

Temporary employment, employee representation, and employer-paid training: a comparative analysis

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Abstract

This article examines the moderating role of employee representation on the chances of receiving employer-paid training among temporary and permanent workers from a cross-country, comparative perspective. The impact of employee representation is considered at the individual level and at the country level. The statistical analyses are performed using data from the 2015 European Working Conditions Survey and multilevel modelling. Our results suggest that temporary workers receive less employer-paid training than permanent workers. Access to employee representation increases workers' access to employer-paid training, regardless of contract type. At the country level, we found that the training-related benefits from union coverage are larger for permanent than for temporary workers. Our findings suggest that employee representation in the workplace could operate as an equalizer between temporary and permanent workers; while at the country level, the lobbying effect of union coverage is more beneficial for permanent workers.

Introduction

In recent years, there has been an increasing interest in non-standard forms of employment, and how they affect skills development (Gallie *et al.*, 2017; Rubery *et al.*, 2018). Since the 1970s, globalization processes have raised demand for labour market flexibility across the European countries, based on the premise that flexibility would reduce unemployment, increase competitiveness, and facilitate adjustments to macroeconomic shocks (DiPrete *et al.*, 2006). The resulting changes in labour law legislation have made it easier for employers to hire workers on temporary contracts. While hiring workers on temporary contracts may have some short-term benefits for employers, the consequences for workers are less clear. Previous research has even suggested that temporary employment is a new dimension of social inequality (DiPrete *et al.*, 2006; Barbieri, 2009). Specifically, the processes related to the increasing incidence of temporary employment have contributed to labour market segmentation, with labour markets divided into two different segments: 'a "core" of relatively secure and privileged employees and an insecure "periphery"' (Gallie, 2007: p. 5).

The structural changes on the labour markets have also contributed to a growing demand for adult learning and skills development. Most skills development takes place at work (Gallie, 2007). Therefore, receiving employer-paid training is important for workers, as it enables workers to upgrade their skills, receive training that is more likely to be recognized by other employers, and thus, improve their labour market position (Kalleberg, 2009). However, employers may choose either to invest in the whole workforce, or to focus exclusively on strategic subgroups. Previous research has shown that the levels of training provided are lower for temporary than for permanent workers (Forrier and Sels, 2003), supporting the claim that employers favour a strategic subgroup. Limited training opportunities are associated with poorer career prospects for workers; and may be particularly harmful for temporary workers, who tend to be younger, less skilled, less experienced, and at higher risk of unemployment than permanent workers (McTier and McGregor, 2018). Thus, an employer's decision to invest only in particular subgroups of workers could exacerbate the already existing labour market inequalities.

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The extent to which the training opportunities offered to temporary and permanent workers differ, may depend on the institutional setting (Dieckhoff, Jungblut and O'Connell, 2007). One central institution that can influence such differential treatment is employee representation, usually in the form of a trade union or a works council, which indicates 'the power resources of labour relative to business and other collective actors' (Brady, Baker and Finnigan, 2013: p. 875). Through their presence in the workplace and bargaining power, employee representatives can affect the incidence and distribution of training across groups of workers. In principle, employee representatives should try to improve the working conditions for all employees. However, trade unions have traditionally focused on workers with standard employment contracts—i.e. 'full-time workers in long-term work'—who are likely to remain members of the union, and to continue to pay membership fees (Gumbrell-McCormick, 2011: p. 297). Thus, the impact of the employee representation in the workplace on access to training among temporary workers may be limited.

This article makes three contributions to the literature. First, we provide a theoretically informed discussion of how the effects of employee representation can operate differently at different levels. This article considers the impact of employee representation (i) at the individual level, measured by access to representatives of a trade union or a work council at the workplace; and (ii) at the country level, measured by union coverage (Visser, 2003). Casey and Delaney (2021) highlight the need to distinguishing between how unions operate at these different levels: (i) by participating in individual negotiations in the workplace, and (ii) by involvement in the political dialogue at the country level. This distinction has not been theorized or empirically implemented in research on training. We argue that at the individual level, workers' access to employee representatives can improve workers' training opportunities by getting support in negotiating opportunities for receiving training with the employer. At the country level, the mechanisms pertain to negotiations of trade unions with the government about policies that affect training access and distribution. Furthermore, unions' objectives and strategies differ between these two levels. While unions may lobby against the use of temporary contracts in the political dialogue at the country level, employee representatives at the workplace may adapt a more pragmatic approach by accepting the use of temporary contracts as a buffer (Olsen, 2005). Thus, it is important to consider the effects of employee representation on workers' working conditions at different levels.

Second, previous economic research has scrutinized the determinants of all types of training, without

specifically focusing on employer-paid training. This is an important omission, because as several sociological studies have emphasized, employers' investments in training play an important role in shaping labour market inequalities. Also, employers' investments in training account for most training activities at the labour market and are seldom compensated by the employee's own investments (Sauermann, 2006). This article provides new insights into the determinants of employers' decisions to invest in training for workers with different types of employment contracts.

Third, most previous studies that examined employee representation and training focused on country-specific contexts. This article takes a cross-country comparative perspective. The empirical analysis is based on European data from the sixth round of Eurofound's European Working Conditions Survey (EWCS) conducted in 2015 (Eurofound, 2015), including 35 countries. Hence, the results from this article are generalizable to many European countries.

