Design Paper 246

Determinants of work accommodation efforts for long-term sick workers

Evidence from reforming employer incentives in the Dutch sick leave and disability insurance system

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Abstract

This paper studies the impact of greater financial responsibilities of employers for their long-term sick workers on work accommodation efforts. We exploit a reform in the Netherlands whereby experience-rated benefit premiums are extended to workers without a permanent contract. Using detailed Dutch survey data on work accommodation of long-term sick-listed workers, we find that shifting the costs of disability benefits to the firm did not significantly increase accommodation efforts. Yet, we find that the reform increased the fraction of firms that opt for self-arranging both sick leave benefits and the reintegration process of sick non-permanent workers, instead of using the public insurance scheme. For the firms that opted out of the public system we find higher accommodation rates, suggesting that accommodating firms are more likely to opt out.

Samenvatting

Arbeidsongeschiktheid binnen de beroepsbevolking schaadt niet alleen het welzijn van de individu, maar legt ook een financiële last op overheden door publieke uitgaven aan ziekteverlof en arbeidsongeschiktheidsuitkeringen. Door vergrijzing en de veelal verhoogde pensioenleeftijd, wordt arbeidsongeschiktheid ook een groter probleem voor ouderen binnen de arbeidsmarkt, terwijl veel Europese landen al een verhoogd armoederisico onder ouderen kennen. Voor personen van 75 jaar en ouder zijn de armoedecijfers tussen 2014 en 2018 gestegen tot 19% voor vrouwen en 12,5% voor mannen (Eurostat, 2020). Om de uitdagingen van ouderdomsarmoede aan te pakken, moeten beleidsmakers zorgen voor duurzame werkgelegenheid tot aan de wettelijke pensioenleeftijd.

Dit paper onderzoekt de rol van werkgevers bij het waarborgen van duurzame werkgelegenheid door het effect te meten van een verhoogde financiële prikkel voor werkgevers om hun zieke of arbeidsongeschikte werknemers voldoende re-integratie-inspanningen (werkaccommodatie) te bieden (bijvoorbeeld door aangepaste werktijden, werkomgeving of werkzaamheden). Deze financiële prikkel is de introductie van gedifferentieerde ziektewet en WGA-premies, die sinds 2013 ook voor vangnetters (medewerkers zonder vast dienstverband) bestaan. Daarnaast meten wij welke factoren geassocieerd worden met een hogere kans om geaccommodeerd te worden als werknemer.

We meten het effect van gedifferentieerde premies ten opzichte van een uniforme premie door gebruik te maken van een hervorming van het ziekte- en arbeidsongeschiktheidsstelsel in 2013/2014, waarbij gedifferentieerde premies ook voor vangnetters werden geïntroduceerd en de premie afhankelijk werd van bedrijfsgrootte. Met behulp van gedetailleerde Nederlandse enquêtegegevens over werkaccommodatie van langdurig (9 maanden) zieke werknemers, constateren we dat het verschuiven van de kosten van arbeidsongeschiktheidsuitkeringen naar de werkgever geen statistisch significant effect heeft gehad op de accommodatie-inspanningen van werkgevers. Wel zien we dat de hervorming het aandeel bedrijven heeft vergroot dat ervoor kiest om zowel de ziektewetuitkering als het re-integratieproces van zieke vangnetters zelf te regelen (eigenrisicodragerschap), in plaats van gebruik te maken van de publieke ziektewetverzekering. Voor de bedrijven die uit het publieke systeem stapten, vinden we hogere accommodatiepercentages, wat suggereert dat bedrijven die accommoderen, eerder geneigd zijn om uit te stappen. Daarnaast zien we dat vooral jongere, hoogopgeleide werknemers vaker geaccommodeerd worden door hun werkgever. Ook worden vaste werknemers aanzienlijk vaker geaccommodeerd door hun werkgever dan vangnetters.

1. Introduction

Disability of workers not only harms the well-being and labor market prospects of the employees affected, but also imposes a financial burden on governments through public spending on sick leave and disability benefits. Within the OECD, the employment rate of disabled individuals is 27 percentage points lower than that of individuals without disability, and the public spending rate on sickness and disability insurance is substantial, amounting to 2% of GDP (OECD, 2022, 2023).

