

Leverage, labor commitment, and employee layoffs

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Abstract

This paper empirically investigates whether the Works Council - a government remedy for the agency problems between employees and shareholders – can prevent that leverage disciplines labor by employee layoffs. Works Councils can only prevent that leverage disciplines labor by employee layoffs when we consider the different type of employee layoffs and when the Work Councils consist of more economically vulnerable low-wage employee representatives such as blue-collar workers, younger workers, or female (educated) workers. Overall, the evidence indicates that Works Council can be seen as an important mechanism to solve or act to prevent agency problems between employees-shareholders.

JEL classification : G32, G34, J53, J63.

Keywords: Agency conflicts, Employees, Capital structure

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1. Introduction

Since the seminal paper of Jensen and Meckling (1976), research has provided many theoretical and empirical useful insights on how firms can deal with agency problems between either managers-shareholders or debtholders-shareholders. However, finance scholars have remained largely silent on how to solve or act to prevent agency problems between shareholders and the employees of the firm. In this paper, we study the economic effect of the government intervention in the rent appropriation conflict between shareholders and employees. Governments tend to intervene in firm's decision making to pursue their socio-economic policy such as employment, fiscal health, pollution prevention, or regional development (Chen, Sun, Tang and Wu (2011)), but also because agency problems can be socially destructive (Morck and Yeung (2003)).

According to the traditional stakeholder agency theorists, a rent appropriation conflict occurs when employees, as opposed to shareholders, may want to appropriate a significant portion of the rent to maximize their own utility through a combination of higher wages, greater job security or better working conditions (Hill and Jones (1992), John, Knyazeva, and Knyazeva (2014)), Employers tend to discipline their employees for their rent-seeking behavior by holding more leverage (Jensen and Meckling (1976), Jensen (1986)). However, the use of more leverage to discipline firm employment goes hand in hand with an increase of the bankruptcy costs (Jensen (1986)). Consequently, firms may start to make a tradeoff between debt and labor commitments. On the one hand, debtholders provide the firm with finance and in exchange expect their loans to be repaid on schedule (debt commitments). On the other hand, employees provide the firm with time, skills and fulfil their human capital commitments (Hill and Jones (1992); Bae, Kang, and Wang (2011)). In exchange, they expect the firm to fulfill their labor commitments (utility minimalization). However increased bankruptcy risk from higher leverage may force the

employer to increase labor flexibility by making labor costs (more) flexible. There exist several ways to make labor costs (more) flexible. For example, employers may be less willing to provide job security by ensuring their employees against employee layoffs, using more agency temporaries (Gill (2015), terminating overfunded pension plans (Hanka (1998); Petersen (1992)), etc. We start this paper by empirically investigating whether debt does enforce employers to increase labor flexibility by employee layoffs for a large sample of Belgian firms that includes both privately and publicly owned firms.

The ability that the rent-seeking employer can discipline the employment relationship by employee layoffs depends on the degree of information asymmetry problem between the employer and its employees and the available remedies. Without any remedy for information asymmetry, the job security of the employees is seriously being threatened. The main purpose of this paper is to empirically study one government initiated intervention to solve the agency conflict between the employer and its employees. To foster the cooperation and mutual understanding between the employers and its employees, the Belgian government has introduced the Works Council. The Works Council is a joint body with employer and labor representation at the managerial level of the firm. It is elected every four year and has a labor majority within the Works Council. Belgium present a unique opportunity to examine the economic effect of Works Council as a government induced mechanism to solve the rent appropriation conflict between shareholders and labor for two reasons. First, the Works Council has extensive decision-making or co-determination (veto) rights related to employment matters. Labor takes decisions jointly with the employer about these firm-specific employment related issues. Employers cannot take unilaterally decisions related to these issues. For example, they jointly define the general criteria and order of dismissal. The employer must follow these dismissal criteria and order. Moreover,

the employer must report each dismissal within the Work Council, but is not required to disclose the reason of dismissal within the Works Council. Notable exceptions are blue-collar workers, workers dismissed for gross misconduct, or dismissals of protected employees (Blanpain (2012)). Blue-collar workers can ask an extensive reasoning for dismissal (article 63 of the Law on employment contract (3 July 1978)), but is rarely done in practice. Second, the Work Council has extensive information rights (Blanpain (2012)). This also lowers the cost of monitoring the rent-seeking employer. By contrast, the U.S. labor law only defines that the employees can be only represented by trade unions. They do not have Works Councils. These unions have the duty to bargain with employers concerning employment related issues such as labor disputes, wages, rates of pay, hours of employment, conditions of work, etc. However, these negotiations between the unions and employers do not mandate agreement (Baker and McKenzie (2009)). Moreover, trade unions are often included in boards of directors of US firms not to try to maximize the utility of their union members but to gain their support for future wage and benefit concessions (Douglas (1982)). Contrary to Belgium, US trade unions are less able to protect the interests of labor because the US labor law does not grant these trade unions any co-determination and extensive information rights related to employment issues. Our main hypothesis of this paper predicts that leverage will be less able to discipline labor by employee layoffs in firms with a Works Council relative to firms without a Works Council.

We briefly discuss the main results of this paper. We first start by establishing empirically whether employers use leverage to discipline labor by employee layoffs for Belgian firms between 2004 and 2010. We find empirical support for the disciplinary role of leverage. This result remains unaltered even after controlling for possible endogeneity issues of leverage, alternative definitions of leverage, alternative disciplinary measures (such as dividend payout

ratio) and several empirical methodologies. This finding also suggests that leverage can be used as an effective tool to align the interests of (potential employee-friendly) management with the interests of the shareholders of the firm.

We next discuss the empirical evaluation of the economic importance of the Works Council as a remedy to solve or prevent the agency problem between labor and shareholders. We find that firms with a Works Council are relatively more able to use leverage to discipline the employment relationship by employee layoffs. We try to increase our understanding why Works Councils are less able to prevent that leverage disciplines labor when they are legally allowed to define the general criteria of dismissal and they can monitor and collect information about the employer's rent-seeking behavior freely and at no cost. We do this by looking to one type of employee layoff, namely employee layoffs by using agreement-based pre-pension scheme, relative to the other type of employees. For this type of employee layoff, employers are legally obliged to find first an agreement on the terms of dismissal with the labor representation within the Works Council because these dismissals deviate from the general defined criteria and order. We find that Works Council are able to prevent that leverage disciplines the employment relationship by employee layoffs based on agreement-based pre-pension schemes relative to other type of layoffs. The initial positive effect of leverage on employee layoffs is completely reversed for employee layoffs based on agreement-based pre-pension schemes relative to other type of layoffs. This result may also imply that employer are less able to discipline the employment relationship by employee layoffs when the different type of employee layoffs tends to matter in the presence of a *supervisory* mechanism such as the Works Council.

We next try to increase our understanding on how it comes that Work Councils behavior depends on the type of employee layoffs. We do this by investigating the empirical effect of the

political and socio-economic characteristics (such as gender, education, occupation, and age) of the individual members of the labor representation within the Works Council on the relation between leverage and employee layoffs (the different type of employee layoffs). We find that these determinants have no significant effect on the disciplinary role of leverage on the total number of employee layoffs. However, we find that leverage is less able to discipline the employment relationship by employee layoffs based on agreement-based pre-pension schemes relative to other type of layoffs when the labor representation within the Work Council consists of economically vulnerable low-wage labor representatives such as blue-collar workers, younger workers, or female (educated) workers. Our interpretation of this result is that the labor representation within the Works Council will do everything in their power to preserve and protect the utility claim of economically vulnerable low wage workers by safeguarding their long-term employment with the associated seniority wage within the firm.

Our paper is related to the literature that examines the effect of mechanisms to solve, prevent or control the agency problem between two important stakeholders of the firm, namely the employees and shareholders. The focus of the existing literature is mainly on providing mechanisms to solve this agency problem with the shareholder as principal and the employees as their agent. For example, granting equity to employees can help alleviate agency conflicts between employees and shareholders (Han Kim and Ouimet (2014); Chen and Huang (2006)). Our paper is the first, of which we are aware, to provide direct empirical evidence on the importance of the government's role in helping to solve, prevent or control the agency problem between employees and shareholders. The uniqueness of the Belgium setting allows the Works Council to become the principal and the shareholders the agent. This is because the Belgian labor law grants co-determination rights and extensive information rights to the Works Council

(Blanpain (2012)). This prevent that managers - acting in the interest of shareholder - can take unilateral decisions that can harm the interests of the employees. This paper is also related to the stakeholder agency literature (see Hill and Jones (1992); Donaldson and Preston (1995), among others).

Lastly, this paper also supports the findings in contemporaneous work. The empirical results from this paper add to the existing literature examining the determinants of employee layoffs (Hanka (1998); Hiller, Marshall, McColgan, and Werema (2007); Atanassov and Kim (2011); Cote (2013)). This paper differs from prior studies on the determinants of employee layoffs) in several important aspects. First, we use a large sample firms including public and privately held firms to investigate empirically the relation between leverage and employee layoffs in an environment of strong employment protection laws. Second, the focus of this paper is to study how Works Council can prevent that leverage disciplines labor by employee layoffs.

The remainder of the paper is organized as follows. We develop the hypotheses in Section 2. Section 3 describes the sample and variable selection. Section 4 defines the empirical design of this paper and documents the empirical evidence that leverage disciplines the employment relations by employment cuts. Section 5 presents evidence that Works Councils do allow leverage to discipline labor by employee layoffs. This Section also presents evidence that Works Councils are also able to completely reverse the positive effect of leverage on employee layoffs when the different type of layoffs tend to matter. This section also documents the empirical effect of political and socio-economic determinants of labor representation within the Works Council on debt enforced layoffs. Section 6 concludes this paper.

2. Development of the Hypotheses

2.1. The effect of the Works Council on the relation between leverage and employee layoffs

Traditional stakeholder agency theorists argue that information asymmetry problems between employers and its employees tend to exist when employees do not have full and free access to (critical) financial, economic and social information about the firm. As a result, employees may not fully be able to control whether the employer is fully committed to maximize their utility (Hill and Jones (1992)). To solve the agency problem between the employer and its employees, the Belgian labor law introduces three different bodies that represent the employer and the employees or the trade unions to increase collaboration and information sharing between the employer and its employees at the firm level. These bodies are the Trade Union Committee, the Works Council and the Committee for Prevention and Protection at Work.

A Works Council is a joint body that represents both the employer and its employees. The employer representatives can never be more than the employee representatives within the Works Council. The employer can freely decide whom he wants to represent him amongst the managerial employees, except the prevention advisor. The members of the employee representation are elected every four years by secret ballot when the firm is usually employing on average in the preceding year a minimum of 100 employees. The employee representatives enjoy special protection against dismissal for the entire term. All employees – irrespective whether they are union members – have the right to vote. The Belgian labor law also stipulates that a Works Council is required for firms with a Works Council when the average number of employees fall below 100. The competence of the Works Council shall be transferred to the Committee for Prevention and Protection at Work (Blanpain (2012)).

The employee representation within the Works Council must be consulted and informed by the employer representation on economic, financial, social, and employment related issues that can (seriously) affect the employment within the firm. The employer representation within the Works Council must also submit annually a report on the employment changes within the firm. The Belgian labor law legislation also provides Works Councils with codetermination (veto) rights to define the general criteria for dismissals and an order that must to be respected in cases of dismissal (for example, the seniority, the type of workers, etc.). However, employers are still allowed to decide the reasons for dismissal and the department(s) from which a worker will be dismissed. This can be considered as a safe conduct to do as they please with respect to the employee layoff policy because an employer does not have to provide any formal justification for a dismissal to the employee representation within the Works Council. The employer is obliged to report each dismissal within the Works Council to allow the Works Council to control whether the employer has followed the general criteria and order for dismissal (Blanpain (2012); Jevtic (2012)). As a result, we expect that more leveraged firms with a Works Council will dismiss more workers relative to leveraged firms without a Works Council because they are formally allowed to dismiss workers without providing formal justification for the dismissal to the employee representation within the Works Council. Notable exceptions are blue-collar workers, workers dismissed for gross misconduct, or dismissals of protected employees. Blue-collar workers can ask an extensive reasoning for dismissal (article 63 of the Law on employment contract (3 July 1978)), but is rarely done in practice. As a result, we predict that Works Councils increase the positive relation between leverage and employee layoffs (*Hypothesis 1a*).

Lack of information transparency between the parties within the Works Council indicates that it is more difficult for the employer representation to convince the employee representation

within the Works Council in firms with higher leverage to change the criteria of dismissal in order to allow more (unnecessary) employee layoffs. In this setting, it is more likely that the employee representations within the Works Councils will use their veto rights (codetermination rights) to protect the interest of their employees by preventing any (future) loosening of the dismissal criteria. As a result, we also examine empirically the effect of the Works Council on the positive association between leverage and employee layoffs. We can yield our main hypothesis of this paper. We expect that Works Councils decrease the positive relation between leverage and employee layoffs (*Hypothesis 1b*).

It is also important to highlight that Works Councils may under certain circumstances accept (unnecessary) employee layoffs that deviate from the general agreed dismissal criteria. Works Councils will not prevent dismissals of elderly workers by using agreement-based pre-retirement schemes. This type of employee layoff is often seen as a more acceptable form of an employee layoff because the representatives of the employer must first find an agreement with the representatives of the employees on the conditions and terms of the dismissal of the elderly worker within the Works Councils. A dismissal of an elderly worker that is made without or not properly consulting the employee representation within the Works Council is invalid. It is well-known that the employee representatives tend to negotiate favorable financial conditions for potential retirees because they are unlikely to find a similar job. The employer representation is more willing to accept the terms and conditions proposed by the employee representation within the Works Council because it allows them to dismiss older and often less productive older workers. Moreover, none of these workers are entitled to the statutory redundancy payment. However, firms must hire a job-seeker to replace each dismissed elderly worker by using agreement-based pre-retirement schemes (Karakaya (2008); Blanpain (2012)). As a result, we

can yield our second testable hypothesis. We expect that Work Councils increase the positive relation between leverage and dismissals by using agreement-based pre-retirement schemes (*Hypothesis 2*).

We also briefly discuss the competence of the other bodies, namely the Trade Union Committee and the Committee for Prevention and Protection at Work, with respect to their possible impact on the employee layoff policy of the firm. According to the Belgian Labor Law, the Trade Union Committee can set up only by the request of one or more representative trade unions. The member of the Trade Union Committee are elected and appointed for a term of maximum of four years. In general, it represents only the unionized employees. The Committee has only competence with regards to wages (for example: wage negotiations), labor relations, and application of the labor law (for example: working conditions) in the firm. The Trade Union Committee play an important role in preventing and settling either individual (only when the normal hierarchical channels have been exhausted) or collective conflicts (Blanpain (2012)). Article 24 in the Collective Agreement no. 5 constitutes that the trade unions has no co-determination rights with respect to defining the general criteria of dismissal and re-hiring when there is no Works Council. However, this Article also states that the employer must disclose information to this Committee concerning economic and financial matters such as employment opportunities within the firm, structural changes that can have a serious impact on firm employment, and information containing in the annual report when the firm employ less than 50 employees.

The Committee for Prevention and Protection at Work must be established in each firm conditioned when the firm on average employ at least 50 employees. Differently from the Works Council composition, this committee consist of equal number of employee and employer

representatives. The employer representation can consist of himself or/and member(s) from the managerial staff of the firm. The committee is headed by the employer or a representative from the employer's coalition. The employee representatives of this Committee are elected by secret ballot every four years. Only representative trade unions can shortlist candidates for the employee representation within this Commission (Blanpain (2012)). The purpose of this committee is to actively increase the well-being of the workers when performing their job (The well-being at work Act of 4 August 1996, the functioning of the Committee for Prevention and Protection at Work (see Royal Degree of 3 May 1999 and of 27 March 1998)). The Belgian Labor law did not give this Committee the legal power to decide upon the general criteria to be followed with respect to dismissals and re-hires.

3. Sample, Data and Measurement of Variables

3.1. Sample Selection and Data Sources

We study the empirical effect of Works Councils on the disciplinary role of leverage on labor by employee layoffs for a large unbalanced panel of Belgian firms that are covered by BELFIRST for 2004 to 2010. BELFIRST is a commercial database provided by Bureau Van Dyck Electronic Publishing. Data on Works Councils and the characteristics of the employee representation within the Works Council is provided by the Belgian Federal Public Service Employment, Labour and Social Dialogue.

We limit concerns with respect to survivorship bias by allowing firms to enter and exit the sample over time. Variables in levels such as firm size are translated in constant 2001 euros using the GDP deflator². Concerning our variables in the sample, we impose the following filters to clean the data from mis-recorded data for certain variables. *First*, we exclude firms with a share

² While most of the firm-specific variables are ratios, variables in levels (such as size) are inflated by the GDP deflator and are expressed in 2004 euros (Beck, De Jonghe and Schepens (2013)).

of either blue-collar or permanent workers in total firm employment above 1. *Second*, we drop firms with physical capital intensity below 0. Also excluded are firms with no employees.