Theory and Hypotheses

Employment Contracts and Training

Sociological research on non-standard employment has been inspired by the labour market segmentation theory, which suggests that the labour market includes different segments and that individual workers face unequal working conditions, career opportunities, and wages depending on which segment they belong to (Doeringer and Piore, 1971; Kalleberg and Sorensen, 1979). The primary segment is characterized by relatively secure jobs with high wages, good working conditions, and good career prospects; while the secondary segment is characterized by insecure jobs with low wages and poor working conditions (Giesecke and Groß, 2003). Workers can find it difficult to move from one segment to another, however, the opportunities and barriers to mobility vary depending on the societal context. In Southern Europe, there is a two-tier labour market with labour market entrants, women, and immigrants overrepresented in the secondary segment (Barbieri, 2009). In continental Europe, labour market segmentation is primarily skill-based (Gebel, 2010). In contrast, the UK labour market is less segmented as the protection of permanent contract is lower (Scherer, 2004). Thus, training opportunities may be less dependent on the type of contract. Against this background, to further the theoretical understanding of the mechanisms and consequences of segmentation, comparative studies may be instrumental.

Whether firms invest in workforce training depends on their expected gains. These gains are higher when the trained workers become more productive as a result of training, and when the anticipated payback period is

long, i.e. ‘the expected time the worker will stay within the firm after receiving training’ (Akgündüz and van Huizen, 2015: p. 510). Accordingly, the economic risk of investing in training for temporary workers is higher because they usually remain employed at the same firm for a shorter period (Akgündüz and van Huizen, 2015). This could mean lower chances for training among temporary workers. However, employers may use temporary contracts as screening devices (Gagliarducci, 2005). If temporary contracts are predominantly used as screening devices, temporary workers may have higher chances for training compared to permanent workers, because employers will be willing to invest in temporary workers as they aim to retain these workers and upgrade their contractual arrangement.

To conclude, following labour market segmentation theory, having a temporary contract often implies a penalty effect, hence, we hypothesize that temporary workers have a lower probability of receiving employer-paid training than workers with permanent contracts (*Hypothesis 1a*). However, following the screening device scenario, temporary workers can be expected to have a higher probability of receiving employer-paid training than workers with permanent contracts (*Hypothesis 1b*).

The Impact of Employee Representation

The disadvantage of temporary workers may vary depending on the institutional context. The power resource theory (Stephens, 1979; Korpi, 1983) observes that ‘institutions and power relations between collective actors fundamentally shape inequalities’ and ‘organize the distribution of resources, regulate risks, allocate opportunities and socialize normative expectations’ (Brady, Baker and Finnigan, 2013: p. 874). Accordingly, the power resource theory could be used to explain the role of employee representation in shaping career chances and inequalities in access to training in different groups of workers.

Employee representation can influence training opportunities through several channels. First, employee representatives can organize workers and communicate their demands to improve access to training directly to the employer (Booth, Francesconi and Zoega, 2003). Second, employee representation may influence organizational changes by customizing labour demand to the skills of the current employees, thereby forcing employers to recruit internally (Streeck, 2005). Employee representation can also increase wage compression, making it more likely that employers can afford to retain workers (Booth, Francesconi and Zoega, 2003). Thus, workplaces with employee representation tend to have more stable employment conditions with lower turnover (Freeman and Medoff, 1984); and, this can have an indirect positive impact on training

participation. Based on these observations, we expect that employee representation increases the probability of receiving employer-paid training (*Hypothesis 2a*).

Employee representation affects training opportunities not just at the individual level, but also at the country level, as reflected by union coverage. At the country level, unions influence the policy agenda by engaging in the social dialogue and communicating with governmental institutions (Wiß, 2017), using these channels to lobby for training policies with governments and employer organizations (Mustchin, 2012). Unions can also engage in collective bargaining on a national level to regulate firms’ training policies and reinforce fiscal policies that encourage employers’ investments in training (Cedefop and Eurofound, 2009). Because of these mechanisms, union coverage can have a contextual effect that also affects workers in firms without employee representation (VanHeuvelen and Brady, 2021). Thus, union coverage can be conceptualized as an indicator of a country’s egalitarian institutional context (VanHeuvelen and Brady, 2021), which could improve working conditions of all workers. Based on this reasoning, we hypothesize that a higher level of union coverage will increase the probability that workers will receive employer-paid training (*Hypothesis 2b*).

The benefits from union coverage for opportunities to receive training may vary across contexts. According to the Varieties of Capitalism (VoC) literature, the architecture of the industrial relation systems, and thus the training-related benefits from union activities, may follow three ideal types (Estevez-Abe, Iversen and Soskice, 2001; Hall and Soskice, 2001). One of these types can be observed in the liberal market economies (LMEs) (e.g. UK and Ireland), a different industrial relation system functions in the coordinated market economies (CMEs) (e.g. Germany, Belgium, and Denmark) and one in the mixed market economies (MMEs) (e.g. France, Italy, Spain, and Portugal). In the LMEs, unions are generally weak due to less centralized bargaining. In the CMEs, unions have a stronger impact on the whole labour market, due to industry-wide collective agreements (Hall and Soskice, 2001). In the MMEs, the organizational structure and political effects are stronger than in the LMEs, but unions are generally weak at the firm level due to lower presence in small or medium sized enterprises and lower level of coordination compared to the CMEs (Molina and Rhodes, 2008). Additionally, legal extensions of collective agreements can also increase union effectiveness, as is the case in France (Bosch, Mayhew and Gautié, 2010). Countries also differ in the degree to which trade unions go beyond the traditional areas of negotiations, engage in debates and, lobbying related to training (Cedefop and Eurofound, 2009). This implies that the impact of union coverage on training chances may be

conditional on other aspects of the architecture of the industrial relation system, such as collective bargaining coverage or the degree to which trade unions engage in establishing training policies.