Employers can play an important role in improving the labor market prospects, and ultimately reducing the public spending costs of disabled workers, by providing work accommodation possibilities, such as allowing for more breaks or altering the workplace. Providing work accommodation has been found to improve the likelihood of return to work, to delay the application of disability insurance, and to extend employment spells (Burkhauser et al., 1995, 1999; Campolieti, 2005; Everhardt and de Jong, 2011; Hill et al., 2016).

Especially older workers can benefit from more accommodation provided to sick workers, as they are more at risk of developing chronic health issues. Given the current population aging and rising retirement ages in many OECD countries, this issue becomes more urgent. Moreover, older workers with a preference for early labor market exit may use sick leave and disability insurance as a substitute pathway into retirement (Euwals et al., 2012; De Vos et al., 2012). This pathway may be reduced by more proper work accommodation.

The Netherlands, along with Finland, is one of the few countries that introduced experience rating in the disability insurance system, involving substantial financial responsibility of employers not only for sick-listed employees but also for the disability costs of former workers. In other countries, disability costs are mainly borne by the government, and support for sick-listed workers is less substantial (Koning, 2016). Experience rating links the insurance premiums that the employer pays to the sick leave and disability insurance costs of its employees. The aim of experience rating is to incentivize firms to feel responsible for their sick-listed and disabled workers to continue or return to work. Ultimately, the aim of experience rating is to increase work accommodation efforts by employers and thereby increase employment and reduce public spending. While many studies have estimated the effect of experience rating on labor market outcomes (see De Groot and Koning (2016); Koning et al. (2022); Prinz and Ravesteijn (2020); Kyyrä and Paukkeri (2018); Kyyrä and Tuomala (2023); Van Sonsbeek and Gradus (2013)), none of them have considered the mechanism through which this ought to take place: experience rating to incentivize work accommodation. In general, this is due to a lack of detailed data on work accommodation.

In this paper, we study work accommodation of long-term sick-listed permanent and non-permanent employees in the Netherlands and to what extent it is affected by experi-

ence rating. We exploit the exogenous variation created by a Dutch reform that took place in 2013. This reform extended experience rating to non-permanent employees and linked the level of experience rating to firm size. We start by analyzing the socio-demographic factors and firm characteristics associated with work accommodation and the worker satisfaction rate of work accommodation. Next, exploiting the treatment variation caused by the reform, we estimate the causal effect of experience rating on work accommodation. In addition, we provide suggestive evidence of whether our estimated effect of experience rating on accommodation could be driven by the selection of firms who self-arrange the benefit payments and reintegration process instead of letting the government be responsible.

To isolate the effect of experience rating on work accommodation we exploit a reform that took place in 2013, namely the Modernization of Sick Leave Benefits Act (BeZaVa, *Wet Beperking Ziekteverzuim en Arbeidsongeschiktheid Vangnetters*). BeZaVa aimed to improve the sick leave and disability protection for workers without a permanent contract. Employees without a permanent contract are a particularly vulnerable group. They are less attached to the labor market and therefore have a lower chance of being accommodated in case of sickness or disability (Koning et al., 2022; Van der Burg, 2011). The reform extended experience rating for large and medium-sized firms to this group of workers, while the situation was unchanged for non-permanent workers in small firms, thus creating two groups where one was affected by the reform and the other was not. Reversely, experience rating was abolished for permanent workers in small firms while it stayed the same for those working in larger firms. We estimate the causal effect of experience rating on work accommodation through a difference-in-differences analysis.

While experience rating ought to increase work accommodation, it could also lead to a selection of firms. A unique feature of the Dutch system is that it allows firms to self-arrange the sick leave benefits and reintegration process instead of having the government take care of this. This option, also referred to as *opting out* of public insurance, is possible for non-permanent employees only (Deelen, 2005; Groenewoud et al., 2015). Hence, we also analyze to what extent firms increasingly opted out of the public sick leave system for non-permanent employees after the reform.

We use unique Dutch employee data based on a questionnaire that was sent out to the full population of nine-month sick-listed individuals in 2008, 2012, and 2015 via the Dutch employee employment agency UWV. The data include extensive details about work accommodation provided to permanent as well as non-permanent employees. The data allow us to extensively study work accommodation, allowing us to also explore which worker-specific socio-demographic factors as well as firm characteristics are associated with work accommodation.