With respect to potential outliers, there is not a general accepted view on how to deal with outliers. According to Frank and Goyal (2005), there exists three kinds of corrections to deal with this problem in capital structure research. The first method is a rule of thumb. An important disadvantage is that it is arbitrary because different studies tend to employ different rules of thumb. The second method is to winsorize the variables. Frank and Goyal (2005, 173) state, *“It is particularly common to winsorize each tail at 0.5% or 1%. ... This procedure has the advantage that it is more systematic than pure rules of thumb, and it is easier to have consistency across papers”*. As a result, we present the results in this paper by winsorizing all the 1% and 99% tails for all the firms in the sample. Finally, it tends to be common practice to define outliers when they are excluded from the interval mean plus/minus three standard deviations. However, this method is problematic because it is well known that both the standard deviation and the mean tend to be very sensitive to outliers (Leys, Klein, Bernard, and Licata (2013)). We obtain a final sample of 678,692 firm-year observations for 154,616 Belgian firms across seven years.

4. Empirical Design and Results of the effect of leverage on employee layoffs

4.1. Empirical Design

We observe that the full sample of firms contains a large number of firms having a zero-employee layoff rate. We are unable to distinguish whether a zero-employee layoff rate is a genuine zero or it is zero because it is defined as a missing observation. Moreover, not all the financial statements and reports of firms are audited in Belgium. For example, according to the Act of 17 December 2008, only public companies on the Euronext must have an audit committee to review the integrity of their financial statements and annual reports. As a result, we decide to

estimate the following pooled Tobit regression models with employee layoff rate censored at zero:

$$\begin{aligned} \text{Employee_layoff_rate}_{it} = & \alpha + \beta_1 \text{Leverage}_{it-1} + \beta_2 \text{Average_employee_pay}_{it-1} + \\ & \beta_3 \text{Share_of_blue-collor_workers}_{it-1} + \beta_4 \text{Share_of_permanent_workers}_{it-1} + \beta_5 \text{Works_Council}_{it-1} \\ & + \beta_6 \text{Financial_distress}_{it-1} + \beta_7 \text{Labor_productivity}_{it-1} + \beta_8 \text{Firm_age}_{it-1} + \beta_9 \text{Firm_size}_{it-1} + \\ & \beta_{10} \text{Physical_capital_intensity}_{it-1} + \beta_{11} \text{Profitability}_{it-1} + \beta_{12} \text{Public_vs_private_firm}_{it-1} + v_t + \eta_t + \varepsilon_{it} \end{aligned}$$

(1)

where $\text{Employee_layoff_rate}_{it}$ is the employee layoff rate of an individual firm i the relevant year t . Existing studies use the yearly reduction in firm level total employment as dependent variable (see Hanka (1998); Atanassov and Han Kim (2009)). An important shortcoming of this measure is it does not distinguish between how many employees are annually dismissed and replaced by a particular firm (Hanka (1998)). In contrast to this traditional measure of employee layoffs, we define our dependent variable employee layoff rate as the ratio of the sum of the number of dismissed full-time equivalent (hereafter FTE) workers and the number of FTE workers dismissed by using agreement-based pre-pension schemes to the number of FTE employees at the previous financial year-end.

We include one-year lagged firm-specific explanatory variables in the Tobit regression models to avoid endogeneity. Leverage is our main variable of interest in this paper. Consistent with Brav (2009), we decide to rely on book leverage to increase comparability across public and private firms. Throughout this article, leverage is the sum of short-term (including the current portion of long-term debt) and long-term debt (hereafter total debt) scaled by book assets. As a robustness test, we also consider four additional measures of leverage. Our first additional measure of leverage is net leverage. Net leverage is the difference between total debt and cash

holdings scaled by the difference between book assets and cash holdings. We replace book assets by the sum of total debt and book value of equity in the denominator of net leverage for our third additional measure of leverage. The second additional measure of leverage is the interest coverage ratio, and defined as the firm's EBIT (Earnings Before Interest and Taxes) scaled by interest expenses. As our third additional measure we replace book assets by the sum of total debt and book value of equity in the denominator as our third additional measure of leverage. With respect to the final additional measure, we replace book assets by the sum of total debt and book value of equity in the denominator of net leverage for our third additional measure of leverage.

The share of permanent workers might impact employee layoffs. Firms will be less willing to dismiss employees with a long-term labor contract because they tend to be loyal employees (Cronqvist, Heyman, Nilson, Svaleryd, and Vlachos (2009)); possess valuable firm-specific knowledge and the dismissal costs tend to be very high because the notice payment must be mutually agreed (Cockx and Van der Linden (2009)). We expect a negative relation between the share of employees with long-term labor contracts and employee layoffs. The share of permanent workers is the ratio of workers with a long-term labor contract to total FTE workers.

The average employee pay, defined as the natural log of the ratio of full-time-equivalent (FTE hereafter) labor costs to the average total FTE workers, can also influence employee layoffs. Employee layoffs are often seen as the main source of labor cost reductions. We expect a positive association between average employee pay and employee layoffs.

The share of blue-collar workers, measured as FTE blue-collar workers scaled by total FTE workers, might also impact employee layoffs. The association between the share of blue-collar workers and employee layoffs is a priori ambiguous. On the one hand, providing employment insurance to their blue-collar workers is costly to firms. This limits the firm's ability to anticipate

on changes in technology or consumer taste because often firms who provide employment insurance tend to hold lower levels of debt. As a result, firms will only provide employment insurance to more educated and highly skilled employees which will encourage investments in firm-specific human capital. These investments will enhance more productivity among these employees and are difficult to dismiss than their blue-collar workers. Blue-collar workers have less human capital to invest in firm-specific purposes (Kim, Maug, and Schneider (2011)). Moreover, blue-collar workers receive less compensation than white-collar workers due to the shorter notice period in the event of dismissal (Blanpain (2012)). As a result, we predict a positive relation between the share of blue-collar workers and employee layoffs.

On the other hand, employers may not choose to dismiss blue-collar workers, but instead choose to apply the temporary unemployment scheme for blue-collar workers in Belgium. The Belgian Labor law allows a temporary suspension of blue-collar work for economic reasons on a temporary basis. This temporary unemployment scheme tends to benefit all parties. With respect to blue-collar workers, they are not dismissed by their employer but they receive a temporary compensation. With respect to employers, employers tend to save on labor costs because it relieves them to bear all the costs while retaining their experience (Blanpain (2012)). We predict a negative relation between the share of blue-collar workers and employee layoffs.

Labor productivity might also impact employee layoffs. Gibbons and Katz (1991) model shows that if employers have private information concerning their employees' productivity and if they have discretion over which to lay off then the market infers that dismissed workers are low-productive workers. Firm finds it unprofitable to retain low-productive workers and hence, they permanently dismiss them. We expect a negative relation between labor productivity and employee layoffs. Labor productivity is defined as the ratio of the added value to total average

number of FTE workers in the firm. Added value is defined as the difference between operating income and charges and the sum of the costs of purchases of goods; and services and other goods. We observe that the variable labor productivity has large values, which will lead to bigger absolute errors and residuals. As a result, we use the logarithm transformation to make this variable more symmetric and increase the fit of the pooled Tobit regression model. In particular, we first replace negative values of labor productivity with zero and then take the log of one plus the labor productivity.

Works Councils might also impact employee layoffs. One of the main tasks of the Works Council is defining the general criteria for redundancy and re-hiring (Blanpain (2012)). The effect of Works Councils on employee layoffs is a priori unclear. On the one hand, the Works Council will make the general criteria of redundancy more stringent when they are from the opinion that the firm is laying off too many employees. As a result, we expect that firms with a Works Council will have less employee layoffs than firms without a Works Council. On the other hand, a possible agreement on the general dismissal criteria signals to the employer that he or she can dismiss a worker when it is compliant with the general criteria of dismissal. As a result, we predict that firms with a Works Council will dismiss more workers than firms without a Works Council. We measure the effect of the Works Council on the employee layoff rate by including a Works Council dummy variable that is one when a firm has installed a Works Council, else zero.

Firm size can also impact employee layoffs. Firm size is the natural log of book assets (expressed in 2002 euros³). Larger firms have stronger reputations than smaller firms. Each individual publicized employee layoff event provides less insight into the abilities of a larger firm

³ While most of the firm-specific variables are ratios, variables in levels (such as firm size) are expressed in 2002 Euros (Beck, De Jonghe and Schepens (2013)).

and therefore has a smaller impact on the reputation of the larger firm. The reputation of larger firms is built on many observed actions lessening the impact of each subsequent action (Flanagan and Shaughnessy (2005)). We predict a positive relation between firm size and employee layoffs.

Firm age, defined as the natural log of firm age in years, a measure for the reputation of the firm, can also impact employee layoffs. Given the limited information available that outsiders can use to build their overall perception of the firm, employee layoffs often lead to larger decreases in outsiders' perceptions of the firm's future prospects and hence, negatively influence the firm's reputation. For older firms, there is less deal of ambiguity regarding how well the observed behavior of the firm accurately reflects the firm's underlying characteristics. This lower degree of ambiguity leads observers to place lesser weight on the few actions that they do observe. It follows that the reputation of these firms are more stable than the reputation of younger firms. The reputation of older firms will be less strongly affected by an employee layoff announcement (Flanagan and Shaughnessy (2005)). We expect a positive association between firm age and employee layoffs because the reputation of younger firms is more highly influenced by the negative impact of employee layoffs.

We include a financial distress measure. In particular, we use the Z"-score (Altman (1993)), measured as $3.26 * (\text{retained earnings} / \text{book assets}) + 6.72 * (\text{EBIT} / \text{book assets}) + 6.56 * (\text{working capital} / \text{book assets}) + 1.05 * (\text{capital} / \text{debt})$. Employee layoffs often result from restructuring arising from financial distress. Firms view employee layoffs as a way for a financially troubled firm to survive (Worrel, Davidson II and Sharma (1991)). We expect a positive association between financial distress and employee layoffs.

Firm profitability, measured as earnings before interests, taxes, depreciations and amortization (EBITDA) scaled by book assets, can also impact employee layoffs. Firms often

tend to dismiss a large portion of their workforce when they experience (severe) operational problems. Employee layoffs often are seen as a major change to firm cost structures. Managers view future costs as being more predictable than future revenues, and therefore, cutting employment costs is an easy way to boost profitability for less profitable firms (Hillier, Marshall, McColgan, and Werema (2007)). We predict a negative association between profitability and employee layoffs.

Firm physical capacity, defined as the ratio of gross property, plant and equipment to book assets, can also impact employee layoffs. More physical capital intensive firms tend to prefer faster and more employee layoffs than less physical capital intensive firms. The cost of a misallocation of employees is much higher for the more capital intensive firms, or, the specific human capital is lower given the higher capital intensity (Qian (2003); McKinney and Vilhuber (2006)). We expect a positive association between physical capital intensity and employee layoffs.

We also control for whether a firm is a public firm or not by including a dummy variable `public_vs_private_firm`, equals one if the firm is public, else zero. Consistent with Atanassov and Han Kim (2009), we also include year dummies (v_t) to control for possible macroeconomic factors such as financial crises and economic recessions. All the specifications also include the industry dummies (η_t) at the two-digit NACE2008 level to control for industry-effects on employee layoffs. The ε_{it} is the error term. All Tobit regression specifications are estimated with firm-level cluster-robust for heteroscedasticity standard errors. We report the results of the first hypothesis in Table 3.

To test the remaining hypotheses of the paper, we must include an interaction term between leverage and Works Council (dichotomous variable) and the determinant of labor representation

within the Works Council (continuous variable) in the baseline pooled Tobit regression model (1). Given that the regression model will include an interaction term and the complications concerning the interpretation of an interaction effect in nonlinear regression models such as the pooled Tobit regression model⁴, we choose to calculate the cross derivatives. The cross derivative is the change in marginal effect of leverage on the expected value of the employee layoff rate conditional on being uncensored for different values of the determinants of employee representation within the Works Council interacted with leverage when the remaining independent explanatory variables in the pooled Tobit regression model are kept at their sample mean values. However, for interaction terms between leverage and a dichotomous variable (Works Council), we present the results of the cross-partial derivative of the change in marginal effect of the Works Council on the predicted probabilities of employee layoffs at different levels of debt with 95% confidence intervals with the remaining explanatory variables are kept at their sample mean values. In addition, we also test whether the differences in marginal effect between firms with and without a Works Council are statistically significant because the observed confidence intervals are only constructed for point estimates, not for the covariance between the differences of firms with or without a Works Council. We do this by computing the discrete marginal effects by comparing the differences between firms with and without a Works Council (StataCorp (2011)). Firms with a Works Council is the reference category. We calculate the standard errors by using the Delta-method. In addition, we also present the result by using the additional measures of leverage (net leverage, interest coverage ratio, alternative leverage and

⁴ For an excellent discussion on the (possible) misinterpretation of interaction effects in Tobit regression models, see Norton, Wang and Ai (2004) and Karaca-Mandic, Norton and Dowd (2012).

alternative net leverage). These results are available upon request but unfortunately not reported to save on space.

4.2. Summary Statistics

We present sample summary statistics for the full sample of firms in Panel A of the Table 1 and by the status of firms (private or public) in Panel B of Table 1. Depending on the measurement of leverage, the sample average (median) debt levels over the period 2004 to 2010 ranges between 0.65 and 0.70. The sample average (median) interest coverage ratio is 3.83e+27 (2.11). An average (median) sample firm employs 13 (4) full-time equivalent employees. The employee layoff rate ranges between 0.00 and 0.20 for our sample firms, with a mean (median) of 0.01 (0.00), respectively. 4% of the workforce of an average sample firm are blue-collar workers. 1 % of the firms have a Works Council. The mean (median) labor productivity is 10.82 (10.94). The average age of the firm is 14 years, and is ranging between 3 and 67 years. The firms are not quite large in terms of firm size, which ranges from 244.69 euros to 855,978 euros⁵. The lion share of firms in our sample are financially strong and very profitable.

[INSERT TABLE 1 HERE]

Table 2 presents the pairwise relations among employee layoff rate and firm characteristics. The pairwise sample correlation between leverage measures and employee layoff rate does give a strong indication of whether debt can increase labor flexibility by cutting employment. We find that the correlation between *employee layoff rate* and *one-period lagged leverage* is positive (0.0140). We provide similar evidence for the additional measures of leverage (i.e. net leverage, interest coverage ratio, alternative leverage and alternative net leverage).

[INSERT TABLE 2 HERE]

⁵ However, before winsorizing the data at the 1st and 99th percentiles, we observe that the firms are quite large in terms of firm size. The firm size ranges from 0.75 euros to 4.31e+08 euros.

4.3. Empirical results

4.3.1. Does leverage discipline the employment relationship by employee layoffs?

A. Empirical evidence

In this section, we establish empirically whether leverage discipline the employment relationship by employee layoffs. We expect a positive relationship between leverage and employee layoffs. We report the empirical results from the pooled Tobit regression model (1) in Table 3. We find that the estimated coefficient of leverage (0.0205) is positive and highly statistically significant. Belgian firms with higher leverage have, *ceteris paribus*, a higher employee layoff rate. Consistent with Hanka (1998), debt disciplines Belgian employers to increase labor flexibility by employee layoffs. We also empirically investigate the economic importance of the positive relation between leverage and employee layoffs. When leverage increases by 0.41, which is the difference between the 75th (0.87) and 25th percentile (0.46), implies an economically significant increase in the marginal effect of the expected value of employee layoffs rate conditional on being uncensored by 1.90 % when all the other right-hand side variables in the pooled Tobit regression model are kept at their sample mean value. We verify the robustness of this finding with respect to alternative definitions of leverage (net leverage, interest coverage ratio, alternative leverage and alternative net leverage) and present the results in the remaining Columns of Table 3. We find again strong support in favor of the prediction that leverage disciplines the employment relationship by employee layoffs.. We find a positive and highly significant coefficient on all the alternative measures of leverage in the remaining Columns of Table 3.

[INSERT TABLE 3 HERE]

We now turn our attention to the discussion of the empirical results of the firm-control variables. Besides the main variable of interest, leverage, the firm-control variables yield mainly consistent results with respect to previous studies on employee layoffs. We find that firms with more blue-collar works have, *ceteris paribus*, a lower employee layoff rate. This finding is consistent with the argument that firms with more blue-collar workers prefer to use the temporary unemployment scheme instead of permanently dismissing blue-collar workers. With respect to average employee pay, we find the expected positive association between employee layoffs and average employee pay. Labor productivity enters with a negative sign, consistent with the predictions of the theoretical model of Gibbons and Katz (1991).