Insider-Outsider Effect

While employee representation may have a positive impact on access to training, the benefits of such representation are not necessarily universal. In principle, in line with the power resource theory, unions can reduce inequalities in access to training by engaging in political discussions and lobbying for legislation that improves the rights and job security of all workers. Indeed, empirical research documents trade union initiatives towards equal treatment of disadvantaged and vulnerable employees (Heyes and Rainbird, 2011; Wiß, 2017). However, to protect their institutional role in the policy-making process, unions are forced to make strategic choices and compromise on the flexibility for some workers when negotiating with the government and employers. This 'second-best solution' for unions will allow them to maintain their institutional influence on labour market policies and in relation to employers, while simultaneously protect their members, but comes at the cost of reproducing a two-tier pattern on the labour market (Davidsson and Emmenegger, 2013: p. 342). The insider-outsider theory can be used to explain the impact of trade unions on different types of workers (Lindbeck and Snower, 1989). The insiders are the experienced workers who have greater firm-specific knowledge, and who have better access to employee representation that protects their interests. In contrast, the outsiders lack these advantages. Thus, the insider-outsider theory challenges the idea of trade unions as a collective voice for all workers. Instead, trade unions are perceived as insider organizations that favour the interests of workers in the primary segment.

Specifically, to protect their core members (i.e. permanent workers) employee representatives can accept or encourage the use of temporary workers as a buffer while increasing the cost of dismissing permanent workers (Olsen, 2005; Salvatori, 2009). This can have an indirect effect on the distribution of employer-paid training by strengthening firms' incentives to invest in training for permanent workers. Furthermore, temporary workers tend to be excluded from unions' organizational structures and their voting and election systems, and because of this, employee representatives may be unaware of their specific needs (Kerkhof, Winder and Klandermans, 2005; Simms et al., 2018). Following this line of reasoning, we expect that the positive effect of employee representation on receiving employer-paid training will be stronger among permanent workers than for temporary workers (*Hypothesis 3a*).

At the country level, in the policy debates with the government, trade unions tend to give less priority to temporary workers compared to permanent workers (Davidsson and Emmenegger, 2013). In addition, policies negotiated by trade unions include fiscal incentives for employer-paid training (Cedefop and Eurofound, 2009). Such policies may reinforce the inequality between temporary and permanent workers because fiscal incentives increase the share of employers with limited resources in the overall pool of firms offering training. Such firms tend to offer training selectively, giving priority to permanent workers. Furthermore, temporary workers tend to be under-represented in the organizational structures of trade unions, and consequently, their needs and interests may be less communicated in the policy dialogue at the national level (Meardi, Simms and Adam, 2021). In line with this perspective, we expect that the training-related benefits associated with union coverage measured at the country level will be greater for permanent workers than for temporary workers (*Hypothesis 3b*).

Previous Research

Several single-country studies indicate that temporary employment has a negative effect on employer-provided training (for instance, see Forrier and Sels, 2003; Hoque and Kirkpatrick, 2003; Albert, García-Serrano and Hernanz, 2005; Akgündüz and van Huizen, 2015). However, as the results from these studies were limited to specific country contexts, they cannot be generalized to other societies. Systematic analyses of cross-country differences in access to employer-paid training among temporary and permanent workers are scarce. Arulampalam, Booth, and Bryan (2004) found a negative relationship between temporary employment and training opportunities in five countries; however, the analysis did not consider cross-country heterogeneity due to differences in the institutional context. Furthermore, Cutuli and Guetto (2013) examined the chances of receiving training among temporary workers across different welfare state regimes. The findings showed that temporary workers have a substantially lower probability of participating in training than permanent workers. However, when controlling for firm-level, job-related, and individual characteristics, the effect was found to be statistically significant only in the Nordic countries. While Cutuli and Guetto (2013) provided a number of important insights into this issue, they analysed all forms of training, and did not distinguish between employer-funded and other forms of training. In addition, the authors did not attempt to identify the specific aspects of institutional settings that contributed to differences in access to training among workers with different employment contracts.

Regarding the impact of employee representation on overall access to training, the conclusions are mixed. Some studies have found a positive relationship between union coverage and access to work-related training (Arulampalam and Booth, 1998; Booth, Francesconi and Zoega, 2003). Vogtenhuber (2015) reported a positive relationship between access to training and union density. However, Hoque and Bacon (2008) found no significant relationship between union density and training opportunities.

In sum, previous research shows that temporary workers have lower chances of receiving training than permanent workers, and that overall, employee representation increases workers' chances of receiving training. However, we know little about whether the benefits of employee representation and union coverage are similar for temporary and permanent workers. Because employee representation takes different forms and plays different roles depending on the country context, it is crucial to study the benefits of union coverage in a cross-country comparative perspective. This article fills in this gap.

Research Design

We use data from the most recent wave of the EWCS carried out in 2015. The EWCS provides comparative data on working conditions across 35 European countries. The EWCS data were collected through face-to-face interviews with randomly selected individuals aged 15 and older who were employed at the time of the survey. The sample size for each country was determined by the size of the population and national agreements, and the number of respondents varied between 1,000 and 3,000 individuals per country. The total sample consists of nearly 44,000 workers.¹ In this article, we focused on respondents aged 25 to 59 to exclude individuals who were combining work with education or retirement. Employees with no formal employment contracts or apprenticeships, and the self-employed, were excluded from the analysis. Hence, the sample we used in our analysis amounts to 22,884 workers.

The outcome variable measures whether employees received employer-paid training. The variable is coded as one if employees underwent training paid for or provided by their employer over the 12 months preceding the survey, otherwise it is equal to zero.²

The first key explanatory variable is the type of employment contract. This variable distinguishes between employees with a permanent job (i.e. a contract of unlimited duration) and employees with a temporary job (i.e. a contract of limited duration or a temporary employment agency contract). The second key explanatory variable is employee representation. This binary variable takes a value of one when a

union, works council, or similar committee representing employees is present at the workplace; and it takes a value of zero otherwise.