We come up with three main findings. First, we show important individual and firm-specific correlates with accommodation. We find that the non-permanent employees in our

sample are accommodated far less often by their employers than permanent employees. Both for non-permanent and permanent employees we find that a younger age, a high education level, and employment by a large firm are significantly and positively correlated to work accommodation, whereas heart or vascular diseases are negatively associated with accommodation. Second, we do not find a significant effect of experience rating on the chance of long-term sick-listed employees being accommodated, regardless of whether they are permanently employed or not. This finding is robust to other model and sample specifications. Finally, for non-permanent employees, we find that the positive coefficient is driven by employers who opted out of the public sick leave system after the reform. If we remove these firms from our sample, the coefficient comes very close to zero. Since we show that, after the reform, the number of firms that opted out significantly increased (especially large firms, which were most affected by the reform), we expect that experience rating increased the likelihood of firms opting out. In addition, we find that opting out is positively associated with accommodation. Therefore, we expect that our results on the effect on accommodation rates are largely driven by an indirect effect of experience rating, namely an increase in the number of firms that opt out.

Our results should not be interpreted to conclude that experience rating is generally not effective in increasing accommodation efforts by firms, as we focus on sick-listed workers who have been sick for at least nine months already. Rather, our analysis shows that workers who are on long-term sick leave and potentially with temporary contracts seem to be difficult to retain in the workforce through accommodation efforts. Policymakers should realize that a stronger market mechanism via experience rating – although potentially an effective instrument for prevention and short-term sick leave – is not the proper instrument for this vulnerable group of workers.

Our study contributes in three important ways. Our main contribution is that we estimate the direct effect of experience rating on work accommodation of non-permanent employees. Research to date on the effects of experience rating or concerning work accommodation has not included non-permanent employees; only permanent employees have been studied. Moreover, most research on the effects of experience rating has considered the impact on the inflow or outflow of sick leave or disability insurance, but not the mechanism through which this might be affected, i.e., work accommodation (see e.g., De Groot and Koning (2016); Koning et al. (2022); Kyyrä and Paukkeri (2018); Kyyrä and Tuomala (2023); Prinz and Ravesteijn (2020)). Second, employer incentives in public sick leave or disability insurance schemes have been studied mostly only in isolation of the choice of employers to opt out of the public system. To our knowledge, the two only other studies that examined opting out due to experience rating are Groenewoud et al. (2015) and Deelen (2005), of which the former one only provides qualitative evidence, while the latter concerns the Dutch disability insurance system that existed prior to 2006. Finally, our study is among the

few that consider the determinants of work accommodation (see e.g., Hill et al. (2016); Høgelund and Holm (2014)), and the only one to do so in the unique Dutch context of extensive employer incentives.

The remainder of this paper is organized as follows. Section 2 reviews the Dutch sick leave and disability insurance system and provides a detailed description of the BeZaVa, while Section 3 discusses relevant literature. Section 4 presents the data and sample restrictions. Section 5 introduces the empirical strategy, and Section 6 reports the results. Finally, Section 7 contains conclusions.

2. Dutch institutional details and the reform

In 2013, the Modernization of Sick Leave Benefits Act (BeZaVa, *Wet Beperking Ziekteverzuim en Arbeidsongeschiktheid Vangnetters*) meant a reform of the sick leave and disability insurance system of The Netherlands. In this section, we discuss the specific changes effected by the reform. Even though our data stem from respondents on sick leave, we elaborate on the changes made to disability insurance. We do this because accommodation efforts during the sick leave period can be affected by changes to the disability insurance system, namely through altered incentives to prevent sick-listed workers from flowing into disability insurance.