We find that Works Councils are positively correlated with the employee layoff rate. The coefficient of the Works Council dummy is positive (0.0067) and significant at the 5%. This result provides support for our prediction that employers will not hesitate to dismiss workers when they comply with the general criteria and order for dismissal set out by the Works Council. Moreover, it is also very difficult for the employee representation within the Works Council to prevent such dismissals (for example by going on strike). The employee representation should be very prudent not to shoot themselves in the foot because they have set out the scope for dismissal by defining the general criteria and order for dismissal. We also evaluate the economic importance of the positive relation between Works Councils and employee layoffs. We find that the marginal effect for the expected value of the employee layoffs rate conditional on being uncensored is 1.51% higher for firms with a Works Council relative to firms without a Works Council when all the other explanatory variables in the Tobit regression model are kept at their sample mean value. The permanent worker's variable does not enter significantly in the pooled Tobit regression model. Consistent with the financial distress argument with respect to employee

layoffs (Worrel, Davidson II and Sharma (1991)), we find that firms with a higher degree of financial distress have, *ceteris paribus*, a higher employee layoff rate. Inconsistent with our predication, we find that more profitable firms tend to lay off more employees. We further find that it is much easier for the employer to dismiss workers in larger firms, in older firm, or in firms with less physical capital intensity. Finally, we find that public relative to private firms have, *ceteris paribus*, a lower employee layoff rate. A possible explanation is that public relative to private firms may have more employees with firm-specific knowledge. Moreover, public firms may also have to incorporate indirect costs (loss of firm-specific human capital) besides the traditional severance payments when dismissing these employees.

Finally, we perform several additional tests to check whether the results are affected by the disciplinary role of the dividend payout ratio as alternative for leverage, possible measurement error and endogeneity criticism of some determinants of employee layoff rate.

B. Additional Robustness tests

[INSERT TABLE 4 HERE]

Shareholders can also prevent that management and employees' interests become more aligned by increasing the total payout (dividends) to them (John, Knyazeva, and Knyazeva (2014)). We replace leverage by the dividend payout ratio, defined as the amount of dividend payed out scaled by book assets, in equation (1). We report the results in the first Column of Panel A of Table 4. We find that the dividend payout out ratio enters with a positive sign in the pooled Tobit regression. The coefficient on the dividend payout ratio is 0.129 and is significant at 1%. This finding confirms that the corporate payout ratio can also be used as a disciplinary device to prevent possible employee-friendly management behavior or practices.

We use leverage as independent variable to explain employee layoff decisions. According to Parson and Titman (2008), our baseline result (i.e. positive relation between leverage and employee layoffs) may suffer from two important potential sources of endogeneity, namely reverse causality and measurement error. The *first* potential source of endogeneity is reverse causality. Reverse causality occurs when (future) corporate leverage policy is mainly determined by the (undesired) effects and the characteristics of the workforce (such as wage costs, use of temporary workers, employee layoffs, etc.). Moreover, we also address the potential reverse causality concern between average employee pay and employee layoff rate. Firms with higher employee layoff risk tend to pay higher wages (Berk, Stanton and Zechner (2010)). We address this reverse causality by estimating GMM regression model. We do not lag the possible endogenous variables and the other firm-specific variables in the GMM regression model. We also provide additional information with respect to the endogeneity of leverage and average employee pay. We use the Durbin-Wu-Hausman endogeneity test. The null hypothesis is that leverage and average employee pay are exogenous. With respect to the instruments, some instruments can be dropped because of severe multicollinearity concerns. As a result, year fixed effects and public vs. private dummy are excluded. We use robust standard errors clustered by firm to correct for potential heteroscedasticity and within-country dependence (Petersen (2009)).

We must also select valid instruments for the endogenous variables leverage and average employee pay. A valid instrument should suffice two conditions, namely to be economically related to the endogenous variable and to be uncorrelated with the second stage of the instrumental regression error term (Fan, Titman and Twite (2012)). We instrument leverage by two variables, namely industry mean leverage and public credit registry coverage. Industry mean leverage is defined as the industry mean leverage minus their own leverage. Leary and Roberts

(2005) show that firms tend to follow a debt policy that is similar to other firms in their respective industry. Moreover, the industry mean debt ratio tends to be one of the most important explanatory variable of leverage. The second instrumental variable for leverage is Public credit registry coverage. Public credit registry coverage from the Doing Business Guide of the World Bank is defined as the number of individuals and firms listed in a public credit registry with current information on repayment history, unpaid debts, or credit scaled by the adult population. Creditors are more willing to provide more financing to firms in the presence of public credit registries because these registries are more able to share (detailed) information with regards to the borrowers' creditworthiness (Djankov, McLiesh and Schleifer (2007)). For the instrumental variable for average employee pay, we use the index of gross contractual wage increases by a joint committee published by the Belgian Federal Public Service of Employment as an indicator of collectively agreed wage increases at the industry level. This index records quarterly for every joint committee the average contractually agreed wage increase based on a selection of not weighted pay scales. These increases include both automatic wage indexation and additional increases collectively agreed upon at the industry level (Druant, Du Caju and Delhez (2008); Lopez and Sissoko (2013)). At the same time, we do not find any literature indicating that the index of gross contractual wage increases, industry mean leverage and public credit registry coverage directly affect the employee layoff rate. Moreover, these variables are exogenously determined.

The *second* condition is the validity criteria. The instrument should be uncorrelated with the second stage regression error term (Fan, Titman and Twite (2012)). We report the results of Hansen J Test of over-identifying restrictions. A potential overidentification problem tends to occur when instruments are correlated with the structural error. The null hypothesis of the Hansen

J-test is that the overidentification restrictions are satisfied (Hansen (1982)). Finally, note that we do not report the R^2 s for the GMM regressions, since as Goldberger (1991) highlights, there is no guarantee that the R^2 s reported in instrumental variable regression models lie between zero and one and there is no widely accepted goodness of fit measure for the instrumental variable regression estimation techniques.

Due to space limitations, we only report leverage and average employee pay's coefficient estimates with their corresponding t-stats from the second stage of the GMM instrumental regressions in the second Column of Table 4. We find that both leverage and average employee pay are endogenous variables. The p-value of the Durbin-Wu-Hausman endogeneity test for both variables separately is 0.0000. We find that leverage is positively significantly correlated with employee layoff rate. The coefficient on the instrumented leverage variable is 0.0673. This result support our first hypothesis. The first hypothesis predicts a positive relation between leverage and employee layoff rate. With respect to average employee pay, we find that the coefficient is negative significantly correlated with employee layoff rate. The coefficient on the instrumented leverage is 0.030. With respect to the used instruments, the results of the Hansen J-test of over-identifying restrictions confirm that our instruments in the instrumental Tobit regressions satisfy the validity requirement (p-value of 0.5508) and thus are strong instruments.

According to Parson and Titman (2008), the second potential source of endogeneity is the omitted variables problem. Employment reductions are often determined by many factors and are very difficult to control with existing proxies. We already *partly* dealt with potential source of endogeneity by including industry and year fixed effects in the baseline Tobit regression model. However, we also re-estimate our baseline model by using random effects, fixed effects and a between effects regression models. We pay special attention to the between-effects panel

regression model because both employee layoff rate and leverage vary significantly more across firms, as opposed within firms over the sample years. The between (within) variation of the employee layoff rate is 0.0004 (0.0003). The between (within) variation of leverage is 0.1761 (0.0218). We use firm-level cluster-robust for heteroscedasticity standard errors for all the regression models, except for the between effects regression model. The standard error for the latter model are *homoscedastic*. We report the empirical results in the remaining Columns of Table 4. We find that the coefficient on leverage is still positive and highly significant for the panel between BE and random effects (RE) regression models.

5. Do Works Councils prevent rent-seeking shareholders to shift their risk to their employees by cutting employment?

5.1. What is fundamentally different between firms with or without a Works Council?

In Table 5, we compare the characteristics of firms by Works Council presence. We observe two important differences between firms without a Works Council and firms with a Works Council. These differences are not only statistically significant but also economically significant. *First*, firms with a Work Council representation are on average 12.90 % less leveraged than are firms without a Works Council representation. *Second*, we observe that the German's traditional view that Works Councils should be established with the sole aim to protect their employees' interests in less stable working environments is *less* applicable for Belgian Work Councils⁶. For example, when employees give their employer *implicitly freedom* to dismiss because they granted permission to dismiss workers by agreeing on the general dismissal criteria, then the employee representation within the Works Council should not be surprised and naive that employers will use this freedom to dismiss workers. We observe that firms with a Works Council representations

⁶ See Addison, Schnabel, and Wagner (1997) ; Addison, Bellman, Schnabel and Wagner (2002) among others.

dismiss on average four times more workers than do their counterparts, firms without a Works Council. However, Works Councils can also generate (more) trust between the employer and its employees which would result in either greater job satisfaction, higher labor productivity or higher wages. We find that Works Councils do raise on average labor productivity significantly by 2.95%, and employee pay by 16,989.78 euros. An increase in trust between the employer and its employees also often results in higher investments in firm-specific human capital at the expense of physical capital (Hübler (2015)). Obviously, we observe that firms with a Works Council are on average significantly larger than firms without a Works Council in terms of book assets and average number of employees.

5.2. The impact of the Works Council on the relation between leverage and layoffs

In this Section, we investigate empirically the impact of Works Councils on the positive relation between leverage and employee layoffs (Hypotheses 1a and 1b). We first present the results of the cross-partial derivative of the change in marginal effect of the Works Council on the predicted probabilities of employee layoffs at different levels of debt with 95% confidence intervals for the full sample of firms in Figure 1a. We next present the results of whether the effects of firms with and without a Works Council on the positive relation between leverage and employees is significantly different from each other. The remaining predictors of employee layoff rate are kept at their sample mean values in the same Figure 1b.

We find surprisingly that firms with a Works Council representation experience a greater increase in employee layoffs than for firms without a Works Council. However, the differences in marginal effect between firms with and without a Works Council representation are only statistically significant at 5% or less when leverage is less or equal to 0.60. This result provides partly support for hypothesis 1a. By defining and agreeing on the general criteria of dismissal by the Works Council gives Belgian employers implicitly *green light* for debt enforced employee

layoffs. The employee representatives within the employee coalition with the Works Councils face a huge dichotomy. On the one hand, they want to defend and protect the rights and interest of their employees within the Works Council by preventing unnecessary layoffs. On the other hand, by giving a *green light* to go on strike to prevent these debt enforced employee layoffs would undermine the credibility of the trade union's employee representatives within the employee coalition within the Works Council. This is because they agreed on the general criteria and order of dismissal. To sum up, we do not find any evidence that Works Councils in firms with more debt are able to a large extent prevent the shareholders to shift their risk to their employees by cutting employment relative to firms without a Works Council. We find very similar results for the alternative measures of leverage. Due to space limitations, the results are not reported in this paper.

[INSERT FIGURE 2 HERE]

5.3. The impact of the Works Council on the relation between leverage and early retirements

We next examine whether the effect of Works Councils is different on the positive relation between leverage and employee layoffs when we take into account that the representatives of the employer must consult with the employee representation within the Works Council to get approval for dismissing workers by using agreement-based pre-pension schemes (Hypothesis 2). To test this hypothesis, we re-define our dependent variable as the ratio of dismissed FTE workers by using agreement-based pre-pension schemes to total FTE dismissed workers. Both the numerator and the denominator are scaled by the number of FTE employees at the previous sample year-end. This variable is also winsorized at the 1% and 99% tails. The number of firm-years observations significantly drops from 678,692 to 47,611. This is because the denominator of our dependent variable cannot be zero.

We calculate the cross-partial derivative of the change in marginal effect of the Works Council on the predicted probabilities of dismissals of workers by using agreement-based pre-pension schemes at different levels of debt with 95% confidence intervals. The remaining explanatory variables are kept at their sample mean values. We also test whether the differences in marginal effect between firms with and without a Works Council are statistically significant because the observed confidence intervals are only constructed for point estimates, not for the covariance between the differences of firms with or without a Works Council. To assess these differences, we compute the discrete marginal effects by comparing the differences between firms with and without a Works Council (StataCorp (2011)). The remaining explanatory variables are kept at their sample mean values. We define firms with a Works Council as the reference category. The results are summarized graphically in Figure 2a and 2b.

[INSERT FIGURE 2 HERE]

We find strong evidence that Works Council representation will significantly accept *less* debt enforced employee layoffs by using agreement-based pre-pension schemes than do firms without a Works Council representation irrespective to the level of leverage. Thus, the positive effect of leverage on employment layoffs is *completely* reversed for firms with or without a Works Council representation. We also find that the differences in marginal effect between firms with and without a Works Council are statistically significant at 1%. This evidence is inconsistent with the prediction of our fourth hypothesis that Works Councils may accept debt enforced employee layoffs when the employee coalition can negotiate favorable severance payment terms for elderly workers. This result tends to be economically important as well. For example, the difference of the marginal effect on the predicted expected value of dismissals using pre-retirement schemes between firms without and with a Works Council with a zero-debt ratio is

0.0818. For firms with a debt ratio of 0.5, the difference of the marginal effect is 0.0748. We find similar results for the additional measures of leverage. The results are available upon request.

In sum, we find very convincing evidence that Works Council's behavior with respect to different grounds of dismissal (permanent layoffs vs. layoffs using pre-retirement schemes) significantly decreases the strength of the positive relation between leverage and layoffs. We try to provide insights on this observed differences in the Works Council's behavior with respect to different types of layoffs by investigating the political and socio-economic determinants of the employee representation within the Works Council in the next Section.

5.4. The impact of the determinants of the employee representation within the Works Council on the relation between leverage and employee layoffs

We first start with a briefly discussion on the political and socio-economic determinants used in the empirical investigation of the Works Council's behavior with respect to employee layoffs and to the different type of employee layoffs in Table 6. We next present the cross-partial effect of the change in the marginal effect of leverage on the expected value of either employee layoffs or layoffs by using agreement-based pre-pension schemes for different values of the political or socio-economic determinants of the employee representation within the Works Council.

5.4.1. The political and socio-economic determinants of the employee representation within the Works Council

The political determinants of the employee representation within the Works Council can play an important role in determining whether the employee representation can protect the interests of their employees by preventing debt enforced layoffs. We focus on one group of political determinants, namely the different possible fragmentations of the employee

representation within the Works Council. We study three different type of employee representation fragmentation within the Works Council: employee representatives from different parties within the Works Council, the number of seats held by the employee representatives from the different parties within the Works Council and the (ideological) dispersion of employee representation partners within the employee coalition. The *first* characteristic is the number of different employee representative parties within the Works Council. This characteristic focusses on possible disagreement among various employee representatives from different parties. The employee representation is often formed by employee representatives from parties with different (ideological) orientations. The employee representation can either come from the traditional representative trade unions or the representative trade unions of cadres or a party of independent candidates. The representative Belgian trade unions are rooted in either in Christianity (ACV-CSC), socialism (ABVV-FGTB), or liberalism (ACLVB-CGSLB). Each representative trade union can defend autonomously the interests of their members. Thus, the more representatives from unions with different ideologies involved, the more likely conflicts of interest are to occur and the lesser the interests of employees are protected in case of conflicts at work within the Works Council. Moreover, trade unions may become divided over how to protect the interests of their members in the best way because they may find it more difficult to pursue their own preferred policy within the Works Council. Different parties may first have to meet to form a joint front to the employer representation within the Works Council by formulating a joint program to protect the interest of the employees at the bargaining table within the Works Council (Blanpain (2012)). Moreover, it may also cause inter trade union conflicts because the workers have an unrestrictive freedom to join a representative Belgian trade union. We expect that the number of different employee representative parties will increase the positive relation between

leverage and employee layoffs. However, we may also expect that the number of different employee representatives decreases the positive relation between leverage and employee layoffs when the different parties agree on a common agenda to protect the interest of their members. The employee representations are in a much stronger bargaining position because they are unified and speak with one voice to the employer representation. Moreover, in case employer's representatives are less willing to listen to the demands of the employee representation at the bargaining table than they can threaten to go on strike. The average number of different employee representative parties in the employee representation in the Works Council ranges from 1 to 4 in Table 6. An important weakness of the number of employee representative parties is that it does not count for the stability of the employee representation coalition.

The second characteristics is the stability of the employee representation coalition which depend among other things on the share of seats held by the coalition parties, and the (ideological) dispersion of employee representation partners within the coalition (Figueiredo, Lopes Salles, and Vieira (2009)). It is generally assumed that the risk of coalition conflict can be caused by an exhaustion of the common agenda of the employee representation coalition parties, external shocks (for example a sudden increase in unemployment), and a change of the policy of the party (Müller and Miller (2005)). More (ideological) party seat dispersion in the employee coalition decreases the stability of the coalition because more parties in the coalition will try to add weight in particular employment issues and hence it can make an employee representation coalition fractious. This is obvious because the risk of possible dismissal for current employee representatives by the employer increases in case the special protection of the employee's representatives against dismissal ends in case they are not re-elected again for a new term. The risk of not getting elected for a consecutive term increases when they are less able to realize or

break their promises in the current term as an employee representative within the Works Council (Blanpain (2012); Störmer (2010)). We expect that more (ideological) party seat dispersion will decrease the positive relation between leverage and employee layoffs. We define our political dispersion measure as the standard deviation of the share of the different parties of the employee coalition within the Works Council. This dispersion indicator measures how much the share of each party are spread out from the mean share of the party within the employee coalition within the Works Council by firm. A lower (higher) dispersion measure means that most of the party shares are very close (spread out) to the average party share within the employee coalition within the Works Council by firm. The average employee coalition dispersion measure is 0.30 in Table 6, which indicates that parties have a similar share in the employee coalition. In addition, we also use the range of the different shares of party representatives within the employee coalition as an alternative dispersion measure. The range is defined as the difference between the largest share and the smallest share of the employee representative candidate party of the employee coalition within the Works Council. The range of seats held by a party of employee representatives ranges between 19% and 100, with an average of 68%.