We control for a broad range of individual characteristics of workers that may affect both the probability of having a temporary contract and the probability of receiving employer-paid training.³ We distinguish four age categories: 25–34, 35–44, 45–54, and 55–59. We control for sex with a binary variable that distinguishes between men and women. We also include a variable that distinguishes between immigrants (i.e. individuals who were born outside of the country of residence or whose parents were born outside of the country of residence) and natives. To control for educational attainment, we include a variable with the following categories: primary education or lower, lower secondary education, upper secondary education, post-secondary education, first stage of tertiary education, and second stage of tertiary education. Since temporary workers are overrepresented in part-time jobs and in some occupations, we include control variables distinguishing between part-time and full-time workers as well as for the nine broad occupational categories as captured in the ISCO classification. We also control for workplace characteristics. We control for the firm size of less than 10 employees, 10–249 employees and 250 employees or more. Our models include a variable capturing the ownership sector with the following categories: private sector, public sector, and mixed ownership or non-governmental organizations. Moreover, we control for the following industries: agriculture, manufacturing, construction, commerce, transport, financial services, administration and defence, education, health, and other services. Finally, we created a composite indicator capturing the quality of relations between employees and management at a workplace. Using a battery of the following items: (i) employees are appreciated when they have done a good job; (ii) the management trusts the employees to do their work well; (iii) conflicts are resolved in a fair way; (iv) the work is distributed fairly; (v) there is good cooperation between colleagues; and (vi) in general, employees trust management, we calculated a sum of ratings, with higher ratings reflecting better employee relations. An overview of the individual-level variables can be found in [Supplementary Table A1](#) in the Annex.

The key country-level explanatory variable used in our analysis measures union coverage. This variable is calculated as the proportion of employees in workplaces or establishments covered by unions or works councils as a proportion of all employed wage and salary earners in the country (Visser, 2003).⁴ To assure that the measure of union coverage is available for all countries in EWCS data, this variable was created by aggregating the individual-level variable of employee

representation using the EWCS data and calculating a country-level mean. We standardized this variable so that the unit of measurement is a standard deviation. The analyses include macro-level control variables that capture structural conditions that could affect the type of employment contract, and that also affect the chances of having access to employer-paid training. Specifically, we control for unemployment rates and GDP per capita derived from Eurostat and OECD databases. Additionally, we control for the industrial climate relationship which was compiled from the World Economic Forum Global Competitiveness report 2014–2015 (Schwab and Sala-i-Martin, 2015).

An overview of all country-level data can be found in [Supplementary Table A2](#) in the Annex.

Our data have a hierarchical structure, with individual observations nested within higher level units, i.e. countries. Linear probability multilevel modelling was deemed a suitable choice for the analyses, as it considers the impact of both individual characteristics like the type of employment contract and country-level characteristics like the level of union coverage; and the interaction between the two. We have opted for a linear probability model instead of logistic regression because, as emphasized by Mood (2010), if the predicted probabilities are not in the tails of the distribution, coefficients from linear probability models do not differ substantially from average marginal effects obtained after logistic regression. At the same time, the results of linear probability models are easier to interpret, especially when they include interactions as it is the case in our study.

To test hypotheses about how employment contract, employee representation and union coverage are associated with employer-paid training, we use models without interactions (Model 1 in [Table 1](#)). Next, in Model 2, we test whether the relationship between employee representation and employer-paid training differs for temporary and permanent contracts by including interactions. Multilevel modelling allows us to estimate cross-level interaction effects, i.e. the combined effect of individual-level and contextual-level factors. To account for the possibility that the roles of the type of employment contract and of employee representation may vary across societal contexts, our models include random slopes for these variables (in all models in [Table 1](#)). This approach also enables us to make more robust inferences regarding the interactions between the type of employment contract and union coverage (Heisig and Schaeffer, 2019).

Results

First, we examine associations between employment contract, employee representation and employer-paid

training using descriptive statistics. [Figure 1](#) compares proportions of temporary and permanent workers receiving employer-paid training. These results suggest that there is a negative association between having a temporary contract and the chances of receiving employer-paid training. Among workers without employee representation, the gap in training between temporary and permanent workers amounts to 7.9 percentage points. Among workers with employee representation, the disadvantage of temporary workers is even larger, as the gap in training amounts to 9.7 percentage points. This provides support for Hypothesis 1a and contradicts Hypothesis 1b. Consistent with Hypothesis 2a, employee representation generally increases the chances of receiving employer-paid training for both groups of workers: i.e. temporary and permanent workers. However, as suggested by the insider-outsider theory, the benefits of employee representation are slightly larger among permanent workers than among temporary workers (in line with Hypothesis 3a). For permanent workers, employee representation increases chances of receiving employer-paid training from 31.2 up to 52.5 per cent, which means an increase by over 21 percentage points. For temporary workers, chances of employer-paid training increase from 23.3 to 42.7 per cent, i.e. by 19 percentage points. This difference seems rather small compared to the overall positive impact of employee representation, nevertheless, it results in a somewhat larger gap in training opportunities between permanent and temporary workers.

In addition, we illustrate how union coverage is associated with employer-paid training. [Figure 2a](#) shows that in line with Hypothesis 2b, this association is positive, and that union coverage is beneficial for all workers. However, the trendlines on [Figure 2a](#) also show that compared to temporary workers, permanent workers become more advantaged as union coverage increases, as predicted in Hypothesis 3b. [Figure 2b](#) on the right-hand panel shows how the training gap between temporary and permanent workers varies across countries. The countries on [Figure 2b](#) are ranked according to the level of union coverage. The magnitude of the gap tends to increase as we move towards countries with higher union coverage level.

