |
| | Union | -0.03 0.8807 | -0.01 0.6628 | 0.40 0.7956 | 0.85 0.8628 |
| | Dual | 0.04 0.8447 | 0.05 0.1647 | -0.05 0.7954 | 0.39 0.2083 |

French

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 - | -0.12 0.0295 | -0.01 0.9393 | -0.23 0.0009 |
| | Works Council | 0.08 0.7583 | -0.17 0.0674 | -0.39 0.3808 | 0.13 0.0080 |
| | Union | 0.14 0.5431 | -0.26 0.0481 | -0.89 0.0147 | -0.47 0.0016 |
| | Dual | 0.02 0.9399 | 0.04 0.0829 | 0.31 0.5635 | 0.59 0.0006 |

Anglo-Saxon

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 - | 0.27 0.0283 | 0.66 0.0037 | 0.35 0.0103 |
| | Works Council | ... ... | ... ... | ... ... | ... ... |
| | Union | 0.41 0.0000 | 0.42 0.0283 | 0.51 0.0873 | 0.04 0.0173 |
| | Dual | ... ... | ... ... | ... ... | ... ... |

Scandinavian

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 - | 0.14 0.3266 | 0.51 0.0000 | -0.10 0.4795 |
| | Works Council | 0.25 0.0010 | 0.26 0.0006 | 0.12 0.0000 | 1.01 0.0148 |
| | Union | -0.38 0.0932 | -0.01 0.0960 | 0.14 0.0247 | -0.18 0.2425 |
| | Dual | -0.01 0.9048 | 0.07 0.4754 | -0.02 0.0000 | 0.17 0.6494 |

Transition

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 - | -0.02 0.7469 | 0.05 0.7082 | 0.21 0.3155 |
| | Works Council | 0.11 0.6651 | -0.08 0.0096 | 0.09 0.9680 | -0.12 0.6374 |
| | Union | -0.42 0.0428 | -0.30 0.0019 | -1.19 0.0000 | -0.10 0.0188 |
| | Dual | -0.13 0.6012 | -0.12 0.9589 | 0.30 0.8025 | -0.04 0.2043 |