We also study the effect of the socio-economic background determinants of the employee representative coalition on the positive relation between leverage and employee layoffs. We select the following three determinants: the gender effect of employee representatives, the occupational status of the employee representatives and the age of the employee representatives.

The *first* socio-economic background determinant is the gender-specificity of the employee representative coalition within the Works Council. Störmer (2010) investigates the individual characteristics of German Work Council Members and provides convincing empirical evidence that female relative to male members of the employee representation within the German Works

Council tend to strongly defend the interests of employees within the German Works Council by taking more an active role in influencing and speaking up during negotiations of important employment issues within the company⁷. It is necessarily for female members to be able to take initiative and be action oriented within the German Works Council to ensure continuous support from their employees. We expect that Works Councils with a larger share of female (educated) employee representatives within the employee coalition will decrease the positive relation between leverage and employee layoffs. We use four indicators from two different group of gender-related variables, namely determinants related to the female employee representation within the employee coalition and female educated employee representation within the employee coalition. We define a female representative as educated when they are employed as an office worker. The first indicator is the share of female (educated) representatives within the employee representation within the Works Council and is measures as the ratio of female (educated) representatives to total employee representatives within the employee coalition within the Works Council. We observe that on average almost half of the representatives within the employee coalition are females. The average of female representatives is 0.49. On average, the female representatives are less educated. The average of female educated representatives is 0.13. The second indicator is the average share of female (educated) representatives within the employee representatives by party within the Works Council. This indicator is measured as the average ratio of female (educative) representatives to total employee representatives by party within the

⁷ German Works Councils can be set up every four years when the firm employs at least five permanent employees. By contrast to the Belgian Works Councils, the German Works Councils only consist of employee representation. All the employees are covered under this Works Council, except for senior management. The chair of the German Works Council is an employee, while for the Belgian Works Council is an representative of the employer and the secretary is an employee representative from the employee coalition (Fulton (2015); Blanpain (2012)). The German Works Councilors are also protected against dismissal during their term. Similar as for the Belgian Works Council, the employer must discuss and provide reasons for a dismissal to the Works Councils. Otherwise, the dismissal is legally null and void (Grund and Schmitt (2016)).

employee coalition within the Works Council. We observe that the average ratio for both the average female representatives and female educated representatives within the employee coalition are low, namely 0.10 and 0.15. The third (final) indicator is the (range) dispersion of the shares of female (educated) representatives by party within the employee representation within the Works Council. It is the standard deviation of the shares female (educated) representatives by party within the Works Council. This dispersion indicator measures how much the share of female (educated) representatives by party are spread out from the mean party share of female (educated) representatives within the employee coalition. A lower (higher) dispersion measure means that most of the party shares of female (educated) representatives are very close (spread out) to the average share of female (educated) representatives within the employee coalition.

The next socio-economic background determinant is the occupational status (blue-collar workers vs. white worker) of the employee representative coalition within the Works Council. It is generally accepted view that blue-collar workers relative to white-collar workers are more likely to demand a stronger form of collective voice within the employee coalition because blue-collar workers relative to white-collar workers face higher job insecurity (Addison, Schnabel and Wagner (1997)). Blue-collar workers can be easily replaced or dismissed relative to white-collar workers. In addition, Grund and Schmitt (2016) argue that we can apply Byrne (1971) similarity-attraction theory is applicable to Works Councils. The employee representation within the Work Councils tend to defend, represent and protect more strongly the employment rights of homogenous group of workers (in terms of job conditions and workload) such as blue-collar workers because it is much easier to represent and defend their interest toward the employer at the bargaining table. We expect that Works Councils with a higher share of blue-collar workers in their employee representative coalition will decrease the positive relation between leverage

and employee layoffs. We use four indicators to empirically investigate the effect of the occupational status on the positive relation between leverage and employee layoffs, namely the share of labor worker members within the employee representation within the Works Council, the average share of labor worker members within the employee representation within the Works Council, the dispersion and the range of the share of labor worker members within the employee representation within the Works Council. The first indicator is the share of labor representatives within the employee representation within the Works Council and is measured as the ratio of labor representatives to total employee representatives within the employee coalition within the Works Council. The second indicator is the average share of labor worker representatives within the employee representatives by party within the Works Council. This indicator is measured as the average ratio of labor worker representatives to total employee representatives by party within the employee coalition within the Works Council. The third (final) indicator is the (range) dispersion of the shares of labor worker representatives by party within the employee representation within the Works Council. It is the standard deviation of the shares of labor worker representatives by party within the Works Council. On average, 39 % of the employee representatives within the employee coalition are labor workers.

The third and final socio-economic background determinant is the age of the employee representatives in the coalition. The longer employee representative's tenure, the more likely they have mastered the skills to protect the interests of the employees within the Works Council (Frege (1999)). A young worker is defined as a worker less than 25 years of age. Special regulations do exist with respect to representation of younger workers within the employee coalition in order to prevent possible discrimination against them (Blanpain (2012)). We expect that the employee representation with younger worker representatives will increase the positive relation between

leverage and employee layoffs. We use four indicators to empirically investigate the effect of the age of the worker on the positive relation between leverage and employee layoffs, namely the share of younger worker members within the employee representation within the Works Council, the average share of younger worker members within the employee representation within the Works Council, the dispersion and range of the share of younger worker members within the employee representation within the Works Council. These indicators are defined in a similar way as defined for labor workers. On average, 29 % of the employee representatives within the employee coalition are younger workers.

5.4.2. The effect of the political and socio-economic determinants of the employee coalition on the positive relation between leverage and employee layoffs or type of layoffs

Figure 3 presents the results of the cross-partial effect of the change in the marginal effect of leverage on the expected value of either employee layoffs or layoffs by using agreement-based pre-pension schemes separately for each determinants of the employee representation within the Works Council.

There appears to be insignificant cross-partial effect of the change in the marginal effect of leverage on the expected value of employee layoffs at the 5% level. Our interpretation of this finding is that the employers are not obligated to disclose and explain to the employee coalition within the Works Council that debt is causing these layoffs, otherwise the Works Council is likely to impose more rigorous criteria for dismissal. The employer has the *sole prerogative* to decide in which departments of the firm and for what reasons employee layoffs must take place. The employee representation cannot prevent a dismissal when the dismissal is completely legally justified (in other words: related to the functioning of the firm, or the employee's conduct or aptitude). They just have to verify whether the employer has followed the general criteria and

order for dismissal. Even Belgian labor courts are only allowed to verify whether the current economic situation of the firm justify the number of dismissals (Blanpain (2012)). On the contrary to the results for employee layoffs, we find very interesting results for employee layoffs by using agreement-based pre-pension schemes.

[INSERT FIGURE 3 HERE]

Turning to dismissals by using agreement-based pre-pension schemes, we find that the all the socio-economic determinants such as gender (female and female educated employee representatives), age (younger worker representatives), and occupation status (labor worker representatives) significantly increase the negative cross partial effect of leverage on dismissals by using agreement-based pre-pension schemes. Employers find it very difficult to convince the employee representation within the Works Council to accept debt enforced dismissals of seniority wage workers with relatively high work experience by using these schemes. The employee representation within the Works Council try to protect higher seniority wage workers against dismissal by making it costlier for the employer to dismiss them. This is important because the employee representation within the Works Council can make a creditable commitment to their employees, often economically vulnerable lower wage workers (for example females, labor and young workers), that they want to safeguard them against possible employer opportunism (Backes-Gellner, Frick and Sadowski (1997)) and pay them higher wages by increasing their tenure in the near future (Bayo-Mariones, Galdon-Sanchez, and Güell (2004)). Allowing these employees to be dismissed by pre-retirement schemes would be seen as the employer has given the green light by the employee representation within the Works Council to dismiss any employee before he or she can reach their full utility and earn their *maximum seniority* wage within the firm.

6. Conclusion

Using data from 2004 to 2010 for 154,616 Belgian firms, this paper examines the economic effect of a Works Council – a government created institution to increase collaboration and information sharing between the employer and its employees at the firm level – can prevent that leverage disciplines labor by employee layoffs. We find that Works Councils are only able to prevent that leverage disciplines labor by employee layoffs when we consider the different type of employee layoffs and the individual characteristics of the labor representation within the Works Council with respect to these type of employee layoffs. The basic result of this paper proves robust for possible endogeneity issues of leverage, alternative definitions of leverage, alternative disciplinary measures (such as dividend payout ratio) and several empirical methodologies.

This paper has an important some future research implications. As stated the Belgian labor law does not in general legally oblige the employer to disclose the reason of dismissal during the sample period of this period. However, major changes in the dismissal rules occurred on 12 February 2014. One of the major change in the dismissal rules is that the dismissed worker can formally request justification for his/her dismissal. The national collective bargaining agreement number 109 states that the employer is legally obliged to provide a motivation for the dismissals, otherwise the employer is subject to a fine of two weeks of the dismissed employee's salary and benefits (Polet and Gerard (2014)). It would be interested to investigate the economic effect of the Works Council on the disciplinary role of leverage on the employment relationship before and after this major change in the dismissal rules. As a final research implication, we show in this paper that Works Councils can have a significant effect on the disciplinary role of leverage on labor, but Works Councils may also have a significant effect on the firm's restructuring outcome.

Firms with a Works Council may choose to prefer asset fire sales as a restructuring measure instead of dismissing workers.

7. References

- Addison, John T., Schnabel, Claus, and Joachim, Wagner, 1997, On the Determinants of Mandatory Works Councils in Germany, *Industrial Relations* 36, 419-445.
- Addison, John T., Bellmann, Lutz, Schnabel, Claus, and Joachim, Wagner, 2002. German Works Councils Old and New: Incidence, Coverage and Determinants. *IZA Working Paper No. 495*.
- Altman, Edward I., 1993. Corporate financial distress and bankruptcy: A complete guide to predicting and avoiding distress and profiting from bankruptcy. *New York: John Wiley and Sons*.
- Atanassov, Julian, and E. Han, Kim, 2009. Labor and corporate governance: International evidence from restructuring decisions. *Journal of Finance* 64, 341-374.
- Backes-Gellner, Uschi, Frick, Bernd and Dieter Sadowski, 1997. Codetermination and personnel policies of German firms: the influence of works councils on turnover and further training, *International Journal of Human Resource Management* 8, 328-347.
- Bae, Kee-Hong, Kang, Jun-Koo, and Jin, Wang, 2011. Employee treatment and firm leverage: A test of the stakeholder theory of capital structure. *Journal of Financial Economics* 100, 130-153.
- Baker and McKenzie, 2009, Worldwide Guide to Trade Unions and Works Councils, *Law Firms*.
- Bayo-Moriones, Alberto, Galdon-Sanchez, Jose and Maia Güell, 2004. Is Seniority Based Pay Used as a Motivation Device? Evidence from Plant Level Data, *IZA Discussion Paper 1321*.
- Beck, Thorsten, De Jonghe, Olivier, and Glenn, Schepens, 2013. Bank competition and stability: Cross-country heterogeneity. *Journal of Financial Intermediation* 22, 218-244.
- Bell, Brian, and John, Van Reenen, 2012. Firm Performance and Wages: Evidence from Across the Corporate Hierarchy, Centre for Economic Performance, London School of Economics Working paper series.
- Berk, Jonathan B., Stanton, Richard, and Josef, Zechner, 2010. Human capital, bankruptcy and capital structure. *Journal of Finance* 65, 891-926.
- Blanpain, Roger, 2012, Labour Law in Belgium 5th edition. *Kluwer Law International*, 440 pages.
- Byrne, Donn Erwin, 1971. The attraction paradigm, New York, Academic Press.
- Chen, Hsiang-Lan, and Yen-Sheng Huang, 2006, Employee stock ownership and corporate R&D expenditures: evidence from Taiwan's information-technology industry, *Asia Pacific Journal of Management* 23, 369-384.
- Chen, Shimin, Sun, Zheng, Tang, Song and Donghui Wu, 2011. Government intervention and investment efficiency: Evidence from China. *Journal of Corporate Finance* 17, 259-274.
- Cheibub Figueiredo, Argelina, Lopes Salles, Denise, and Martins Vieira, Marcelo, 2009. Political and Institutional Determinants of the executive's Legislative success in Latin America. *Brazilian Political Science Review* 3, 155-171.
- Cockx, Bart, and Bruno, Van Der Linden, 2009. Flexicurity in Belgium: A Proposal Based on Economic Principles. *IZA Policy Paper No. 9*.

- Cote, David, 2013. Honeywell's CEO on How He Avoided Layoffs. *Harvard Business Review*, 1-5.
- Cronqvist, Hendrik, Heyman, Frederik, Nilson, Mattias, Svaleryd, Helena, and Jonas, Vlachos. 2009. Do Entrenched Managers Pay Their Workers More? *The Journal of Finance* 64, 309-339.
- Djankov, Simeon, McLiesh, Caralee, and Andrei Shleifer, 2007, Private credit in 129 countries. *Journal of Financial Economics* 84, 299-329.
- Donaldson, Thomas and Lee E., Preston, 1995. The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *The Academy of Management Review* 20, 65-91.
- Douglas, Davison M., 1982, Labor Unions in the Boardroom: An Antitrust Dilemma, *Faculty Publications. Paper 121*.
- Druant, Martine, Du Caju, Philip, and Philip, Delhez, 2008. Results of the Bank's survey of wage-setting in Belgian firms. *National Bank of Belgium Working Paper*.
- Fan, Joseph P.H., Titman, Sheridan, and Garry, Twite, 2012. An International Comparison of Capital Structure and Debt Maturity Choices. *Journal of Financial and Quantitative Analysis* 47, 23-56.
- Flanagan, David J. and K.C. O'Shaughnessy, 2005, *The Effect of Layoffs of Firm Reputation*, *Journal of Management* 31, 445-463.
- Frege, Carola, M., 1999. Social Partnership at Work: Workplace relations in post-unification Germany. Routledge studies in Employment Relations.
- Fulton, Lionel, 2015. Worker representation in Europe. Labour Research Department and ETUI. Produced with the assistance of the SEEurope Network.
- Gibbons, Robert, and Lawrence F., Katz, 1991. Layoffs and Lemons, *Journal of Labor Economics* 9, 351-380.
- Gill, Balbinder Singh, 2015. Cross-country evidence on the relation between capital structure variability and investor protection rights. *Unpublished Working Paper*.
- Gill, Balbinder Singh, 2015. Wages, unemployment costs and capital structure choices of unlisted firms, *Unpublished Working Paper*.
- Goldberger, Arthur, 1991. A Course in Econometrics (Harvard University Press, Cambridge, A).
- Grund, Christian, and Andreas, Schmitt, 2016. Works councils, quits and dismissals in Germany. *German Journal of Human Resource Management* 30, 53-75.
- Han Kim, E, and Ouimet, Paige, 2014. Broad-Based Employee Stock Ownership: Motives and Outcomes. *Journal of Finance* 69, 1273-1319.
- Hanka, Gordan, 1998. Debt and the terms of employment. *Journal of Financial Economics* 48, 245-282.
- Hansen, Lars Peter, 1982. Large sample properties of generalized method of moments estimators. *Econometrica* 50, 1029-1054.
- Hill, Charles W.L., and Thomas M., Jones, 1992. Stakeholder-Agency Theory. *Journal of Management Studies* 29, 131-154.
- Hillier, David, Marshal, Andrew, McColgan, Patrick, and Samuel, Werema, 2007. Employee Layoffs, Shareholder Wealth and Firm Performance: Evidence from the UK. *Journal of Business Finance and Accounting* 34, 467-494.
- Hübler, Olaf, 2015. Do works councils raise or lower firm productivity. *IZA World of Labor Working Paper*.
- Jensen, Michael C., 1986. Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review* 76, 323-329.