The descriptive evidence provides us with some preliminary insights, in the next step we test our hypotheses in the multivariate setting ([Table 1](#)). The results from Model 1 of our multilevel analysis indicate that, consistent with Hypothesis 1a, temporary employees have a six-percentage point lower probability of receiving employer-provided training than permanent employees. The results from Model 1 also confirm Hypothesis 2a, which states that employee representation increases the probability of receiving

Table 1. Probability of receiving employer-paid training—results from linear probability multilevel models

	Model 1		Model 2		Model 3		Model 4	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Temporary contract (permanent = ref.)	-0.06***	(0.01)	-0.05**	(0.02)	-0.06***	(0.01)	-0.06***	(0.01)
Employee representation (no presence = ref.)	0.08***	(0.01)	0.08***	(0.01)	0.08***	(0.01)	0.08***	(0.01)
Interaction: Temporary × Employee rep.			-0.02	(0.02)			-0.01	(0.02)
Union coverage	0.03*	(0.02)	0.03*	(0.02)	0.04*	(0.02)	0.04*	(0.02)
Interaction: Temporary × Union coverage					-0.05***	(0.01)	-0.05***	(0.01)
Control variables at individual level								
Age category (25–34 = ref.)								
35–44	0.00	(0.01)	0.00	(0.01)	-0.00	(0.01)	-0.00	(0.01)
45–54	-0.03***	(0.01)	-0.03***	(0.01)	-0.03***	(0.01)	-0.03***	(0.01)
55–59	-0.04***	(0.01)	-0.04***	(0.01)	-0.04***	(0.01)	-0.04***	(0.01)
Women (men = ref.)	-0.03***	(0.01)	-0.03***	(0.01)	-0.03***	(0.01)	-0.03***	(0.01)
Immigrants (natives = ref.)	-0.03**	(0.01)	-0.03**	(0.01)	-0.03**	(0.01)	-0.03**	(0.01)
Educational attainment (primary = ref.)								
Lower secondary	-0.03	(0.02)	-0.03	(0.02)	-0.03	(0.02)	-0.03	(0.02)
Upper secondary	0.03	(0.02)	0.03	(0.02)	0.03	(0.02)	0.03	(0.02)
Post-secondary	0.06**	(0.02)	0.06**	(0.02)	0.06**	(0.02)	0.06**	(0.02)
First stage of tertiary	0.10***	(0.02)	0.10***	(0.02)	0.10***	(0.02)	0.10***	(0.02)
Second stage of tertiary	0.06	(0.04)	0.06	(0.04)	0.06	(0.04)	0.06	(0.04)
Part-time (full-time = ref.)	-0.02*	(0.01)	-0.02*	(0.01)	-0.02*	(0.01)	-0.02*	(0.01)
Occupational group (managers = ref.)								
Professionals	-0.02	(0.01)	-0.02	(0.01)	-0.02	(0.01)	-0.02	(0.01)
Technicians, associate professionals	-0.02	(0.01)	-0.02	(0.01)	-0.02	(0.01)	-0.02	(0.01)
Clerical support workers	-0.11***	(0.02)	-0.11***	(0.02)	-0.11***	(0.02)	-0.11***	(0.02)
Service and sales workers	-0.08***	(0.02)	-0.08***	(0.02)	-0.08***	(0.02)	-0.08***	(0.02)
Skilled agricultural and forestry workers	-0.18***	(0.04)	-0.18***	(0.04)	-0.17***	(0.04)	-0.17***	(0.04)
Craft and related trades workers	-0.13***	(0.02)	-0.13***	(0.02)	-0.13***	(0.02)	-0.13***	(0.02)
Plant and machine operators	-0.14***	(0.02)	-0.14***	(0.02)	-0.14***	(0.02)	-0.14***	(0.02)
Elementary occupations	-0.20***	(0.02)	-0.20***	(0.02)	-0.19***	(0.02)	-0.20***	(0.02)
Armed forces	-0.07	(0.04)	-0.07	(0.04)	-0.06	(0.04)	-0.06	(0.04)
Firm size (less than 10 employees = ref.)								
10–249 employees	0.08***	(0.01)	0.08***	(0.01)	0.08***	(0.01)	0.08***	(0.01)
250 employees or more	0.16***	(0.01)	0.16***	(0.01)	0.16***	(0.01)	0.16***	(0.01)
Quality of employee relations index	0.04***	(0.00)	0.04***	(0.00)	0.04***	(0.00)	0.04***	(0.00)
Sector (private = ref.)								
Public	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)
Other	0.04**	(0.01)	0.04**	(0.01)	0.04**	(0.01)	0.04**	(0.01)
Industry (agriculture = ref.)								
Manufacturing	-0.06	(0.03)	-0.06	(0.03)	-0.06	(0.03)	-0.06	(0.03)
Construction	-0.06	(0.03)	-0.06	(0.03)	-0.06	(0.03)	-0.06	(0.03)
Commerce	-0.08**	(0.03)	-0.08**	(0.03)	-0.08**	(0.03)	-0.08**	(0.03)
Transport	-0.02	(0.03)	-0.02	(0.03)	-0.02	(0.03)	-0.02	(0.03)
Financial services	0.05	(0.03)	0.05	(0.03)	0.05	(0.03)	0.05	(0.03)
Public administration	0.02	(0.03)	0.02	(0.03)	0.02	(0.03)	0.02	(0.03)
Education	0.01	(0.03)	0.01	(0.03)	0.01	(0.03)	0.01	(0.03)
Health	0.04	(0.03)	0.05	(0.03)	0.05	(0.03)	0.05	(0.03)
Other services	-0.02	(0.03)	-0.02	(0.03)	-0.02	(0.03)	-0.02	(0.03)

Table 1. Continued

	Model 1		Model 2		Model 3		Model 4	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Control variables at macro level								
Industrial climate relationship index	-0.00	(0.02)	-0.00	(0.02)	-0.00	(0.02)	-0.00	(0.02)
Unemployment rate	-0.01***	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)
GDP growth	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Intercept	0.29*	(0.13)	0.29*	(0.13)	0.28*	(0.13)	0.28*	(0.13)
Slope variance: Temporary contract	0.00***	0.00	0.00***	0.00	0.00***	0.00	0.00***	0.00
Slope variance: Employee rep.	0.00***	0.00	0.00***	0.00	0.00***	0.00	0.00***	0.00
Intercept variance	0.01***	0.00	0.01***	0.00	0.01***	0.00	0.01***	0.00
Within-country variance	0.20***	0.00	0.20***	0.00	0.20***	0.00	0.20***	0.00
N	22,884		22,884		22,884		22,884	

Source: EWCS 2015.