**Table 8: Ordered Logistic Model on the perceived workplace performance of the ERB (2013)**

| VARIABLES | (1) Total | (2) Germanic | (3) French | (4) Anglo-Saxon | (5) Scandinavian | (6) Transition |
|---|---|---|---|---|---|---|
| Neither | - | - | - | - | - | - |
| Works Council | 0.226 | 0.511 | 0.442 | | 0.262* | -0.183 |
| | (0.758) | (1.311) | (1.140) | | (1.929) | (-0.345) |
| Union | -0.467 | -0.225** | 0.321 | 0.341 | -0.382 | -0.978** |
| | (-1.567) | (-2.554) | (0.927) | (0.694) | (-0.606) | (-2.185) |
| Dual | -0.0762 | -0.157 | 0.505 | | 0.0237 | -0.550 |
| | (-0.253) | (-0.665) | (0.989) | | (0.0705) | (-1.143) |
| PTE 1 | - | - | - | - | - | - |
| PTE 2 | 0.0618 | -0.0235 | 0.177 | 0.106 | 0.0210 | -0.0820 |
| | (0.486) | (-0.363) | (1.197) | (0.680) | (0.353) | (-0.322) |
| PTE 3 | 0.487** | 0.147 | 1.029*** | -0.0776 | 0.514 | 0.567** |
| | (2.116) | (1.074) | (2.734) | (-0.0887) | (0.454) | (2.232) |
| PTE 4 | 0.199 | 0.457** | 0.511* | -0.276 | 0.651*** | 0.0425 |
| | (0.780) | (2.371) | (1.784) | (-0.434) | (4.796) | (0.0419) |
| Neither * PTE | - | - | - | - | - | - |
| Works Council * PTE 1 | - | - | - | - | - | - |
| Works Council * PTE 2 | -0.246 | -0.141 | -0.415 | | -0.269 | -0.223 |
| | (-1.290) | (-0.325) | (-1.624) | | (-1.474) | (-0.590) |
| Works Council * PTE 3 | -0.875*** | -0.693*** | -1.713*** | | -0.809 | -0.715 |
| | (-3.065) | (-6.201) | (-4.410) | | (-1.249) | (-1.456) |
| Works Council * PTE 4 | -0.385 | -1.142*** | -0.922* | | -0.0375 | -0.414 |
| | (-1.198) | (-3.141) | (-1.666) | | (-0.0510) | (-0.317) |
| Union * PTE 1 | - | - | - | - | - | - |
| Union * PTE 2 | 0.0524 | 0.101 | -0.307 | -0.444*** | 0.240 | 0.137 |
| | (0.289) | (0.291) | (-1.150) | (-3.401) | (0.781) | (0.438) |
| Union * PTE 3 | -0.497 | -0.649** | -1.868*** | -0.0405 | 0.310 | -1.653*** |
| | (-1.394) | (-2.500) | (-3.664) | (-0.0373) | (0.308) | (-4.600) |
| Union * PTE 4 | -0.228 | -1.263*** | -0.661** | -0.164 | -0.400 | -0.384 |
| | (-0.765) | (-6.876) | (-2.109) | (-1.119) | (-1.081) | (-0.289) |
| Dual * PTE 1 | - | - | - | - | - | - |
| Dual * PTE 2 | 0.0702 | 0.246*** | -0.203 | | -0.112 | -0.0115 |
| | (0.355) | (2.851) | (-0.472) | | (-0.832) | (-0.0353) |
| Dual * PTE 3 | -0.0989 | -0.278 | -0.454 | | -0.678 | -0.211 |
| | (-0.313) | (-1.108) | (-0.653) | | (-0.563) | (-0.224) |
| Dual * PTE 4 | 0.262 | 0.107 | 0.898 | | -0.840* | 0.0983 |
| | (0.574) | (0.294) | (1.521) | | (-1.695) | (0.0777) |
| Scandinavian | - | | | | | |
| Germanic | 0.367** | | | | | |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | (2.361) |  |  |  |  |  |
| French | 0.172 |  |  |  |  |  |
|  | (0.719) |  |  |  |  |  |
| Anglo-Saxon | 0.765*** |  |  |  |  |  |
|  | (5.722) |  |  |  |  |  |
| Transition | -0.0878 |  |  |  |  |  |
|  | (-0.324) |  |  |  |  |  |
| Construction | - | - | - | - | - | - |
| Industry | 0.0116 | -0.195 | -0.363** | 0.0439 | 0.170* | 0.260 |
|  | (0.0950) | (-0.733) | (-2.230) | (0.103) | (1.698) | (1.015) |
| Wholesale | -0.0628 | -0.520* | -0.415*** | -0.218*** | 0.495*** | 0.141 |
|  | (-0.480) | (-1.951) | (-4.692) | (-5.696) | (4.391) | (0.466) |
| Transport | 0.0276 | -0.214 | -0.297* | 0.210 | -0.0927 | 0.494 |
|  | (0.181) | (-0.697) | (-1.910) | (0.384) | (-0.175) | (1.314) |
| Financial Services | 0.0799 | -0.485 | -0.189 | 0.778 | 0.0602 | 0.288 |
|  | (0.549) | (-1.363) | (-0.709) | (0.821) | (1.302) | (0.686) |
| Other Services | -0.0967 | -0.494 | -0.441*** | -0.371 | 0.0544 | 0.169 |
|  | (-0.716) | (-1.592) | (-3.482) | (-1.630) | (0.238) | (0.619) |
| Estimated Size | -0.106* | -0.0188 | -0.232 | 0.0998 | -0.0439 | -0.0841 |
|  | (-1.659) | (-0.138) | (-1.590) | (0.275) | (-0.350) | (-0.838) |
| Hierarchy | 0.0411* | -0.00628 | 0.121*** | -0.102*** | 0.0975 | 0.0272 |
|  | (1.914) | (-0.481) | (4.895) | (-5.262) | (1.282) | (0.655) |
| Autonomy | 0.153** | -0.0935 | -0.0687 | -0.149 | 0.357*** | 0.253* |
|  | (2.089) | (-0.788) | (-0.494) | (-0.620) | (3.656) | (1.934) |
| Change in Emp | 0.0692** | -0.00889 | 0.101 | 0.147*** | -0.0323 | 0.0738 |
|  | (2.186) | (-0.0630) | (1.324) | (3.837) | (-0.508) | (1.454) |
| Open Ended Contract | -0.0411 | -0.0652** | -0.0748*** | 0.0111 | 0.0560* | -0.0364 |
|  | (-1.555) | (-2.422) | (-2.751) | (0.0400) | (1.752) | (-0.742) |
| Profit | 0.127** | -0.177*** | 0.272*** | 0.537*** | 0.120 | 0.0771 |
|  | (2.459) | (-5.160) | (3.933) | (31.77) | (1.457) | (1.140) |
| Delay | -0.632*** | -0.749*** | -0.707*** | -0.129 | -0.531*** | -0.621*** |
|  | (-9.921) | (-4.601) | (-3.918) | (-0.488) | (-8.734) | (-4.501) |
| Female | 0.0234 | 0.207* | 0.0627 | 0.0136 | 0.0193 | -0.0328 |
|  | (0.895) | (1.901) | (1.505) | (0.0870) | (0.940) | (-0.648) |
| University | 0.0639** | 0.0646 | 0.0548 | 0.259*** | 0.0921*** | 0.0479 |
|  | (2.123) | (0.740) | (1.269) | (6.491) | (3.665) | (1.060) |
| Old | -0.0113 | -0.248** | -0.0110 | -0.299 | 0.144 | -0.0116 |
|  | (-0.279) | (-1.965) | (-0.328) | (-1.196) | (1.286) | (-0.185) |
| dout | -0.116 | -0.800*** | -0.494*** | 0.0958 | 0.582*** | 0.119 |
|  | (-0.897) | (-7.669) | (-2.853) | (0.102) | (8.393) | (0.566) |
| /cut1 | -4.753*** | -6.346*** | -5.026*** | -3.946 | -2.442*** | -5.140*** |
|  | (-9.673) | (-9.702) | (-9.289) | (-1.422) | (-5.343) | (-6.560) |
| /cut2 | -2.620*** | -4.518*** | -3.029*** | -1.584 | -0.317 | -2.826*** |
|  | (-5.591) | (-7.229) | (-8.485) | (-1.037) | (-1.531) | (-3.818) |
| /cut3 | 0.234 | -1.836*** | -0.0537 | 1.385 | 2.798*** | -0.121 |
|  | (0.499) | (-4.107) | (-0.207) | (1.299) | (26.79) | (-0.163) |
| Observations | 7,509 | 796 | 1,882 | 266 | 1,206 | 1,838 |