- Jensen, Michael C., and William H. Meckling, 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics* 3, 305-360.
- Jevtic, Milan, 2012. The role of Works Councils and Trade Unions in representing interests of the employees in EU member states (partnership or competition), Friedrich-Ebert-Stiftung, Regional Project for Labour Relations and Social Dialogue in South East Europe, 75 pages.
- John, Kose, Knyazeva, Anzhela, and Diana, Knyazeva, 2015. Employee rights and acquisitions, *Journal of Financial Economics* 118, 49-69.
- Karakaya, G., 2008. Early cessation of activity in the labour market: impact of supply and demand factors, *Université Libre de Bruxelles N°09-04*.
- Karaca-Mandic, Pinar, Edward C, Norton and Bryan, Dowd, 2012. Interaction terms in nonlinear models, *Health Services Research* 47, 255–274.
- Kim, E. Han, Maug, Ernst G., and Christoph, Schneider, 2011. Labor Representation in Governance as an Insurance Mechanism, *Unpublished manuscript*.
- Leary, Marc T; and Michael R, Roberts, 2005, Do Firms Rebalance their Capital Structures? *The Journal of Finance* 60, 2575-2619
- Leys, Christophe., Ley, Christophe, Klein, Olivier, Bernard, Philippe, and Laurent, Licata, 2013. Detecting Outliers: Do not use standard deviations around the mean, use absolute deviations around the median. *Journal of Experimental Social Psychology* 49, 764–766.
- Lopez, Maritza N., and Salimata, Sissoko, 2013. Understanding wage determination in a multi-level bargaining system: a panel data analysis. *Empirical Economics* 44, 879–897.
- McKinney, Kevin and Lars, Vilhuber, 2006. Using Linked employer-employee data to investigate the speed of adjustment in downsizing firms. *Longitudinal Employer – Household Dynamics Working Paper Series*.
- Morck, Randall, and Bernard, Yeung, 2003. Agency Problems in Large Family Business Groups, *Entrepreneurship Theory and Practice* 27, 367-382.
- Müller C., Wolfgang, and Bernhard, Miller, 2005. Coalition government and intra-party politics. *Unpublished Working Paper University Manheim*.
- Norton, Edward C., Wang, Hua, and Chunrong, Ai, 2004. Computing interaction effects and standard errors in logit and probit models. *The Stata Journal* 4, 154-167.
- Petersen, Mitchell A., 1992. Pension Reversions and Worker-Stockholder Wealth Transfers. *The Quarterly Journal of Economics* 107, 1033-1056.
- Petersen, Mitchell A., 2009. Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *The Review of Financial Studies* 22, 435-480.
- Polet, Satya Staes, and Jean-François, Gerard, 2014. Major changes in Belgian dismissal rules, *Freshfields Bruckhaus Deringer llp*. 1-6.
- Qian, Yiming, 2003. Human-capital-intensive firms: incentives and capital structure. *Working paper series NYU Stern School of Business*.
- StataCorp. 2011. Stata: Release 12 . Statistical Software. College Station, TX: StataCorp LP.
- Worrel, Dan L., Davidson II, Wallace N, and Varinder M., Sharma, 1991, Layoff Announcement and Stockholder Wealth. *The Academy of Management Journal* 34, 662-678.

Table 1: Summary Statistics

We first report summary statistics for Belgian firms from 2004 to 2010. The total number of firms that appear in full sample is 154,616. Definitions of the variables are in Section 4 of this paper.

	Nobs	Mean	Std. Dev.	Min	Median	Max
Leverage	678,692	0.70	0.40	0.04	0.69	2.75
Net leverage	678,692	0.60	0.58	-1.62	0.65	3.08
Interest coverage ratio	678,692	3.83e+27	48.36	-43.44	2.11	348
Alternative leverage	678,692	0.71	0.41	0.04	0.70	2.80
Alternative net leverage	678,692	0.60	0.60	-1.72	0.66	3.22
Employee Layoff rate	678,692	0.01	0.03	0.00	0.00	0.20
Average employee pay	678,692	10.46	0.44	8.98	10.49	11.62
Labor productivity	678,692	10.82	1.48	0.00	10.94	12.96
Share of permanent workers	678,692	0.94	0.17	0.00	1.00	1.00
Works Council	678,692	0.01	0.12	0.00	0.00	1.00
Average number of FTE workers	678,692	13	29	1	4	212
Share of blue-collar workers	678,692	0.04	0.15	0.00	0.00	1.00
Firm age	678,692	2.64	0.72	1.10	2.77	4.19
Firm size	678,692	8.71	1.55	5.50	8.55	13.66
Z"-score	678,692	2.63	5.49	-15.05	1.98	28.42
Profitability	678,692	0.04	0.16	-0.70	0.03	0.54
Physical capital intensity	678,692	0.30	0.25	0.00	0.23	0.94

Table 2: Correlation Table

We report the pairwise correlation of coefficients of employee layoff rate and one-period lagged firm-specific determinants over the period 2002 to 2010 in Table 2. Pearson correlation coefficient significant at 5% or less are in italic. All variables are defined in Section 4 of this paper.

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄	X ₁₅
X ₁	1.0000														
X ₂	<i>0.0140</i>	1.0000													
X ₃	<i>0.0360</i>	<i>0.8954</i>	1.0000												
X ₄	<i>0.0365</i>	<i>-0.2157</i>	<i>-0.2648</i>	1.0000											
X ₅	<i>0.0187</i>	<i>0.9911</i>	<i>0.8877</i>	<i>-0.2147</i>	1.0000										
X ₆	<i>0.0384</i>	<i>0.8746</i>	<i>0.9733</i>	<i>-0.2590</i>	<i>0.8807</i>	1.0000									
X ₇	<i>0.1898</i>	<i>-0.0806</i>	<i>-0.0587</i>	<i>0.0819</i>	<i>-0.0756</i>	<i>-0.0543</i>	1.0000								
X ₈	<i>0.0144</i>	<i>-0.1915</i>	<i>-0.1644</i>	<i>0.0976</i>	<i>-0.1892</i>	<i>-0.1606</i>	<i>0.2015</i>	1.0000							
X ₉	<i>0.0304</i>	<i>-0.0384</i>	<i>-0.0298</i>	<i>0.0185</i>	<i>-0.0377</i>	<i>-0.0291</i>	<i>0.2208</i>	<i>0.0602</i>	1.0000						
X ₁₀	<i>-0.0242</i>	<i>-0.0097</i>	<i>-0.0100</i>	<i>-0.0047</i>	<i>-0.0102</i>	<i>-0.0104</i>	<i>-0.0158</i>	<i>0.0044</i>	<i>-0.0017</i>	1.0000					
X ₁₁	<i>0.0890</i>	<i>-0.2189</i>	<i>-0.1657</i>	<i>0.0246</i>	<i>-0.2129</i>	<i>-0.1586</i>	<i>0.1137</i>	<i>0.0419</i>	<i>0.0618</i>	<i>0.0063</i>	1.0000				
X ₁₂	<i>0.3387</i>	<i>-0.1732</i>	<i>-0.0852</i>	<i>0.0639</i>	<i>-0.1654</i>	<i>-0.0793</i>	<i>0.4391</i>	<i>0.1599</i>	<i>0.0979</i>	<i>-0.0322</i>	<i>0.2815</i>	1.0000			
X ₁₃	<i>-0.0227</i>	<i>-0.7917</i>	<i>-0.7709</i>	<i>0.3131</i>	<i>-0.7888</i>	<i>-0.7550</i>	<i>0.0847</i>	<i>0.1266</i>	<i>0.0449</i>	<i>0.0084</i>	<i>0.1831</i>	<i>0.1291</i>	1.0000		
X ₁₄	<i>-0.0249</i>	<i>-0.4071</i>	<i>-0.3941</i>	<i>0.3577</i>	<i>-0.4078</i>	<i>-0.3883</i>	<i>0.0535</i>	<i>0.2331</i>	<i>0.0192</i>	<i>0.0003</i>	<i>-0.0129</i>	<i>0.0759</i>	<i>0.4725</i>	1.0000	
X ₁₅	<i>-0.0837</i>	<i>0.1403</i>	<i>0.1928</i>	<i>-0.1625</i>	<i>0.1379</i>	<i>0.1863</i>	<i>-0.2087</i>	<i>0.0311</i>	<i>-0.0641</i>	<i>0.0149</i>	<i>-0.0612</i>	<i>-0.0701</i>	<i>-0.3029</i>	<i>-0.1407</i>	1.0000

X ₁	Employee_layoff_rate _{it}	X ₉	Share_of_permanent_workers _{it-1}
X ₂	Leverage _{it-1}	X ₁₀	Share_of_blue-collar_workers _{it-1}
X ₃	Net_leverage _{it-1}	X ₁₁	Firm_age _{it-1}
X ₄	Interest_coverage _{it-1}	X ₁₂	Ln(Firm size)
X ₅	Alternative_leverage _{it-1}	X ₁₃	Financial_distress _{it-1}
X ₆	Alternative_net_leverage _{it-1}	X ₁₄	Profitability _{it-1}
X ₇	Ln(Average_employee_pay) _{it-1}	X ₁₅	Physical_capital_intensity _{it-1}
X ₈	Labor_productivity _{it-1}		

Table 3: The relation between capital structure and employee layoff rate

This Table presents results from Tobit regression of employee layoff rate. The sample covers the 2004 to 2010 period. The dependent variable is the employee layoff rate. Tobit cross-sectional regressions include year and industry (2-digit NACE2008) dummy variables. For brevity, we do not report the parameter estimates of the year and industry dummy variables. We use firm-level cluster-robust for heteroscedasticity standard errors. We report t-statistics in parentheses below the estimates of the different parameters. The parameter estimates with either ***, **, or * denote significance at the 1 % level, 5 % level, or 10 % level, respectively. All variables are defined in Section 4 of this paper.

		(1)	(2)	(3)	(4)	(5)
Leverage	+	0.0205*** (5.60)				
Net leverage	+		0.0215*** (8.52)			
Interest coverage ratio	+			0.0002*** (19.08)		
Alternative leverage	+				0.0241*** (6.90)	
Alternative net leverage	+					0.0194*** (8.23)
Average employee pay	+	0.0414*** (18.02)	0.0415*** (18.06)	0.0403*** (17.56)	0.0412*** (17.96)	0.0414*** (18.05)
Share of blue-collar workers	?	-0.0450*** (-6.64)	-0.0449*** (-6.62)	-0.0451*** (-6.65)	-0.0449*** (-6.63)	-0.0449*** (-6.62)
Share of permanent workers	-	0.0010 (0.19)	0.0008 (0.16)	0.0012 (0.22)	0.0011 (0.21)	0.0008 (0.15)
Works Council	-	0.0067** (2.53)	0.0068*** (2.59)	0.0053** (2.01)	0.0065** (2.49)	0.0067** (2.53)
Financial Distress	-	-0.0041*** (-16.43)	-0.0037*** (-16.11)	-0.0055*** (-30.21)	-0.0039*** (-15.93)	-0.0039*** (-16.92)
Labor productivity	-	-0.0027*** (-6.59)	-0.0026*** (-6.37)	-0.0030*** (-7.52)	-0.0026*** (-6.48)	-0.0026*** (-6.43)
Firm age	+	0.0051*** (4.58)	0.0051*** (4.64)	0.0043*** (3.89)	0.0052*** (4.65)	0.0050*** (4.55)
Firm size	+	0.0712*** (110.20)	0.0709*** (110.03)	0.0708*** (110.09)	0.0712*** (110.32)	0.0708*** (109.99)
Physical capital intensity	+	-0.0822*** (-23.80)	-0.0826*** (-24.20)	-0.0822*** (-24.07)	-0.0814*** (-23.61)	-0.0829*** (-24.22)
Profitability	-	0.0122** (2.04)	0.0131** (2.19)	-0.0123** (-2.04)	0.0130** (2.18)	0.0131** (2.19)
Public vs. Private dummy	?	-0.0608*** (-6.59)	-0.0601*** (-6.47)	-0.0611*** (-6.67)	-0.0599*** (-6.49)	-0.0602*** (-6.49)
Constant		-1.3426*** (-51.94)	-1.3417*** (-52.27)	-1.3052*** (-51.32)	-1.3449*** (-52.06)	-1.3388*** (-52.05)
Year dummies		Yes	Yes	Yes	Yes	Yes
Industry dummies		Yes	Yes	Yes	Yes	Yes
Firm-year obs.		515,163	515,163	515,163	515,163	515,163
Positive observations		38,218	38,218	38,218	38,218	38,218
Pseudo R ²		0.7115	0.7121	0.7144	0.7117	0.7120

Table 4: Robustness Tests

The results of the pooled Tobit regression model (1) with dividend payout ratio instead of leverage are presented in Column 1 of Table 4. Dividend payout ratio is the amount of dividend paid out scaled by book assets. The sample covers the 2004 to 2010 period. The dependent variable is the employee layoff rate. For brevity, we do not report the parameter estimates of the firm-specific variables, year and industry dummy variables. We use firm-level cluster-robust for heteroscedasticity standard errors. We report t-statistics in parentheses below the estimates of the different parameters.

We report the results of the second stage of the GMM instrumental variable regressions with endogenous variables leverage and average employee pay in Column (2) of Table 4. For brevity, we do not report the parameter estimates of the firm-specific variables, and industry dummy variables. We report the results of the Durbin-Wu-Hausman endogeneity test. The null hypothesis is that leverage and average employee pay are exogenous. We use robust standard errors clustered by firm to correct for potential heteroscedasticity and within-country dependence (Petersen (2009)). We also report the results of Hansen J Test of over-identifying restrictions. The null hypothesis of the Hansen J-test is that the overidentification restrictions are satisfied (Hansen (1982)). We report t-statistics in parentheses below the estimates of the different parameters.

We report the results of panel RE (random effects), BE (between effects), and FE (fixed effects) regression in the final three columns. We use firm-level cluster-robust for heteroscedasticity standard errors in the panel RE and FE regression models. For brevity, we do not report the parameter estimates of the firm-specific variables, year and industry dummy variables for the panel RE and BE regression models. We do not report the parameter estimates of the firm-specific variables, and year dummy variables for the panel FE regression model. We report t-statistics in parentheses below the estimates of the different parameters.

We define all variables in Section 4 of the paper. The parameter estimates with either ***, **, or * denote significance at the 1 % level, 5 % level, or 10 % level, respectively

		(1)	(2)	(3)	(4)	(5)
		Pooled Tobit	GMM	Panel RE	Panel BE	Panel FE
Dividend payout ratio $it-1$	+	0.129*** (11.14)				
Instrumented Leverage $it-1$	+		0.067*** (3.72)			
Instrumented Average Employee Pay it	+		-0.030*** (-7.26)			
Leverage $it-1$	+			0.001*** (5.30)	0.001*** (4.33)	-0.000 (-1.16)
Constant		0.124*** (4.04)	-0.059*** (-48.41)	-0.063*** (-37.95)	-0.009*** (-3.87)	-1.306*** (-51.22)
Firm control variables		Yes	No	No	No	No
One period lagged firm control variables		No	Yes	Yes	Yes	Yes
Year dummies		No	Yes	Yes	Yes	Yes
Industry dummies		Yes	Yes	Yes	No	Yes
Firm FE		No	No	No	Yes	No
Firm-year obs.		515,163	664,208	515,163	515,163	521,599
Positive observations		38,218				
Endogeneity test of Leverage			0.0000			
Endogeneity test of average employee pay			0.0000			
Hansen J-statistic			0.5508			
R ² -overall				0.1365	0.1361	0.1043
Pseudo R ²		0.7114				

Figure 1: The cross-partial derivative of the change in the marginal effect of the Works Council on the expected value of employee cuts at different levels of debt with 95% confidence intervals

We include the interaction term *leverage x Works Council* in the pooled Tobit regression model (1). We define leverage and the firm-specific variables in the pooled Tobit regression model (1) in Section 4. Due to space limitations and the difficulties in interpreting the interaction term in nonlinear models (see Norton, Wang and Ai (2004) and Karaca-Mandic, Norton and Dowd (2012)), we do not report the empirical results from equation 1 with the interaction terms. We present two graphs. The cross derivative is the change in the marginal effect of the leverage on the expected value of the employee layoffs conditional on being uncensored for firms with and without a Works Council when the remaining independent explanatory variables in the Tobit regression model (1) are kept at their sample mean values with 95% confidence intervals in Figure 1a. We test whether the differences between firms with and without a Works Council are statistically significant because the observed confidence intervals are only constructed for the point estimates, not for the differences between firms sorted on whether they have a Works Council. More precisely, the left graph does not account for the covariance between the differences of firms with and without a works council. To assess the differences, we compute the discrete marginal effects by comparing the differences between firms without and with a Works Council, with firms with a Works Council as the reference category (Figure 1b). We present the result of the cross derivative for the full sample of firms.