The main goal of the BeZaVa was to align the financial incentives of employers for their permanent and non-permanent employees. The first measure, implemented in 2014, was to extend experience rating to two types of public premiums paid by firms for their *non-permanent* employees: public *sick leave* and *partial disability insurance* premiums. Experience rating links these premiums to the firm-specific sick leave or partial disability insurance risk. This risk is equal to the benefit cost that can be attributed to the firm, divided by the social insurance wage sum of the firm. The social insurance wage is the wage that is subject to taxes and social insurance premiums (Uitvoeringsinstituut Werknemersverzekeringen, 2020). For non-permanent employees, prior to the introduction of experience rating, sick leave and partial disability insurance premiums were based on the overall firm sector rather than on the individual firm risk. For permanent employees, the public partial disability insurance premiums were already experience-rated prior to the reform. No public sick leave insurance exists for permanent employees, so that remained unaffected by the reform.

The second measure of the BeZaVa, also effective as from 2014, was to link the level of experience rating to firm size. Prior to the reform, when experience rating was applied to

Table 1: *Overview of the BeZaVa measures per treatment group, before and after the reform*

BeZaVa measure		**1. Alignment financial incentives (experience rating)**		**2. Stricter monitoring and active labor market measures**	
Group	Firm size	Before 2013	After 2013	Before 2014	After 2014
Non-permanent employees	Small	No	No	No	Yes
	Medium	No	Partial	No	Yes
	Large	No	Yes	No	Yes
Permanent employees	Small	Yes*	No*	N/A	N/A
	Medium	Yes*	Partial*	N/A	N/A
	Large	Yes*	Yes*	N/A	N/A

Notes: This table lists the two main measures of the BeZaVa (experience rating and stricter monitoring/active labor market measures) by type of contract and firm size. *Partial* implies that the sick leave or partial disability insurance premiums are a weighted average, depending on firm size, of individualized experience-rated premiums and sector-based premiums.

* Note that employers of permanent employees cannot publicly insure for sick leave benefits, so experience rating only relates to partial disability insurance for permanent employees.

determine partial disability insurance premiums for permanent employees, it was independent of firm size, so all premiums were fully experience-rated. Since the reform, the firm-size dependence of the level of experience rating works as follows. Large firms that pay more than 100 times the social insurance wage pay a fully individualized, experience-rated premium that depends on the sick leave or partial disability insurance risk of the firm. Medium-sized firms (who pay between 10 and 100 times the social insurance wage) pay a weighted average between the sector premium and the experience-rated individualized premium. Small firms (who pay the social insurance wage less than 10 times) pay only the sector premium. The individualized, i.e., the experience-rated premium, is based on either the sick leave or partial disability insurance risk of the firm and is capped by a minimum and a maximum premium rate (Uitvoeringsinstituut Werknemersverzekeringen, 2020).

The third and final measure of the BeZaVa was to introduce stricter monitoring measures during the sick leave period and to implement active labor market measures for non-permanent employees only. These measures were implemented one year earlier than the measures related to experience rating, i.e., from 2013 on (Tweede Kamer der Staten-Generaal, 2012).

The reason that sick leave premiums became experience-rated only for non-permanent employees, while nothing changed in the sick leave period for permanent employees, is that the sick leave period is not arranged in the same way for non-permanent and permanent employees. For both types of employees, the sick leave period consists of the first two years of the Dutch sick leave and disability insurance system. When workers become sick, they enter the sick leave period, during which they are paid sick leave benefits equal to 70% of the last-earned wage. For *permanent employees*, however, there is no public sick leave insurance. The employer is always responsible for paying the sick leave benefits, which it may privately insure. For *non-permanent employees*, public sick leave insurance is available. If the employer takes on public insurance, it pays the public sick leave premiums. The Employee Insurance Agency UWV, the Dutch government institution that implements employee insurance, pays the sick leave benefits. UWV is then also responsible for and in charge of the reintegration process.

For non-permanent employees, employers also have the option to *opt out* of public sick leave insurance. In this case, the firm forgoes the public experience-rated premium but has to pay the benefits itself and becomes responsible for the reintegration process. When a firm opts out, the firm can pay the benefits itself but may also obtain private insurance to arrange the benefits.