Robust z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

**Table 9: cumulative effect of share of PTE, ERB that is present and their interaction, significance provided trough F-test with colour coding (2013)**

Total

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 . | 0.06 0.6270 | 0.49 0.0343 | 0.20 0.4356 |
| | Works Council | 0.23 0.4483 | 0.04 0.4885 | -0.16 0.0000 | 0.04 0.6411 |
| | Union | -0.47 0.1171 | -0.35 0.0209 | -0.48 0.0000 | -0.50 0.0146 |
| | Dual | -0.08 0.8006 | 0.06 0.3013 | 0.31 0.0000 | 0.38 0.0855 |

Germanic

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 . | -0.02 0.7170 | 0.15 0.2829 | 0.46 0.0177 |
| | Works Council | 0.51 0.1900 | 0.35 0.0759 | -0.04 0.0000 | -0.17 0.0058 |
| | Union | -0.23 0.0106 | -0.15 0.0351 | -0.73 0.0380 | -1.03 0.0000 |
| | Dual | -0.16 0.5062 | 0.07 0.7945 | -0.29 0.4583 | 0.41 0.1320 |

French

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 . | 0.18 0.2314 | 1.03 0.0063 | 0.51 0.0744 |
| | Works Council | 0.44 0.2543 | 0.20 0.4493 | -0.24 0.0000 | 0.03 0.1410 |
| | Union | 0.32 0.3537 | 0.19 0.2810 | -0.52 0.0032 | 0.17 0.0501 |
| | Dual | 0.50 0.3225 | 0.48 0.0013 | 1.08 0.0000 | 1.91 0.0000 |