Figure 1a

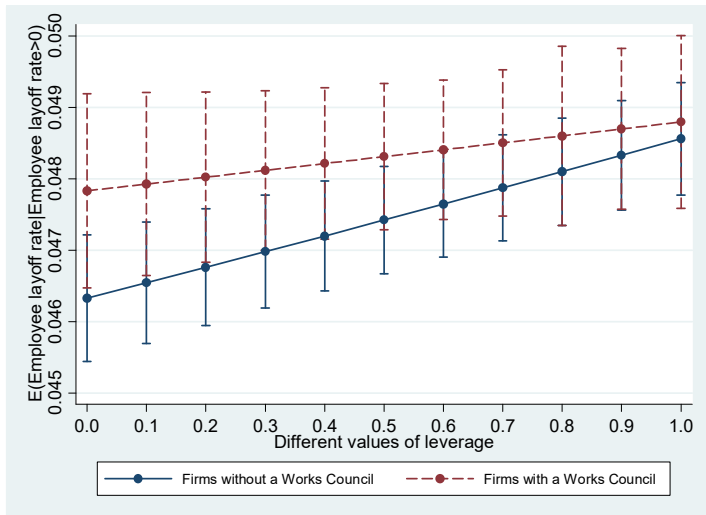


Figure 1b

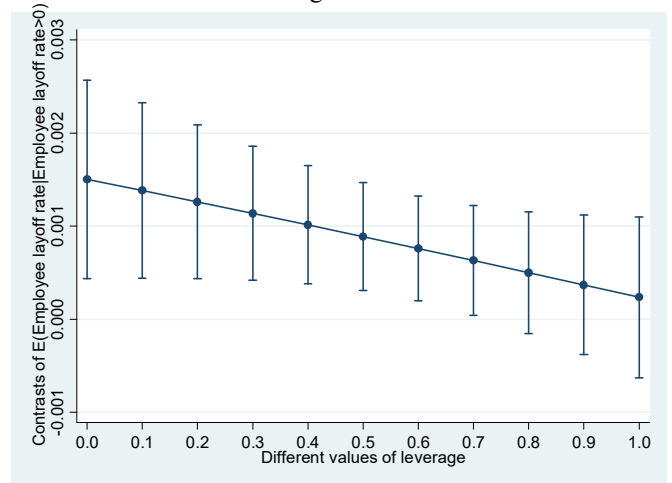


Figure 2: The cross-partial derivative of the change in the marginal effect of the Works Council on the predicted probabilities of workers dismissed by using the pre-pension system at different levels of debt with 95% confidence intervals

We include the interaction term *leverage x Works Council* in the pooled Tobit regression model (1). We define leverage and the firm-specific variables in the pooled Tobit regression model (1) in Section 4. We re-define our dependent variable as the ratio of dismissed FTE workers by using agreement-based pre-pension schemes to total FTE dismissed workers. Both the numerator and the denominator are scaled by the number of FTE employees at the previous sample year-end. This variable is also winsorized at the 1% and 99% tails. The number of firm-years observations significantly drops from 678,692 to 47,611. This is because the denominator of our dependent variable cannot be zero. Due to space limitations and the difficulties in interpreting the interaction term in nonlinear models (see Norton, Wang and Ai (2004) and Karaca-Mandic, Norton and Dowd (2012)), we do not report the empirical results from equation 1 with the interaction terms. We present two graphs. The cross derivative is the change in the marginal effect of the leverage on the expected value of the employee layoffs by using pre-pension schemes conditional on being uncensored for firms with and without a Works Council when the remaining independent explanatory variables in the Tobit regression model (1) are kept at their sample mean values with 95% confidence intervals in Figure 2a. We test whether the differences between firms with and without a Works Council are statistically significant because the observed confidence intervals are only constructed for the point estimates, not for the differences between firms sorted on whether they have a Works Council. More precisely, the left graph does not account for the covariance between the differences of firms with and without a works council. To assess the differences, we compute the discrete marginal effects by comparing the differences between firms without and with a Works Council, with firms with a Works Council as the reference category (Figure 2b). We present the result of the cross derivative for the full sample of firms.

Figure 2a

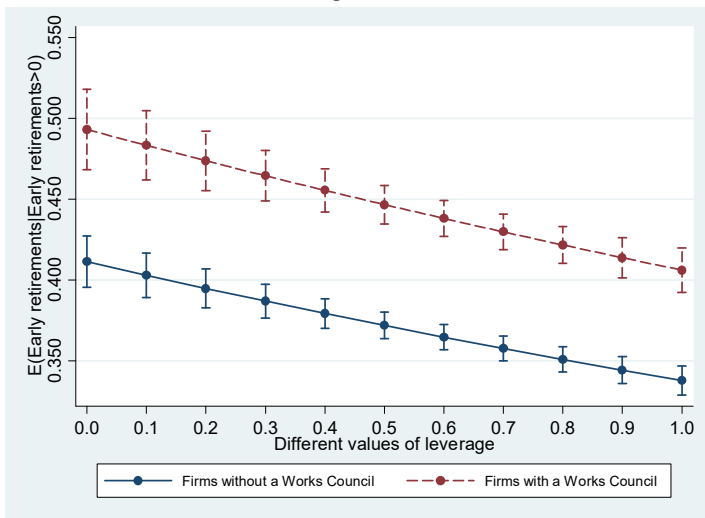


Figure 2b

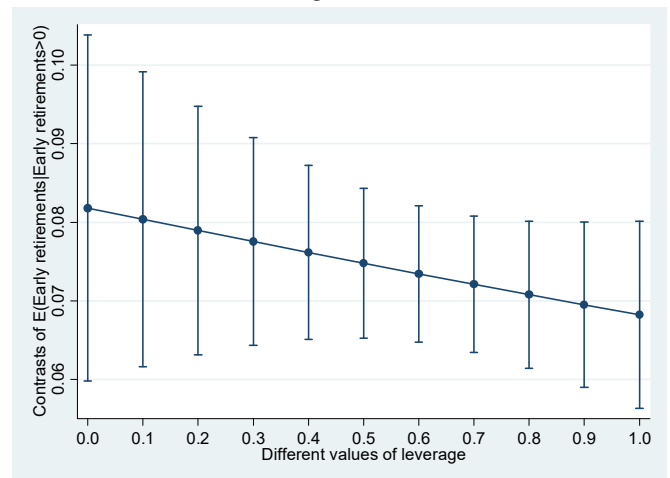


Table 5: What is fundamentally different between firms with or without a Works Council

Table 5 reports summary statistics for Belgian firms from 2004 to 2010 by the Works Council representation. Definitions of the variables are in Section 4 of this paper.

	Firms without a Works Council		Firms with a Works Council		p-val.
	Nobs	Mean	Nobs	Mean	
Leverage	669,016	0.70	9,676	0.62	0.000
Net leverage	669,016	0.60	9,676	0.58	0.004
Interest coverage ratio	669,016	13.58	9,676	24.54	0.000
Alternative leverage	669,016	0.71	9,676	0.64	0.000
Alternative net leverage	669,016	0.60	9,676	0.60	0.989
Employee Layoff rate	669,016	0.01	9,676	0.04	0.000
Average employee pay	669,016	10.45	9,676	10.85	0.000
Labor productivity	669,016	10.82	9,676	11.17	0.000
Share of permanent workers	669,016	0.94	9,676	0.94	0.055
Average number of FTE workers	669,016	11	9,676	158	0.000
Share of blue-collar workers	669,016	0.04	9,676	0.01	0.000
Firm age	669,016	2.63	9,676	3.30	0.000
Firm size	669,016	8.66	9,676	12.40	0.000
Z'-score	669,016	2.63	9,676	2.48	0.008
Profitability	669,016	0.04	9,676	0.04	0.006
Physical capital intensity	669,016	0.30	9,676	0.24	0.000

Table 6: Characteristics of the employee representation within the Works Council

Table 6 presents summary statistics of the determinants of employee coalition within the Works Council for all the sample firms with a Works Council from 2004 to 2010. The political and socio-economic determinants of the employee representation within the Works Council are defined in Section 5.

	Obs.	Mean	Std. Dev.	Min	Max
Panel A: The political determinants of the employee representation					
Number of different employee representation unions within the Works Council	9,676	3	0.76	1	4
Range of number of different employee representation unions within the Works Council	9,676	0.68	0.19	0.33	1.00
Dispersion of number of different employee representation unions within the Works Council	9,676	0.30	0.08	0.15	0.45
Panel B: The socio-economic determinants of the employee representation					
The gender effect of employee representatives					
A. Female representation within the employee coalition within the Works Council					
Share of female members within the employee representation within the Works Council	9676	0.49	0.30	0.00	1.00
Dispersion of the share of female members within the employee representation within the Works Council	9676	0.17	0.11	0.00	0.45
Average share of female members within the employee representation within the Works Council	9676	0.10	0.06	0.00	0.20
The range of the share of female members within the employee representation within the Works Council	9676	0.37	0.25	0.00	1.00
B. Educated female representation within the employee coalition within the Works Council					
Share of educated female members within the employee representation within the Works Council	9676	0.13	0.19	0.00	0.83
Dispersion of the share of educated female members within the employee representation within the Works Council	9676	0.05	0.07	0.00	0.31
Average share of educated female members within the employee representation within the Works Council	9676	0.15	0.21	0.00	0.83
The range of the share of educated female members within the employee representation within the Works Council	9676	0.24	0.36	0.00	1.00
Labor worker representation within the employee coalition within the Works Council					
Share of labor worker members within the employee representation within the Works Council	9676	0.38	0.30	0.00	1.00
Dispersion of the share of labor worker members within the employee representation within the Works Council	9676	0.15	0.13	0.00	0.58
Average share of labor worker members within the employee representation within the Works Council	9,672	0.39	0.31	0.00	1.00
The range of the share of labor worker members within the employee representation within the Works Council	9,672	0.29	0.30	0.00	1.00
Young worker representation within the employee coalition within the Works Council					
Share of young worker members within the employee representation within the Works Council	9,910	0.28	0.32	0.00	1.00
Dispersion of the young worker members within the employee representation within the Works Council	9,910	0.11	0.12	0.00	0.58
Average share of young worker members within the employee representation within the Works Council	9,672	0.29	0.33	0.00	1.00
The range of the share of young worker members within the employee representation within the Works Council	9,672	0.20	0.28	0.00	1.00

Figure 3: The effect of Characteristics of the employee representation within the Works Council on the positive relation between leverage and employee layoffs

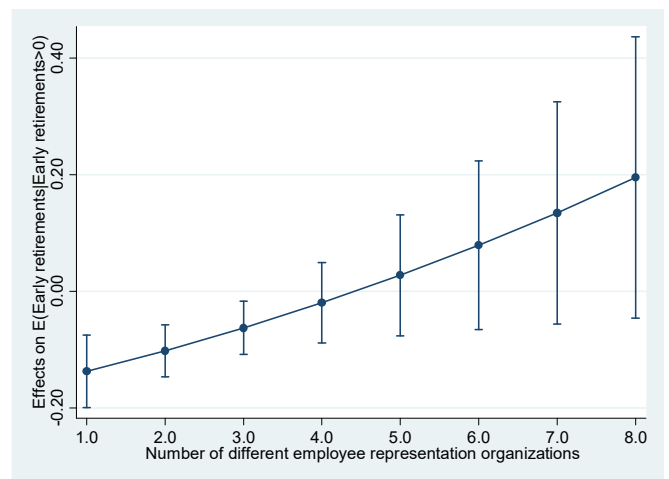
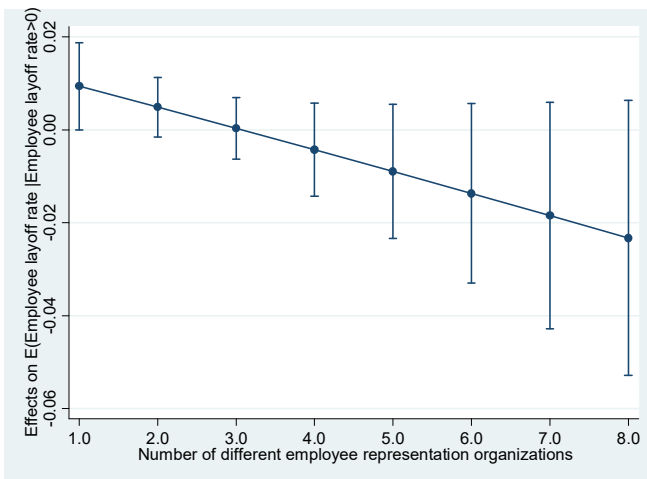
We include the interaction term *leverage x political or socio-economic determinant* in the pooled Tobit regression model (1). We define the political and socio-economic determinants in Section 5 in the paper. We define leverage and the firm-specific variables in the pooled Tobit regression model (1) in Section 4. Due to space limitations and the difficulties in interpreting the interaction term in nonlinear models (see Norton, Wang and Ai (2004) and Karacamandic, Norton and Dowd (2012)), we do not report the empirical results from equation 1 with the interaction terms. We next calculate cross derivative of the interaction term. The cross derivative is the change in the marginal effect of leverage on the expected values of the employee layoffs conditional on being uncensored at different values of political or socio-economic determinants when the remaining independent explanatory variables in the pooled Tobit regression model (1) are kept at their sample mean values with 95% confidence intervals. We present the result of the cross derivative for the full sample of firms.

1. The effect of political determinants of the employee representation within the Works Council on the positive relation between leverage and employee layoffs

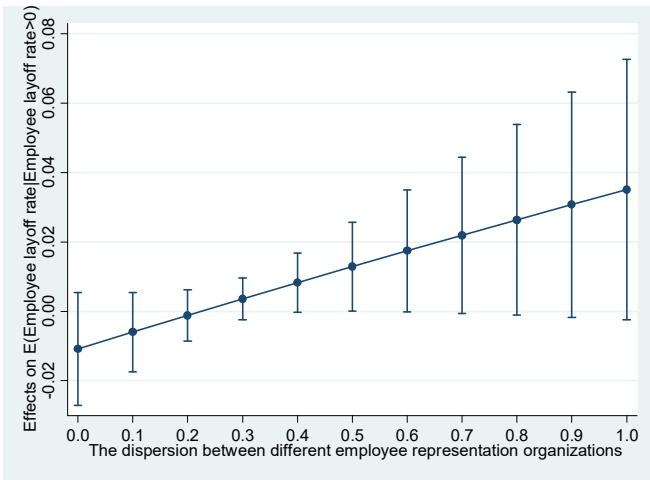
Panel A: The number of different employee representative parties within the Works Council

Employee layoff rate

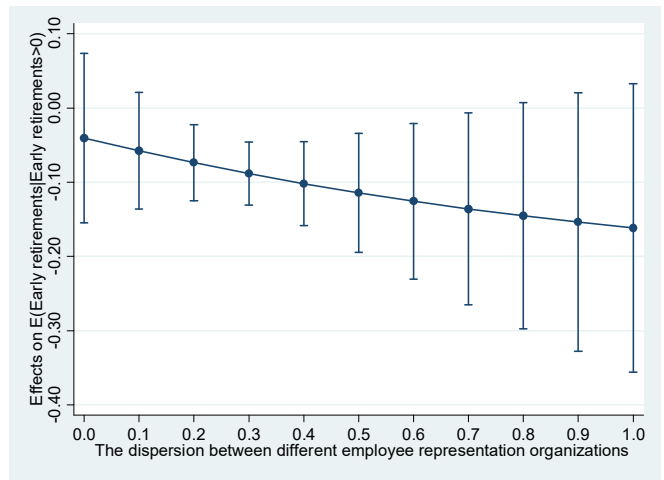
Employee layoffs by using agreement-based pre-pension schemes



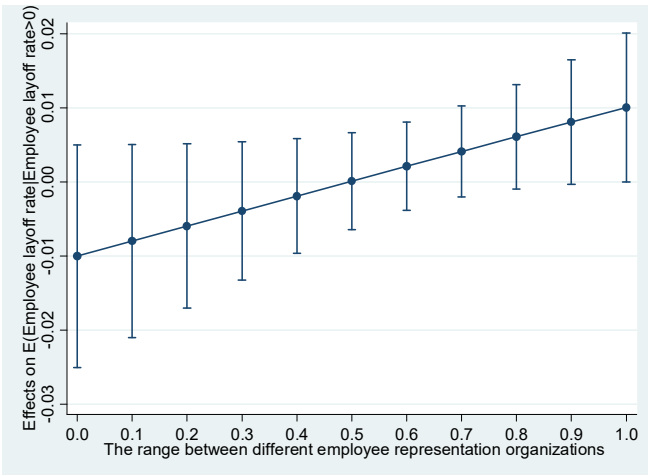
Panel B: The dispersion of the shares of the employee representative by party within the Works Council
Employee layoff rate



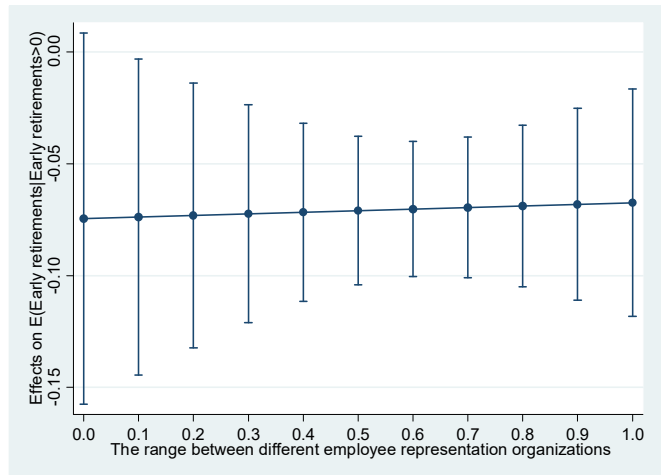
Employee layoffs by using agreement-based pre-pension schemes



Panel C: The range between the shares of the different employee representatives by party within the Works Council
Employee layoff rate