Unlike sick leave, public disability insurance is available for both permanent and non-permanent employees. It is organized as follows. After the sick leave period, a worker who is still sick may apply for disability insurance. The applicant may receive partial disability insurance benefits, full disability insurance benefits, or no disability insurance, depending on

the disability percentage that is determined by insurance physicians at the Employee Insurance Agency. For both partial and full disability insurance, the firm can publicly insure. Yet, only for permanent employees was it possible to opt out of public *partial disability insurance* in our data period, so firms could decide to avoid the partial or full removal of experience rating caused by the reform. As to non-permanent employees, all firms were publicly insured for partial disability insurance. For *full disability insurance*, which was unaffected by the reform, all firms must publicly insure.

The treatment variation caused by the BeZaVa allows us to disentangle the effect of the introduction of experience rating from that of the stricter monitoring and active labor market measures on work accommodation. Table 1 shows the treatment variation of the introduction of experience rating. All non-permanent employees are exposed to the stricter monitoring and active labor market measures, whereas the level of experience rating differs by firm size. Therefore, by comparing non-permanent employees at large firms (the treatment group) to non-permanent employees at small firms (the control group), we can separately identify the effect of the introduction of experience rating on work accommodation. Table 1 moreover depicts how the treatment variation of the removal of experience rating for permanent employees can be . For permanent employees, no monitoring or active labor market measures were introduced. However, permanent employees at small firms were no longer exposed to experience-rated partial disability insurance premiums, while permanent employees at large firms still were. Hence, by comparing permanent employees at small firms (the treatment group) to permanent employees at large firms (the control group), we can separately identify the effect of the removal of experience rating on work accommodation.

We can also examine workers at medium-sized firms, but their treatment level (level of experience rating) is not constant, such as for small and large firms, but instead depends on firm size. Our data do not include the exact firm size, so we cannot distinguish between the separate treatment levels. Hence, we do not utilize this treatment variation. We will examine whether this exclusion affects our results in Appendix B.

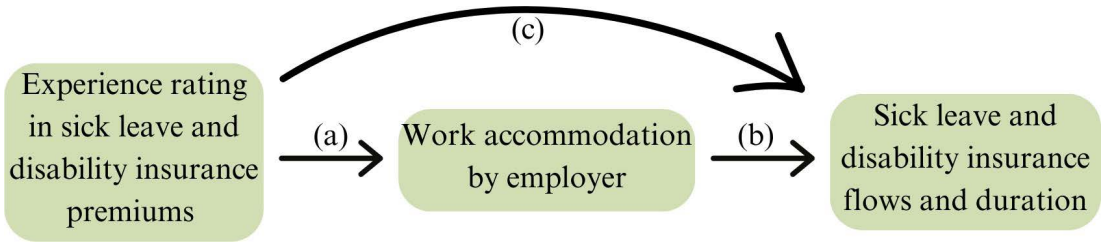
3. Literature

3.1 Determinants of accommodation

Our paper fits within a small body of literature on the determinants of work accommodation provided by employers. While a larger body of literature on the effects of work accommodation on employment does exist (see Jansen et al. (2021) and Nevala et al. (2015) for literature reviews), the determinants of accommodation – the mediating step – generally escape study. The existing studies indicate that work accommodation is not provided equally among workers. In one of the few studies that does examine the determinants of accommodation, Hill et al. (2016) explore the factors that influence work accommodation of workers right after the onset of disability, using data from the US. They find that mostly employee-side characteristics matter. Specifically, they find that a higher education level is associated with a higher chance of being accommodated, that non-black minorities are less likely to be accommodated, and that the role of employee personality is quite large. However, they do not find an effect of the specific kind of health impairment, except for back problems and mental health issues, both of which decrease the likelihood of accommodation. In addition, job tenure is found to be positively associated with accommodation, while employer characteristics do not seem to have an impact. Høgelund and Holm (2014), in a study on the effects of employer-provided work accommodation, present descriptive statistics of Danish workers, which provide some information on accommodation. The workers in their sample had been sick-listed for at least 8 weeks and stayed employed at their current employer. The workers who received accommodation had slightly more often had post-secondary education (34.7% versus 31.4%), suffered less often from mental illness (24.4% versus 25.7%), and on average had less employment experience (20.1 years versus 21.5 years). Overall, these studies suggest that work accommodation is not always provided equally among workers. Specifically, worker characteristics such as age, race, education level, job tenure, and type of disability (especially mental issues) seem to be indicative of whether accommodation will be provided by the employer.