Anglo-Saxon

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 . | 0.11 0.4962 | -0.08 0.9293 | -0.28 0.6646 |
| | Works Council | ... | ... | ... | ... |
| | Union | 0.34 0.4876 | 0.00 0.4876 | 0.22 0.9703 | -0.10 0.6646 |
| | Dual | ... | ... | ... | ... |

Scandinavian

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 . | 0.02 0.7242 | 0.51 0.6500 | 0.65 0.0000 |
| | Works Council | 0.26 0.0537 | 0.01 0.1121 | -0.03 0.1000 | 0.88 0.1470 |
| | Union | -0.38 0.5443 | -0.12 0.7370 | 0.44 0.8117 | -0.13 0.0000 |
| | Dual | 0.02 0.9438 | -0.07 0.5512 | -0.14 0.3032 | -0.16 0.0000 |

Transition

| ER Body | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| | Neither | 0.00 . | -0.08 0.7474 | 0.57 0.0256 | 0.04 0.9666 |
| | Works Council | -0.18 0.7297 | -0.49 0.6759 | -0.33 0.0021 | -0.55 0.9140 |
| | Union | -0.98 0.0289 | -0.92 0.0048 | -2.06 0.0000 | -1.32 0.1208 |
| | Dual | -0.55 0.2528 | -0.64 0.4223 | -0.19 0.0000 | -0.41 0.6564 |