Employee layoffs by using agreement-based pre-pension schemes



2. The effect of the socio-economic background determinants of the employee representative coalition

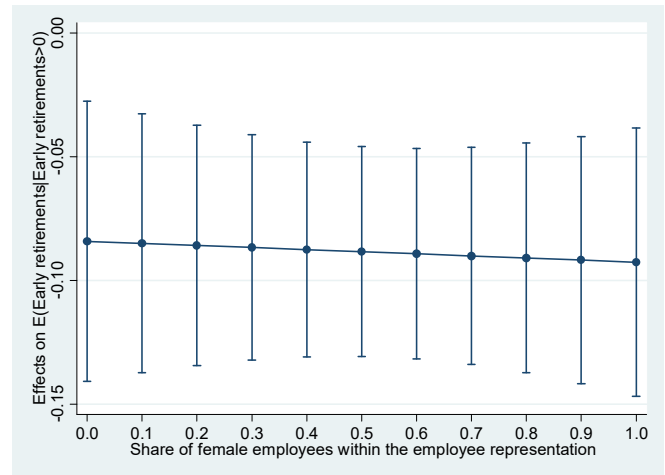
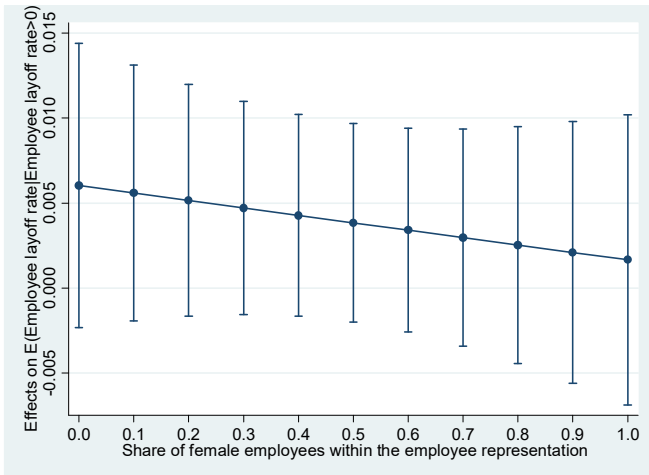
2.1. The gender effect of employee representatives

2.1.1. Female representation within the employee coalition within the Works Council

Panel A: The share of female representatives within the employee representation within the Works Council

Employee layoff rate

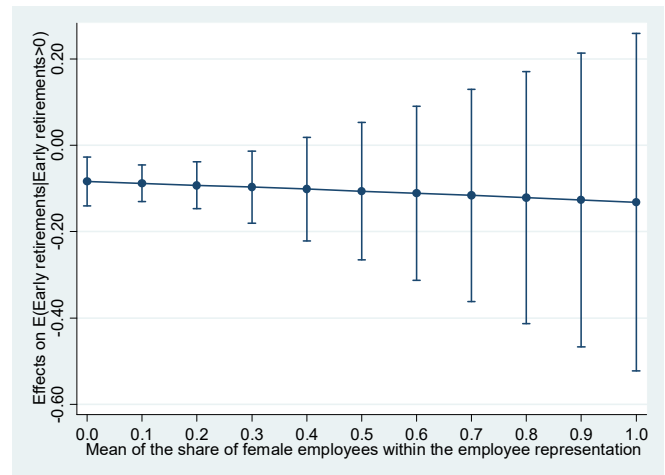
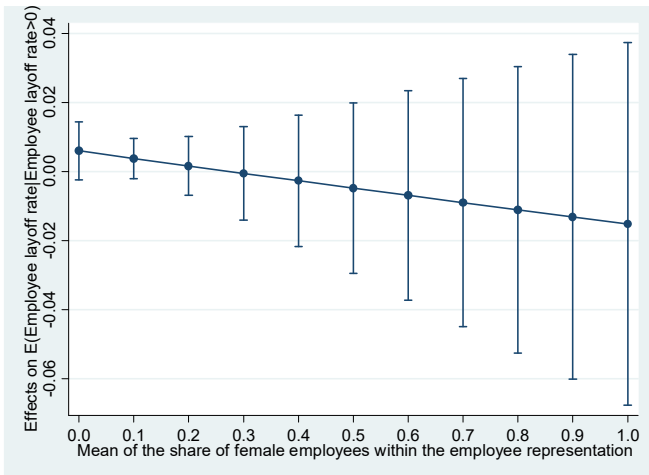
Employee layoffs by using agreement-based pre-pension schemes



Panel B: The average share of female representatives by party within the employee representation within the Works Council

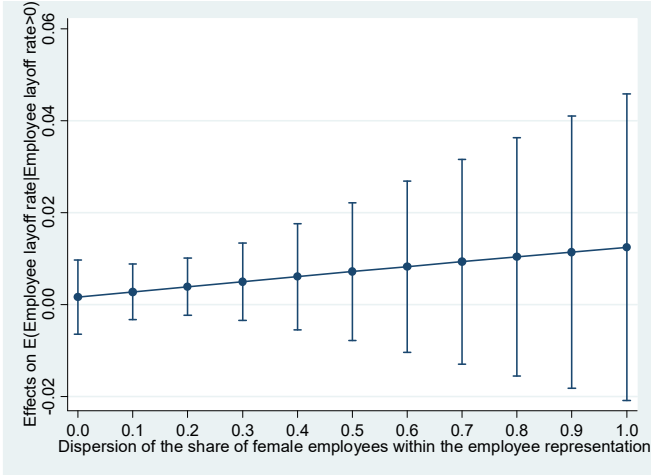
Employee layoff rate

Employee layoffs by using agreement-based pre-pension schemes

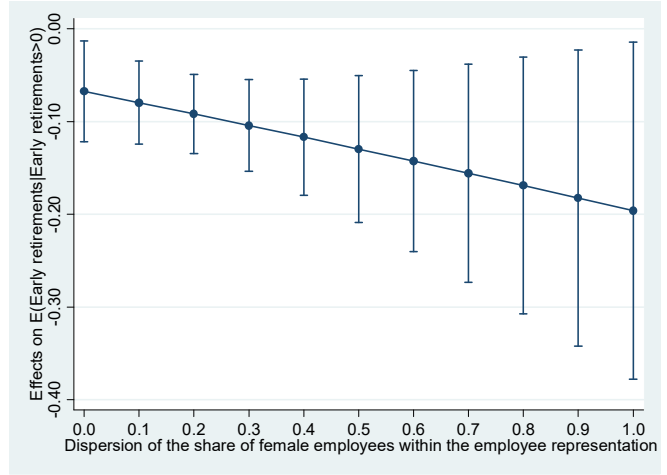


Panel C: The dispersion of share of female representatives by party within the employee representation within the Works Council

Employee layoff rate

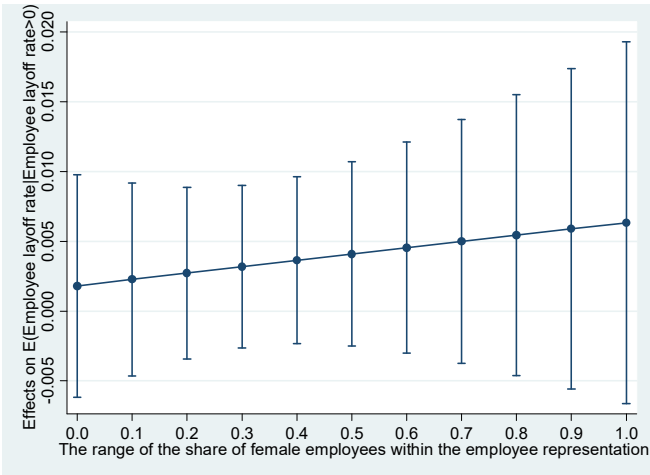


Employee layoffs by using agreement-based pre-pension schemes

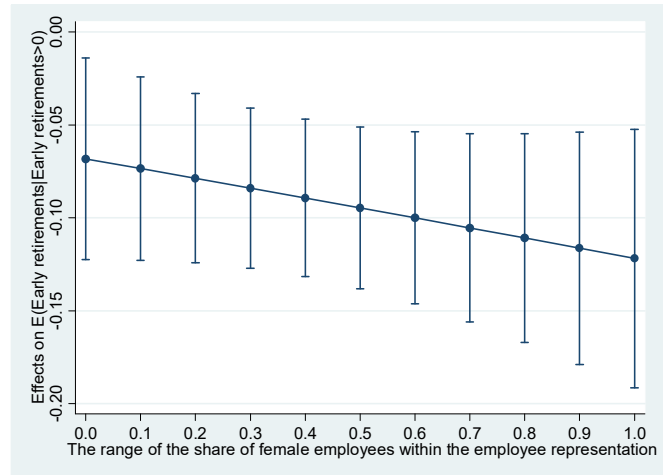


Panel D: The range of share of female representatives by party within the employee representation within the Works Council

Employee layoff rate



Employee layoffs by using agreement-based pre-pension schemes

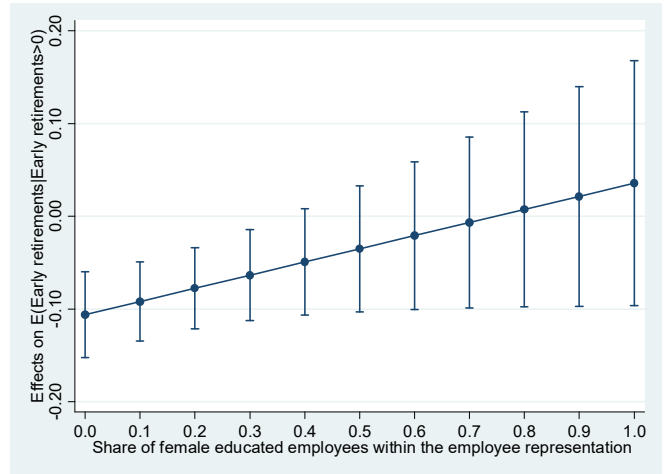
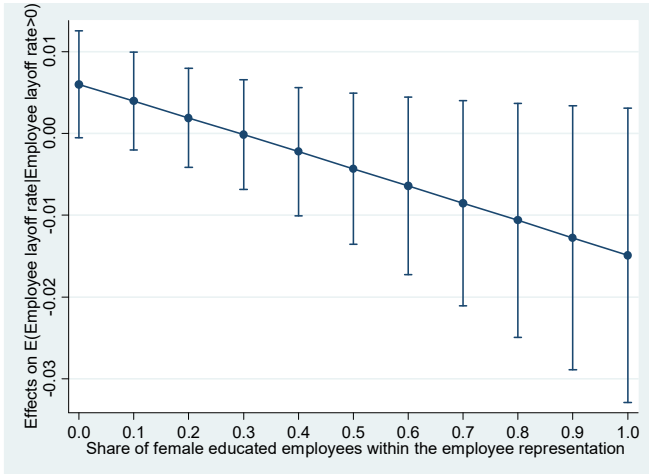


2.1.1. Educated female representation within the employee coalition within the Works Council

Panel A: The share of female educated representatives within the employee representation within the Works Council

Employee layoff rate

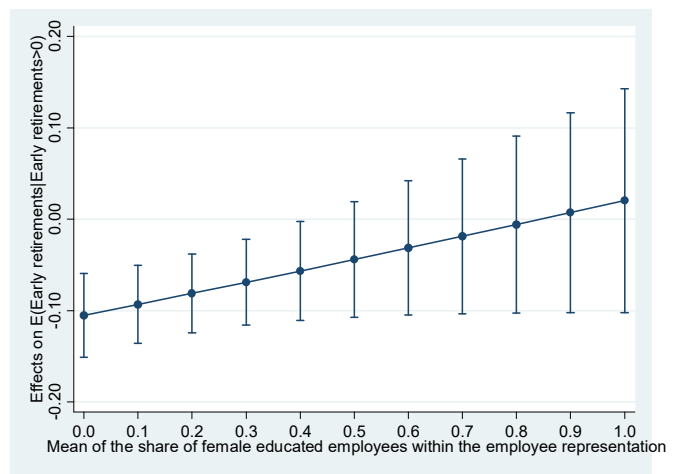
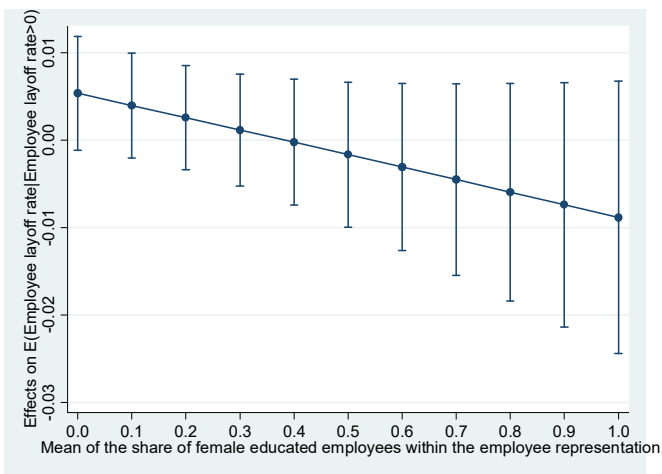
Employee layoffs by using agreement-based pre-pension schemes



Panel B: The average share of female educated representatives by party within the employee representation within the Works Council

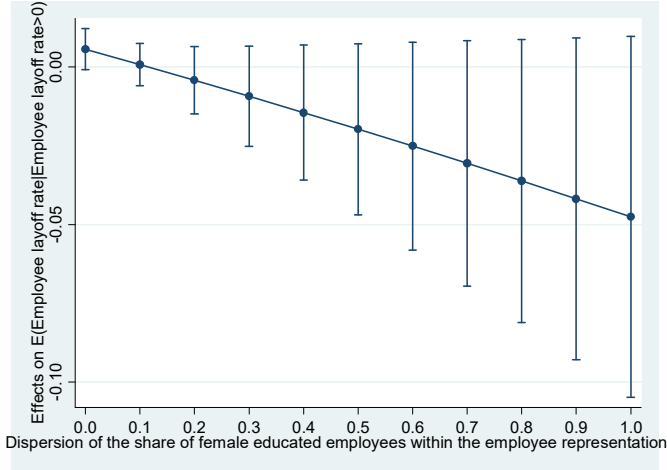
Employee layoff rate

Employee layoffs by using agreement-based pre-pension schemes

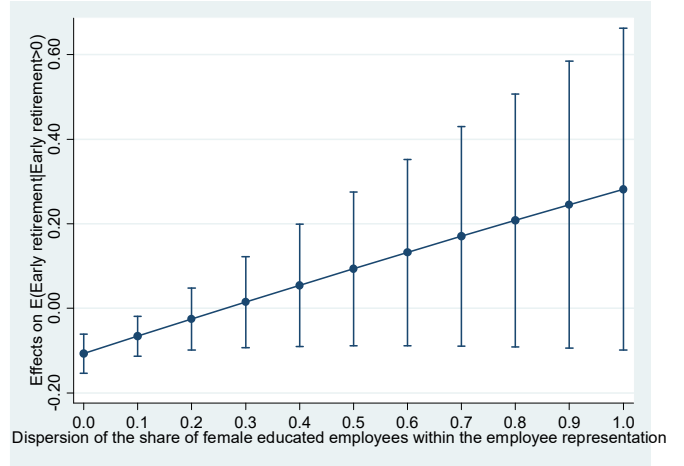


Panel C: The dispersion of share of female educated representatives by party within the employee representation within the Works Council

Employee layoff rate

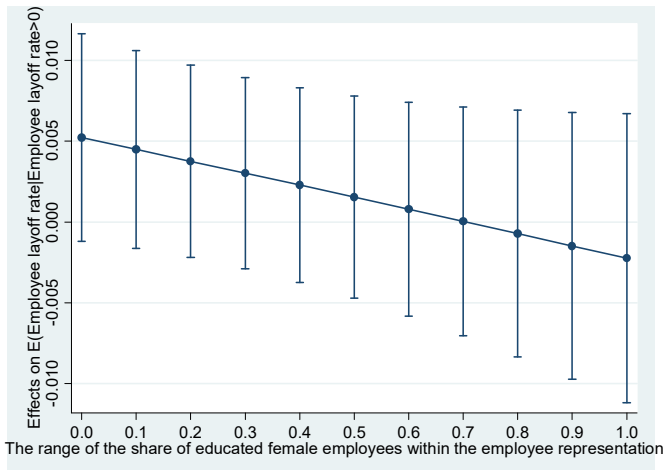


Employee layoffs by using agreement-based pre-pension schemes

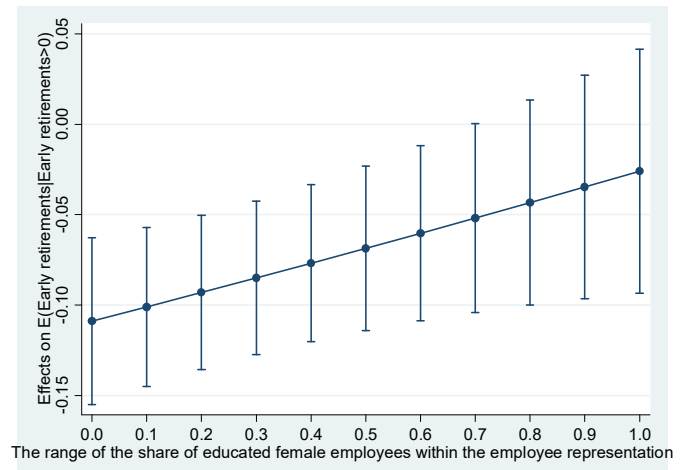


Panel D: The range of share of educated female representatives by party within the employee representation within the Works Council