Some open questions regarding work accommodation remain, however. To our knowledge, the determinants of accommodation have not been analyzed in a context with strong employer incentives. If employers are encouraged to provide accommodation, it might be that the determinants found are no longer relevant, as accommodation would be provided anyway. Or they might become even stronger, as employers may want to accommodate only those workers who have a higher chance of returning to work, since this would have the largest impact on their premiums. In addition, previous studies only considered the determinants of work accommodation provided to workers with a permanent contract, rather than to those without. Employers might be less incentivized to accommodate

Figure 1: *Causal chain of experience rating*



employees without a permanent contract, as these are less attached to the firm (Van der Burg, 2011).

3.2 Intended effect of experience rating on work accommodation

Besides studying more general determinants of work accommodation, we are interested in whether accommodation efforts can be improved by experience rating. Hence, our paper adds to the literature on the effects of experience rating. While there is no literature, to our knowledge, on the effect of experience rating on accommodation, most research uses sick leave or disability insurance flows and duration as a dependent variable. Specifically, most research focuses either on experience rating or work accommodation as the independent variable and estimates the effect of this variable on sick leave and disability insurance flows or duration. In the causal chain, depicted in Figure 1, this involves the second step of the mediation process via work accommodation (arrow (b) and the final effect of experience rating (arrow (c). However, the first step of the mediation process, the effect of experience rating on accommodation (arrow (a) has not been studied.

The literature on the effect of experience rating on sick leave and disability insurance flows and duration displays rather mixed results. The data used in these studies only relate to The Netherlands or Finland, as these are the only countries in which experience rating is implemented within the sick leave and disability insurance system. Focusing on The Netherlands, we see that De Groot and Koning (2016) find that the removal of experience rating for small firms in a 2003 reform increased disability insurance inflow by 7%. Koning et al. (2022) find that BeZaVa significantly decreased the disability insurance inflow risk for non-permanent workers, but that only a small and non-significant fraction of this effect can be attributed to experience rating. Conversely, Prinz and Ravesteijn (2020) find that the introduction of experience rating for non-permanent employees significantly reduced both sick leave benefit and disability insurance benefit receipt, exploiting the same reform. As to Finland, Kyyrä and Tuomala (2023) find that experience rating in disability insurance premiums significantly reduces sick leave and disability insurance inflow. However, an earlier study by Kyyrä and Paukkeri (2018) found no effect on sick leave and disability insurance inflow.

More consensus exists on the effect of work accommodation on employment and disability insurance and sick leave flows, i.e., the second step of the mediation process. Burkhauser et al. (1995) find that when disabled men are accommodated by their employer at the onset of their health condition, their job duration significantly increases. Similarly, Burkhauser et al. (1999) show that work accommodation slows down the speed of disability insurance application. A more recent study by Hill et al. (2016) finds that work accommodation significantly delays labor force exit after the onset of disability.

Unfortunately, there is no empirical evidence yet on the first step of the mediation process, i.e., the effect of experience rating on work accommodation. Theoretically, the rationale behind experience rating is that firms realize that accommodation can reduce sick leave and disability insurance inflow and therefore limit their premiums. Therefore, firms would be more likely to accommodate their workers (Prinz and Ravesteijn, 2020).