## Table 10: Pooled OLS model on the perceived workplace performance of the ERB (2013-2019)

| VARIABLES | (1) Total | (2) Germanic | (3) French | (4) Anglo-Saxon | (5) Scandinavian | (6) Transition |
|---|---|---|---|---|---|---|
| Neither | - | - | - | - | - | - |
| Works Council | 0.0698 | 0.0625 | 0.0469 | -0.876** | 0.0999** | 0.0775 |
| | (1.362) | (1.231) | (0.466) | (-12.75) | (4.799) | (0.760) |
| Union | -0.111* | -0.0651 | 0.0730 | 0.152 | -0.135 | -0.172* |
| | (-1.948) | (-0.873) | (0.838) | (3.211) | (-1.531) | (-1.921) |
| Dual | -0.0270 | 0.0512 | 0.00563 | 0.0658 | 0.00627 | -0.0423 |
| | (-0.561) | (0.619) | (0.0591) | (0.420) | (0.150) | (-0.377) |
| PTE 1 | - | - | - | - | - | - |
| PTE 2 | -0.0105 | 0.0693 | -0.0416* | 0.123 | 0.0572 | -0.00535 |
| | (-0.648) | (0.852) | (-2.096) | (5.227) | (1.316) | (-0.201) |
| PTE 3 | 0.0138 | 0.0411 | 0.00187 | 0.309 | 0.179* | 0.0125 |
| | (0.434) | (0.478) | (0.0365) | (3.928) | (4.136) | (0.213) |
| PTE 4 | -0.0370 | 0.0100 | -0.0937** | 0.172 | -0.0292 | 0.0830 |
| | (-1.158) | (0.111) | (-2.712) | (3.055) | (-0.431) | (0.955) |
| Neither * PTE | - | - | - | - | - | - |
| Works Council * PTE 1 | - | - | - | - | - | - |
| Works Council * PTE 2 | -0.0507 | -0.0305 | -0.0521 | 1.038* | -0.0586 | -0.100 |
| | (-0.963) | (-0.836) | (-0.629) | (11.34) | (-0.655) | (-1.546) |
| Works Council * PTE 3 | -0.0964 | -0.0237 | -0.174 | 0.890 | -0.191 | -0.00866 |
| | (-1.249) | (-0.186) | (-1.046) | (2.087) | (-1.459) | (-0.0721) |
| Works Council * PTE 4 | -0.0503 | -0.0820 | 0.108 | 1.275 | 0.300 | -0.222 |
| | (-0.818) | (-1.616) | (0.652) | (4.626) | (2.734) | (-1.404) |
| Union * PTE 1 | - | - | - | -- | - | - |
| Union * PTE 2 | 0.0509 | -0.00700 | -0.116 | -0.0934 | 0.0895 | 0.0612 |
| | (1.027) | (-0.0572) | (-0.874) | (-4.990) | (0.722) | (0.938) |
| Union * PTE 3 | -0.0191 | 0.217 | -0.430** | -0.269 | -0.0157 | -0.362*** |
| | (-0.271) | (0.589) | (-2.698) | (-2.966) | (-0.549) | (-3.436) |
| Union * PTE 4 | 0.0714 | 0.313 | -0.149 | -0.279 | 0.115 | 0.0464 |
| | (1.167) | (0.586) | (-0.785) | (-1.737) | (2.844) | (0.186) |
| Dual * PTE 1 | - | - | - | - | - | - |
| - | | | | | | |
| Dual * PTE 2 | 0.0618* | -0.100 | 0.0578 | -0.0567 | -0.0159 | 0.0116 |
| | (1.747) | (-1.332) | (0.782) | (-5.428) | (-0.163) | (0.165) |
| Dual * PTE 3 | 0.105 | -0.0963 | 0.127 | -0.710 | -0.159* | 0.171 |
| | (1.569) | (-1.229) | (1.061) | (-5.686) | (-3.665) | (0.725) |
| Dual * PTE 4 | 0.171** | 0.0105 | 0.289* | 0.501 | 0.0969 | -0.0217 |
| | (2.242) | (0.0764) | (2.402) | (3.371) | (0.704) | (-0.0723) |
| Scandinavian | - | | | | | |
| Germanic | -0.113 | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (-1.606) | | | | | |
| French | -0.0727 | | | | | |
| | (-1.133) | | | | | |
| Anglo-Saxon | -0.0667 | | | | | |
| | (-1.429) | | | | | |
| Transition | -0.0639 | | | | | |
| | (-1.004) | | | | | |
| Construction | - | | | | | |
| Industry | 0.0652** | 0.0991 | 0.0516 | -0.00911 | 0.139* | 0.0221 |
| | (2.673) | (2.545) | (0.915) | (-0.208) | (3.342) | (0.752) |
| Wholesale | 0.102*** | 0.0529 | 0.112* | 0.00623 | 0.227* | 0.0530 |
| | (3.564) | (1.474) | (1.974) | (0.0712) | (4.264) | (1.267) |
| Transport | 0.00994 | -0.0265 | 0.0152 | -0.195 | 0.0299 | 0.00759 |
| | (0.325) | (-1.091) | (0.295) | (-6.235) | (0.969) | (0.0913) |
| Financial Services | 0.130*** | 0.239* | 0.134 | 0.111 | 0.174 | 0.0166 |
| | (3.560) | (4.197) | (1.640) | (0.882) | (2.867) | (0.234) |
| Other Services | 0.143*** | 0.100 | 0.155** | 0.0398 | 0.253** | 0.108** |
| | (5.297) | (2.126) | (2.557) | (0.266) | (5.415) | (2.350) |
| Estimated Size | -0.0446*** | -0.0163 | -0.0889** | -0.111 | -0.0169 | -0.0207 |
| | (-2.915) | (-0.937) | (-2.551) | (-4.244) | (-0.446) | (-1.193) |
| Hierarchy | 0.0294*** | 0.0240 | 0.0441*** | 0.0363 | 0.0227 | 0.0331** |
| | (3.931) | (2.521) | (3.802) | (1.652) | (0.837) | (2.400) |
| Autonomy | 0.108*** | 0.112 | 0.0771* | 0.0481 | 0.146** | 0.0940** |
| | (6.062) | (2.581) | (2.415) | (0.931) | (8.842) | (2.557) |
| Change in Emp | 0.0734*** | 0.0598** | 0.0733*** | 0.0920 | 0.0233 | 0.111*** |
| | (6.979) | (5.571) | (5.487) | (1.912) | (1.305) | (7.219) |
| Open Ended Contract | 0.00831 | 0.0153 | -0.0193 | 0.0108 | 0.0232 | 0.0194* |
| | (1.209) | (2.010) | (-1.824) | (0.811) | (1.269) | (2.027) |
| Profit | 0.0275** | -0.00598 | 0.0398 | 0.0843 | 0.00171 | 0.0133 |
| | (2.697) | (-0.610) | (1.846) | (5.712) | (0.221) | (0.762) |
| Delay | -0.00154 | 0.00175 | 0.0138 | 0.0695 | -0.0809** | 0.0402* |
| | (-0.112) | (0.268) | (0.799) | (1.970) | (-9.286) | (2.001) |
| dout | -0.0810** | -0.164 | -0.0827 | -0.259 | 0.0297 | -0.121* |
| | (-2.575) | (-2.088) | (-1.282) | (-2.496) | (2.008) | (-1.994) |
| Year | 0.183*** | 0.321* | 0.313** | 0.493** | -0.110*** | 0.164* |
| | (3.518) | (3.535) | (3.685) | (43.64) | (-11.98) | (2.075) |
| Constant | 2.607*** | 2.427** | 2.655*** | 2.219** | 2.634*** | 2.439*** |
| | (29.40) | (7.562) | (21.98) | (13.14) | (40.92) | (16.98) |
| Observations | 22,071 | 2,872 | 6,538 | 960 | 3,634 | 6,063 |
| R-squared | 0.044 | 0.082 | 0.060 | 0.125 | 0.059 | 0.045 |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