Note: Significance levels: * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. Standard errors in parentheses.

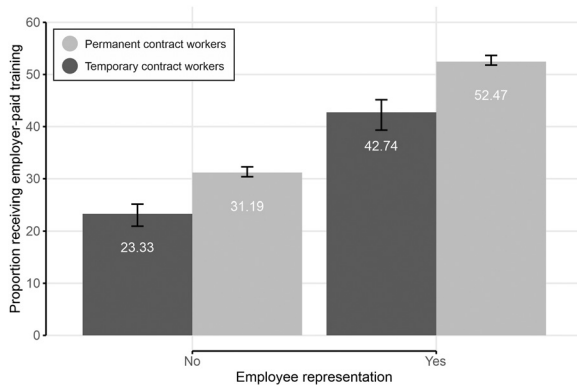


Figure 1. The gap in employer-paid training according to employment contract and employee representation. Source: EWCS data.

employer-paid training. Compared to employees in firms without any employee representation, those with access to employee representation have an eight-percentage point higher probability of receiving employer-provided training. We also expected to find that a higher level of union coverage increases the probability of receiving employer-paid training. The results from Model 1 support Hypothesis 2b, as they show that if the level of union coverage increases by one standard deviation, the probability of receiving employer-paid training increases by three percentage points.

In Model 2, we show how the benefits of having employee representation differ for workers with temporary and permanent contracts. The results indicate that while the coefficient for the interaction effect is negative, the effect is very small, and is not statistically significant. Therefore, we find no empirical support for Hypothesis 3a, which states that employee

representation does not improve the access to employer-paid training among temporary workers to the same extent as among permanent workers.

The results from Model 3 test for an interaction between employment contract and union coverage. The results show that if union coverage changes by one standard deviation, the probability of receiving employer-provided training increases by four percentage points for permanent employees. However, the negative interaction effects indicate that for temporary employees, increases in union coverage provide no benefits in terms of chances for employer-paid training. A higher union coverage exacerbates the gap in training opportunities between temporary and permanent contracts, from the level of about 6 percentage points observed when union coverage is at average level, up by 5 percentage points when union coverage increases by one standard deviation. These results hold even after controlling for interactions between employment contract and individual-level access to employee representation (Model 4).

We briefly comment on the results related to our control variables, as they are in line with previous research on employer-paid training and are similar across model specifications. We find that the chances of receiving employer-paid training vary by age, with lower chances found in the oldest age group. Men and non-immigrants tend to have higher chances of receiving employer-paid training than women and immigrants. The level of education attainment also plays an important role, with better educated workers having higher chances than less educated workers of receiving employer-paid training (except those workers who have completed the second stage of tertiary education have a lower chance of receiving training than workers who have only completed the first