Employee layoff rate



Employee layoffs by using agreement-based pre-pension schemes



2. The effect of the socio-economic background determinants of the employee representative coalition

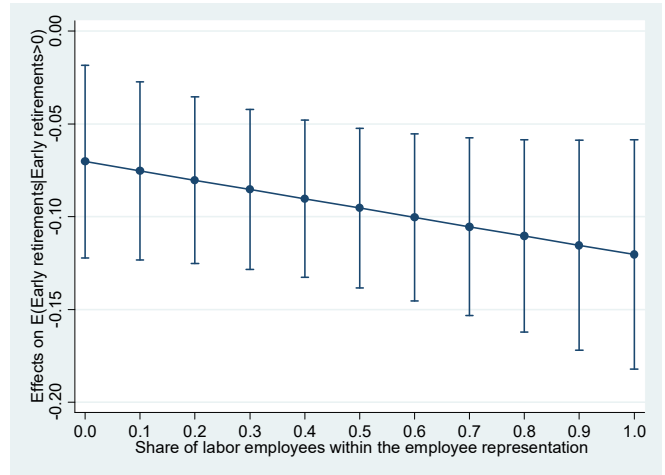
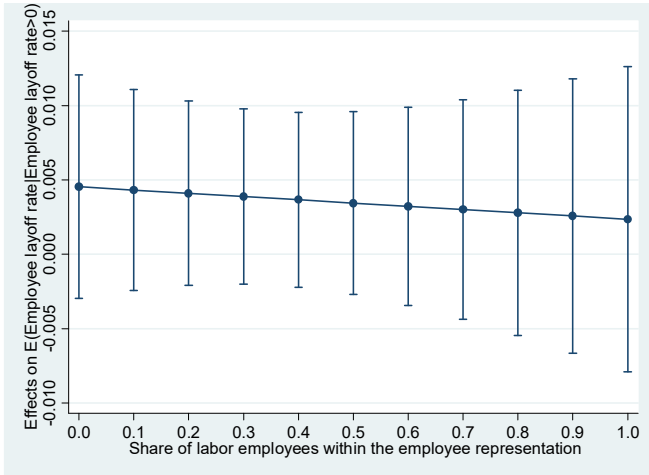
2.2. The socio-economic background effect of employee representatives

2.2.1. Labor worker representation within the employee coalition within the Works Council

Panel A: The share of labor worker representatives within the employee representation within the Works Council

Employee layoff rate

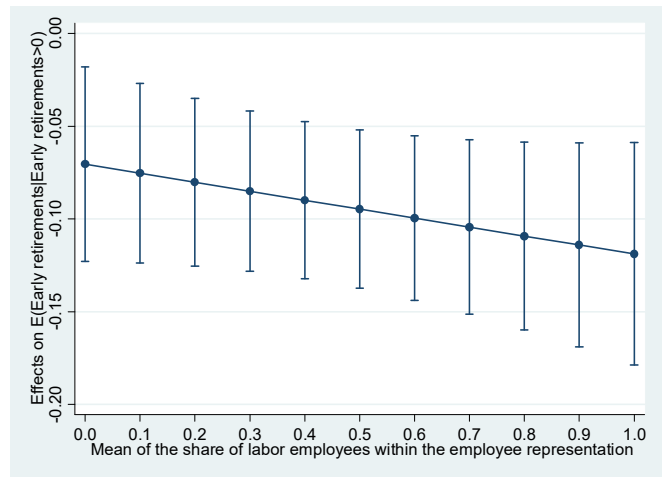
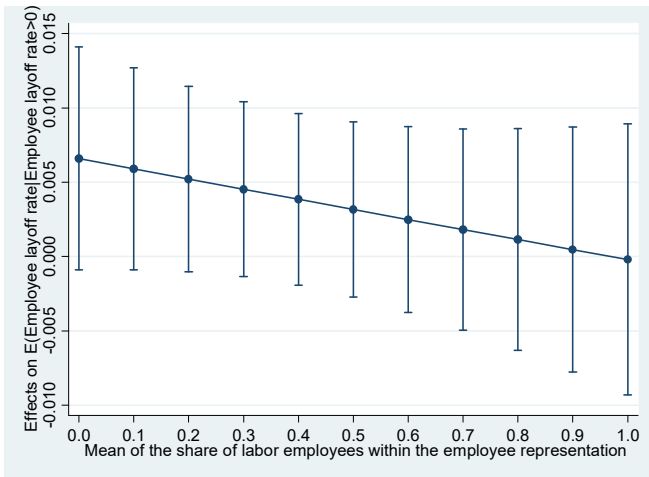
Employee layoffs by using agreement-based pre-pension schemes



Panel B: The average share of labor worker representatives by party within the employee representation within the Works Council

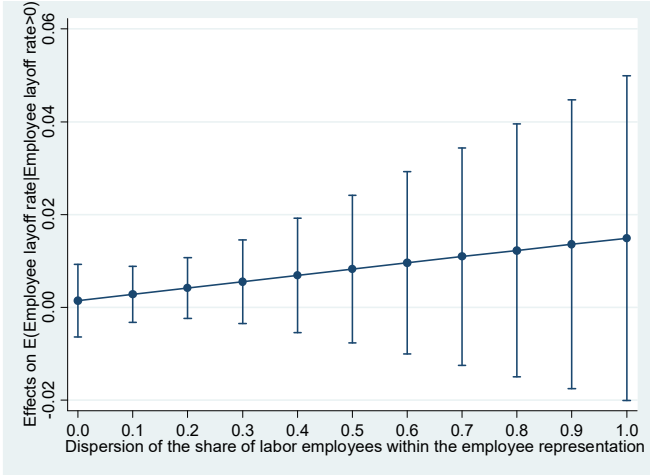
Employee layoff rate

Employee layoffs by using agreement-based pre-pension schemes

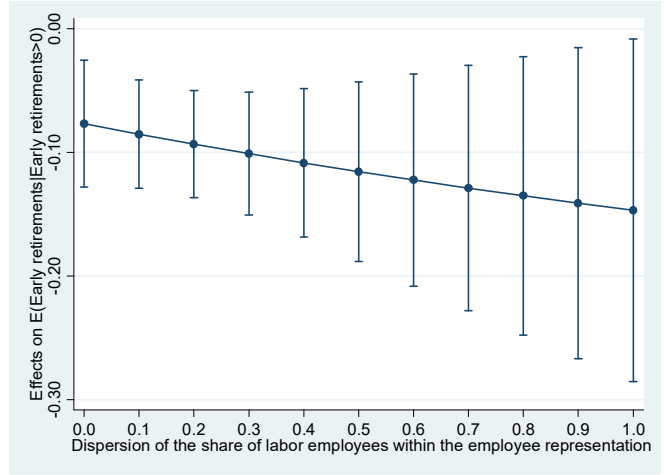


Panel C: The dispersion of share of labor worker representatives by party within the employee representation within the Works Council

Employee layoff rate

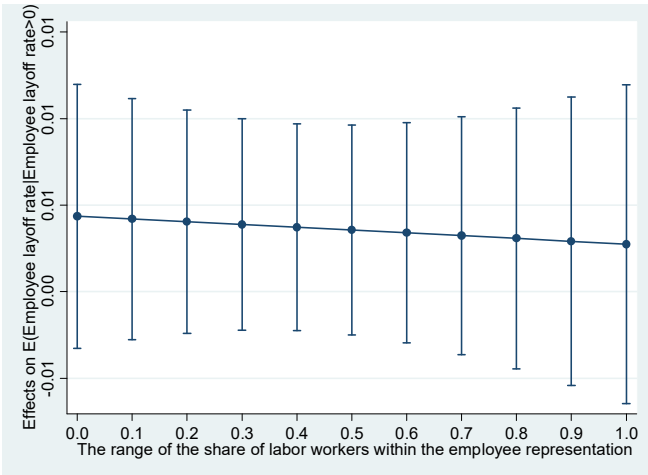


Employee layoffs by using agreement-based pre-pension schemes

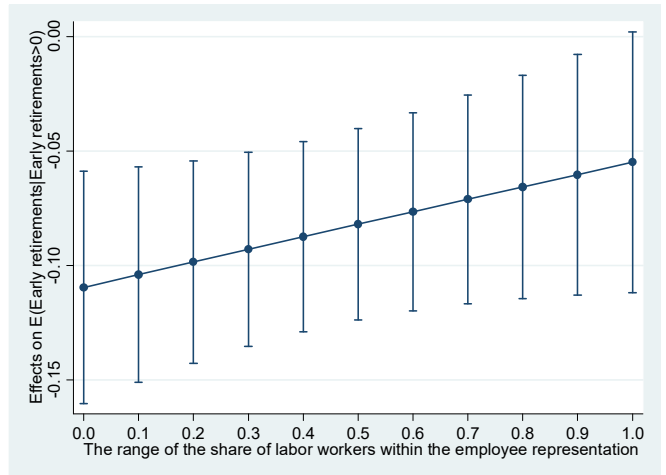


Panel D: The range of share of labor worker representatives by party within the employee representation within the Works Council

Employee layoff rate



Employee layoffs by using agreement-based pre-pension schemes

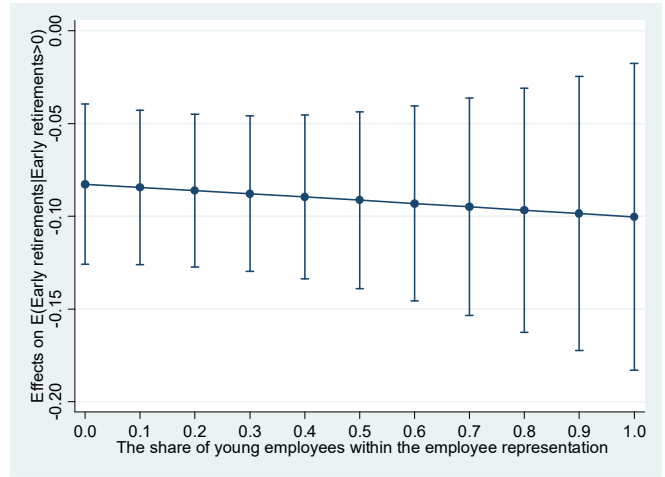
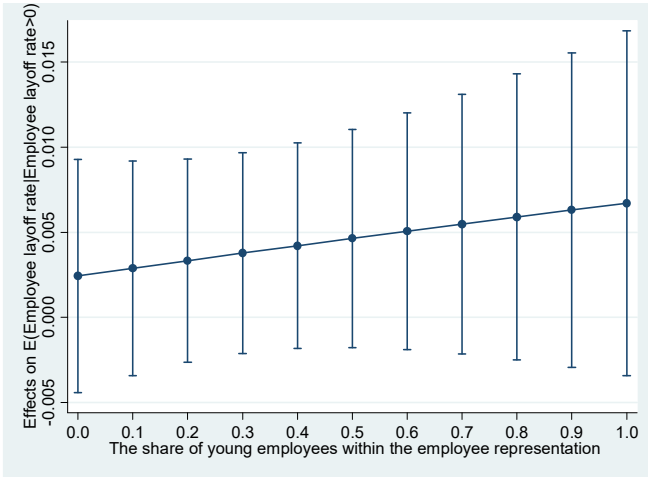


2.2.2. Young worker representation within the employee coalition within the Works Council

Panel A: The share of young worker representatives within the employee representation within the Works Council

Employee layoff rate

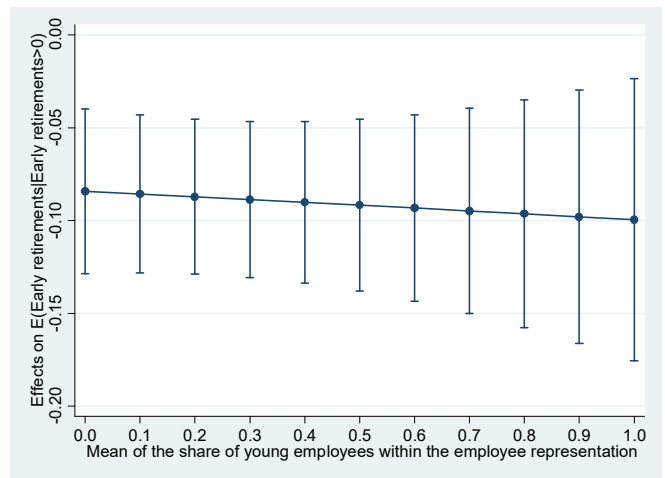
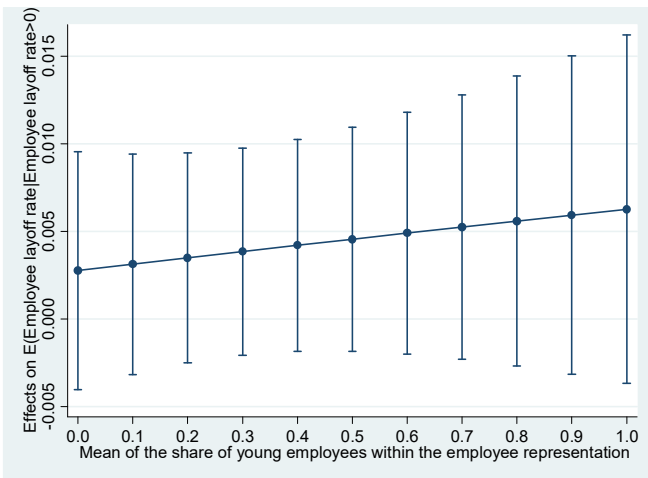
Employee layoffs by using agreement-based pre-pension schemes



Panel B: The average share of young worker representatives by party within the employee representation within the Works Council

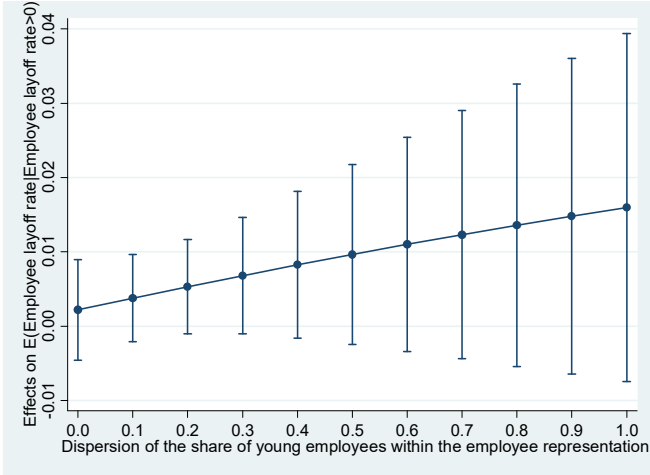
Employee layoff rate

Employee layoffs by using agreement-based pre-pension schemes

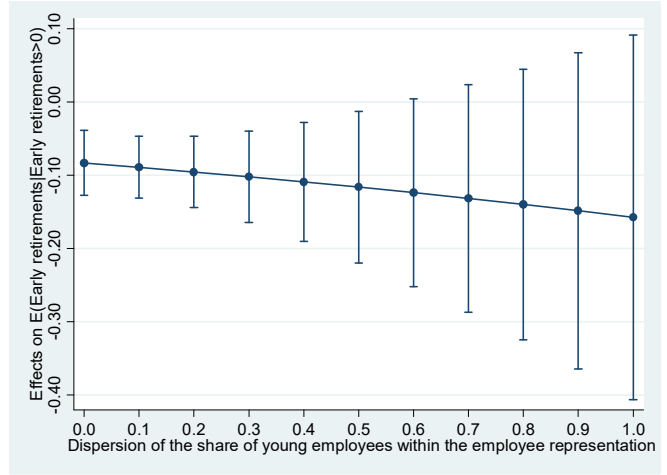


Panel C: The dispersion of share of young worker representatives by party within the employee representation within the Works Council

Employee layoff rate

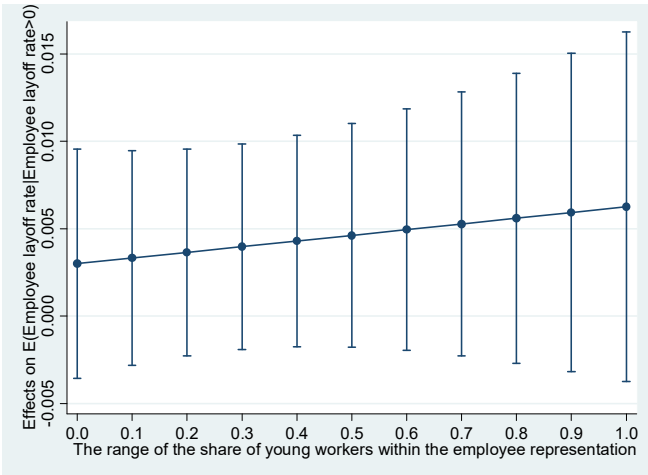


Employee layoffs by using agreement-based pre-pension schemes



Panel D: The range of share of young worker representatives by party within the employee representation within the Works Council

Employee layoff rate



Employee layoffs by using agreement-based pre-pension schemes