**Table 11: cumulative effect of share of PTE, ERB that is present and their interaction, significance provided trough F-test with colour coding (2013-2019)**

Total

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 [-] | -0.01 [0.5225] | 0.01 [0.6679] | -0.04 [0.2569] |
| | Works Council | 0.07 [0.1844] | 0.01 [0.2351] | -0.01 [0.5329] | -0.02 [0.1174] |
| | Union | -0.11 [0.0619] | -0.07 [0.1517] | -0.12 [0.1023] | -0.08 [0.2501] |
| | Dual | -0.03 [0.5792] | 0.02 [0.2796] | 0.09 [0.1237] | 0.11 [0.1897] |

Germanic

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 [-] | 0.07 [0.4839] | 0.04 [0.6801] | 0.01 [0.9215] |
| | Works Council | 0.00 [0.3436] | 0.04 [0.5384] | 0.08 [0.8738] | -0.07 [0.5197] |
| | Union | 0.06 [0.4747] | 0.12 [0.6084] | 0.32 [0.7690] | 0.39 [0.8502] |
| | Dual | -0.07 [0.5989] | -0.10 [0.6962] | -0.12 [0.8358] | -0.04 [0.9398] |

French

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | -0.09 [-] | -0.14 [0.0809] | -0.09 [0.9721] | -0.19 [0.0350] |
| | Works Council | 0.00 [0.6574] | -0.09 [0.1952] | -0.13 [0.6250] | 0.01 [0.1440] |
| | Union | 0.00 [0.4342] | -0.16 [0.1757] | -0.43 [0.1013] | -0.24 [0.0855] |
| | Dual | 0.05 [0.9548] | 0.06 [0.1609] | 0.18 [0.2144] | 0.24 [0.0860] |

Anglo-Saxon

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.31 [-] | 0.43 [0.1203] | 0.62 [0.1587] | 0.48 [0.2014] |
| | Works Council | ... | ... | ... | ... |
| | Union | 0.00 [0.1922] | 0.03 [0.1922] | 0.04 [0.2070] | -0.11 [0.3326] |
| | Dual | ... | ... | ... | ... |

Scandinavian

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.06 [-] | 0.11 [0.3187] | 0.24 [0.0538] | 0.03 [0.7087] |
| | Works Council | 0.18 [0.0408] | 0.18 [0.4844] | 0.09 [0.0313] | 0.45 [0.2047] |
| | Union | -0.03 [0.2653] | 0.12 [0.3208] | 0.13 [0.3010] | 0.06 [0.4424] |
| | Dual | 0.00 [0.8945] | 0.04 [0.4242] | 0.02 [0.0769] | 0.07 [0.7810] |

Transition

| | | PTE | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| ER Body | Neither | 0.00 [-] | -0.01 [0.8450] | 0.01 [0.8364] | 0.08 [0.3644] |
| | Works Council | -0.01 [0.4665] | -0.11 [0.0182] | 0.08 [0.8650] | -0.14 [0.5913] |
| | Union | 0.01 [0.0870] | 0.07 [0.0160] | -0.34 [0.0002] | 0.14 [0.0975] |
| | Dual | 0.08 [0.7150] | 0.09 [0.9796] | 0.27 [0.8527] | 0.14 [0.3886] |