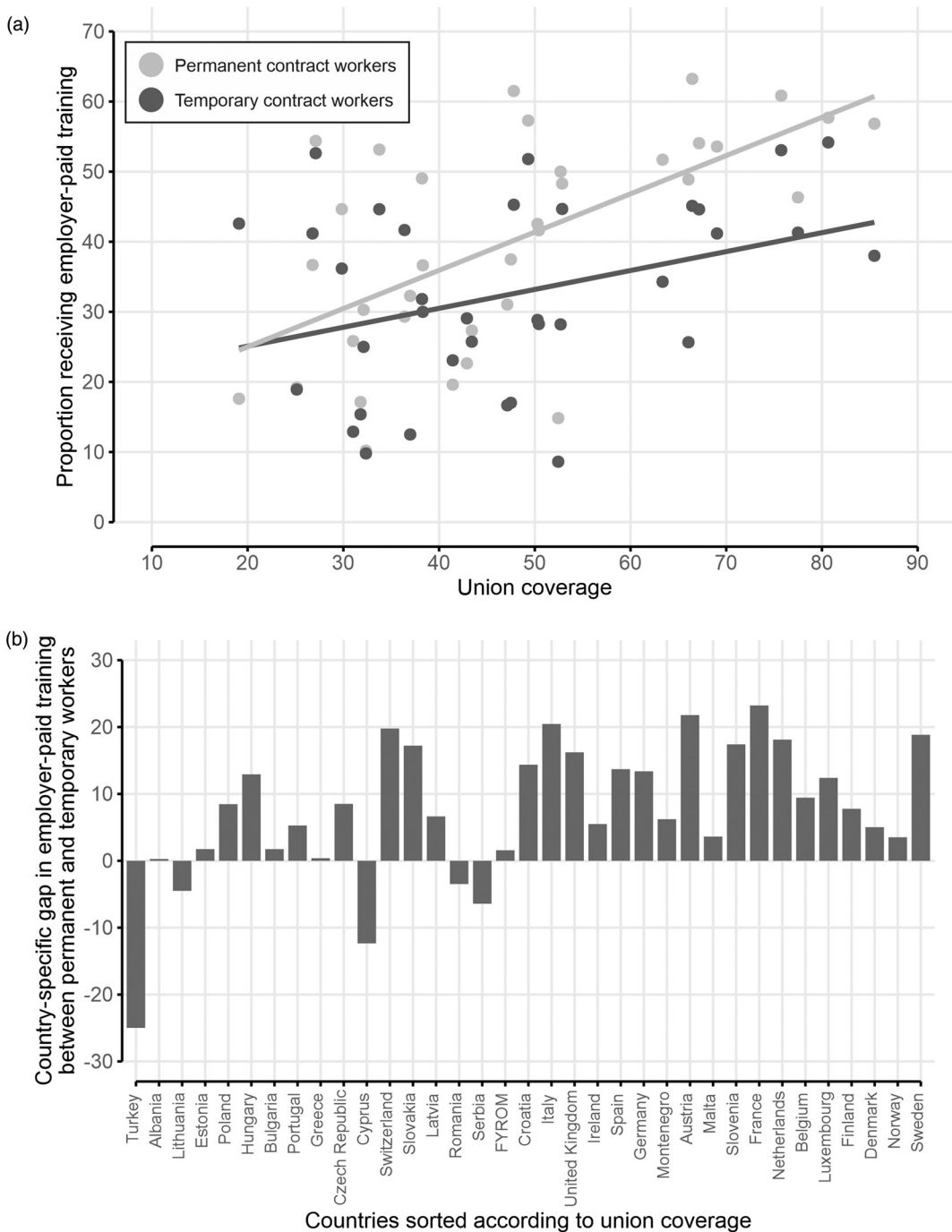


Figure 2. (a) Chances of employer-paid training according to employment contract and union coverage. (b) Country-specific gaps in employer-paid training between temporary and permanent workers according to union coverage. *Source:* EWCS data.

stage of tertiary education). Workers employed part-time and in lower-ranked occupations have poorer chances for receiving employer-paid training. Chances

for employer-paid training are higher in larger firms and in organizations with a higher quality of employee relationship. Opportunities to receive employer-paid

training also vary somewhat across different sectors of employment and industries. Private companies tend to offer fewer training opportunities than mixed ownership organizations. Employees in the commerce sector have lower chances of receiving employer-paid training than workers in agriculture or public services. We also find that when the unemployment rate increases by one percentage point, the probability of receiving employer-provided training declines by about 1.2 percentage points. Other aspects of country-specific context that we control for, such as macroeconomic conditions or industrial relationship climate, do not substantially alter workers' opportunities to participate in employer-paid training.

To test the robustness of our results, we carried out sensitivity analyses. To test whether the relationship between union coverage and employer-paid training is linear, we included a squared measure of union coverage and the interaction between this additional term with employment contracts. We did not detect any statistically significant non-linearity using this approach (see Model 1 in [Supplementary Table A3](#) in the Annex). In our analyses, the union power is operationalized with an index of union coverage, and Varieties of Capitalism literature suggests that the collective bargaining coverage is another relevant measure. Hence, we used an index of collective bargaining coverage instead of union coverage, and we interacted it with employment contract type (in Model 2 and 3 in [Supplementary Table A3](#) in the Annex). We receive similar results, suggesting that in countries with stronger unions, the opportunities for training are overall better, but the benefits for training are mainly restricted to permanent workers. Furthermore, we also included a broader measure of strictness of regulations derived from Fraser Institute Database to test whether they could act as macro-level confounders. Strictness of regulations may affect whether employers use temporary workers as a buffer at the workplace ([Barbieri and Scherer, 2009](#); [Noelke, 2016](#)), and if so, the chance of temporary workers to receive training might be lowered.⁵ However, the strictness of regulations was found to have no statistically significant effects on training and the key coefficients of our interest remained unchanged. As an additional robustness check, we tested how variables of key interest affect training of different durations. We observe that trade unions affect not only whether employees receive training but also increase the length of training, these results are reported in [Supplementary Tables A6 and A7](#) in the Annex.

Following insights from [Cutuli and Guetto \(2013\)](#), who showed that Nordic countries are outliers both in terms of union power and opportunities for training, we carried out robustness checks to see if our results from Model 3 and 4 in [Table 1](#) related to union

coverage also hold if we exclude Nordic countries (cp. Model 1 and 2 in [Supplementary Table A5](#) in the Annex). We also re-estimated Model 1 and 2 from [Table 1](#) including fixed effects for countries (see Model 3 and 4 [Supplementary Table A5](#) in the Annex). This analysis corroborated our results, we note however, that the interaction between employee representation and employment contract type turned out to be statistically significant. Following insights from [Bell, Fairbrother and Jones \(2019\)](#), we conclude that the reason why the interaction term is not statistically significant in our multilevel model with random slopes but becomes statistically significant in a model with country dummies, is that the latter specification does not properly consider the variation in the slopes across countries, and hence provides anti-conservative estimates of standard errors.

Finally, we tested whether the associations with union coverage differ depending on the country group as suggested by the Varieties of Capitalism (VoC) literature. We distinguished three categories mentioned earlier in the theoretical background: CMEs, LMEs, and MMEs. Following [Babos \(2014\)](#) and [Hall and Gingerich \(2009\)](#), we grouped additional countries according to the industrial relations category (for details of our grouping see [Supplementary Table A4](#) in the Annex). The VoC literature suggests that unions have a greater influence on working conditions in the CME compared to LME and MME, as negotiations occurs at a higher level, covering a larger proportion of workers. We did not find any evidence that on average, all workers have better training opportunities in this specific group (cp. Model 5 in [Supplementary Table A5](#) in the Annex). However, we do find statistically significant interactions between employment contract and country groups (Model 6 in [Supplementary Table A5](#) in the Annex). These interactions suggest that in CME, the chances for training differ between temporary and permanent workers more strongly than in other country groups. This again corroborates our earlier findings that in countries where unions have more power, their strength benefits mostly permanent workers, whereas temporary workers tend to be left behind.

Conclusions

The purpose of this article was to take a comparative perspective on the role of unions for the chances of receiving employer-paid training among temporary and permanent workers. We found that temporary workers receive less employer-paid training than permanent workers. This confirms that employers are less willing to invest in workers with temporary contracts than in workers with permanent contracts. Since a lack of training reduces the employability of workers, this

finding supports the claim that temporary employment is an important dimension of social inequality (DiPrete *et al.*, 2006; Barbieri, 2009). This calls for developing other investments in training, and for policies that encourage employers to treat workers with different types of contracts more equally.

In line with previous research, we found that employee representation increases the probability of receiving employer-paid training. This finding implies that employee representation may improve workers' opportunities to upgrade their skills. Furthermore, we found that the probability of receiving training was substantially higher in countries with higher levels of union coverage, confirming previous findings on the positive impact of union power at the country level (Vogtenhuber, 2015).

We found no firm support for the hypothesis that employee representation increases the probability of receiving employer-paid training to a lesser degree for temporary workers than for permanent workers. It thus appears that by strengthening the communication between workers and employers, employee representatives may argue in favour of developing the competences of all workers, regardless of their employment contract type.

However, we do find evidence on the interaction effects between employment contract and union coverage. The positive impact of union coverage on employer-paid training was substantially smaller for temporary workers than for permanent workers. Greater union coverage means more bargaining power in negotiations with the government and with other social partners when amending laws and regulations. Our results suggest that—at least in the countries observed in our data—these actions supported permanent workers to a greater extent than temporary workers. This implies that some of the policies and regulations supported by unions may not be equally beneficial for all workers. Therefore, future research should investigate the extent to which specific policies prevent employers from making unequal investments in permanent and temporary workers.

Our work makes two major contributions. First, our findings confirm that temporary workers receive less employer-paid training than permanent workers, and this association can be generalized across European countries. In line with labour market segmentation theory, these findings suggest that workers with temporary employment contracts not only have less employment security, but fewer chances to acquire firm-specific skills, which, in turn, may reduce their future chances of being re-employed. Thus, our analysis provides new evidence on the mechanisms of labour market segmentation. Second, we examined the cross-country differences in employer-provided training, and the extent

to which the variations can be related to institutional settings. Our findings provide theoretical insights into the different mechanisms through which trade unions operate at the workplace and country level. We have shown that the theoretical predictions of insider-outsider theory are especially relevant for the impact of union coverage at the country level. Our findings call for identifying specific policies that may increase equality in access to training among temporary and permanent workers.

This study has its limitations. Our study draws on cross-sectional data from the most recently available survey wave and hence presents associations instead of causal effects. This choice was motivated by the fact that the key variable of interest, employee representation, was not included in earlier waves. Using repeated cross-sectional data would give the possibility to implement a method distinguishing between two sources of variation in country-level factors: within- and between-countries, as shown in some innovative studies (Barbieri and Cutuli, 2015; Barbieri, Cutuli and Passaretta, 2018). Now, with only one wave of the survey providing key information, adopting this methodological approach is unfortunately not possible. Additionally, due to data constraints, we were not able to distinguish between firm-specific and general training.

Notwithstanding these limitations, the results of our study send important messages to trade unions across Europe. For trade unions, reducing the inequalities in access to training opportunities between workers with permanent and temporary contracts could be one way of attracting new members, and of reversing the downward trend of trade union density. Therefore, trade unions could respond to the increased number of temporary workers on the European labour market by calling for improved representation for all workers, including outsider groups (Mustchin, 2012). As studies on trade union renewal have observed, in order to meet the new challenges workers face in the neoliberal, globalized world, trade unions need to employ new strategies and reconsider their ideological positions (Alberti *et al.*, 2018). Exclusively protecting permanent workers is no longer a viable approach for trade unions in a changing labour market. By increasing access to training for temporary workers, trade unions can contribute to reducing social inequality.

Notes

- 1 Specifically, countries included in EWCS are Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, France, Ireland, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia,

- Finland, Sweden, the United Kingdom, Croatia, Macedonia, Turkey, Norway, Albania, Montenegro, Switzerland, and Serbia.
- 2 The group of employees who do not receive training from employers, but instead invest in training on their own, amounts to just 3 per cent of our sample. Because our paper has theoretical focus on employer-paid training and also because employee-paid training may be a collider variable which results both from temporary employment contract and from lack of employers' investment, we do not condition on employee-paid training in our analysis.
 - 3 Following insights from methodological studies arguing against controlling for colliders (Elwert and Winship, 2014), we refrain from including variables which can be determined by employment contract type and training, such as tenure or an employee's own investments in training.
 - 4 We use union coverage instead of union density because union density measures the share of employees who are trade union members; a concept that differs from that of employee representation. Instead, union coverage reflects the share of employees working in firms and organizations with employee representation. Since we are interested in the effects for training opportunities of all workers, the latter measure is conceptually more relevant, as it places more emphasis on how employee representation may affect employers' decisions to offer training for all workers: i.e. both those who are union members and those who are not. In addition, since the levels of union coverage can be estimated based on our microdata, they are available for all of the countries in our sample, including the countries that are not OECD members.
 - 5 Previous research has mostly used measures of the strictness of employment protection legislation. We have instead used a broader measure, which includes a whole range of dimensions of strictness of regulations that affect employers' opportunities to hire and fire workers and to carry out business activities (see Gwartney, Lawson and Hall, 2015). Our measure, unlike EPL, also includes no missing values for non-OECD countries. We would like to thank the editor of ESR for this suggestion.

Supplementary Data

Supplementary data are available at ESR online.

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