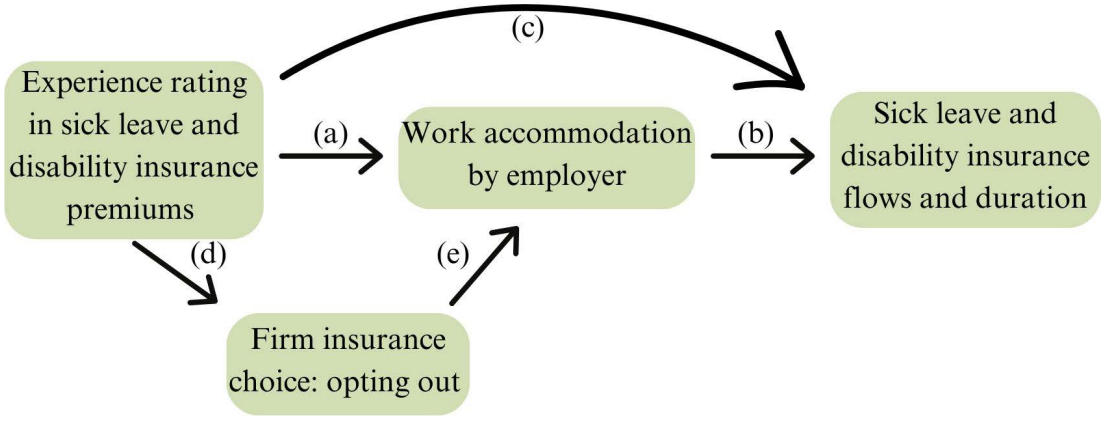
Hence, we hypothesize the following regarding the BeZaVa. First, we hypothesize that the introduction of experience rating for non-permanent employees in large firms increases both the likelihood of accommodation and the intensity of accommodation during sick leave. We expect that the introduction of experience rating not just in sick leave insurance but also in partial disability insurance encourages firms to accommodate their sick-listed workers. That is, firms are incentivized to accommodate, since proper accommodation during sick leave can lead to less disability insurance inflow and can therefore alleviate the future burden of experience-rated disability insurance premiums. Second, we hypothesize that the removal of experience rating in partial disability insurance for permanent employees in small firms decreases the likelihood of accommodation efforts and intensity provided to long-term sick-listed workers. Again, this is the anticipatory effect that accounts for the future burden of disability insurance premiums.

We do not form hypotheses on accommodation provided to workers at medium-sized firms. As mentioned in the previous section, this is because the level of experience rating in their premiums is not constant, such as for small and large firms, but instead depends on firm size. Since the exact firm size is not given in our data, we cannot distinguish between the treatment levels. We will examine whether the exclusion of medium-sized firms affects our results in Appendix B.

3.3 Effect of experience rating on the insurance choice of firms

There are two situations in which a firm can choose between public insurance or opting out of the public system: employers paying sick leave premiums for their non-permanent employees, and employers paying partial disability insurance premiums for their perma-

Figure 2: *Extended causal chain: including the insurance choice of firms*



nent employees[1]. In this subsection, we consider the misalignment between the party responsible for reintegration and the party that pays the premiums. This misalignment may guide the decision of employers to opt out of public insurance when the premiums are experience-rated.

When experience rating is applied, misalignment can arise between the party responsible for the reintegration process and the party that has to bear the costs associated with the process. In other words, if the employer is publicly insured for either the sick leave or partial disability insurance benefits, the employer must pay experience-rated premiums. However, Employee Insurance Agency UWV is responsible for the reintegration process and most likely has most influence (other than the employee) on whether the employee can return to work (Groenewoud et al., 2015). The employer is most likely only able to introduce preventive accommodation measures but has limited influence after the employee becomes sick or receives partial disability insurance payouts. Thus, the conduct of the Employee Insurance Agency throughout the reintegration process will influence the premium that the firm has to pay. Note that if it still relates to the sick leave period, this conduct might also influence the partial disability insurance benefits should the employee later flow into partial disability insurance. A firm can circumvent the influence of the Employee Insurance Agency's conduct on its premiums by opting out of the public system and arranging the benefits and reintegration process internally (Groenewoud et al., 2015). This factor might be especially important for firms that expect to be relatively efficient at accommodating their employees since, for them, the reintegration might be more effective if they do it themselves rather than the Employee Insurance Agency being in charge. In turn, opting out could affect accommodation rates since the firm would then be fully responsible for the reintegration process and might exert more accommodation efforts (arrow (e) in Figure 2).

1 Since 2017, a third case is added: employers paying partial disability insurance premiums for their non-permanent employees. However, the data in our study cover the 2007-2015 period.

The literature hardly contains empirical evidence on the effect of experience rating on the insurance choice of firms. The first indicative evidence that firms indeed opt out of the public system when experience rating is introduced is presented by Groenewoud et al. (2015). In a survey that they conducted among a relatively small sample of 418 employers of non-permanent employees, 65% of the firms that opted out of public sick leave insurance after the BeZaVa was introduced reported that better-expected reintegration results were a reason for their decision. In addition, they held several in-depth interviews, which evidenced that greater control of the reintegration process seemed to be the main reason.

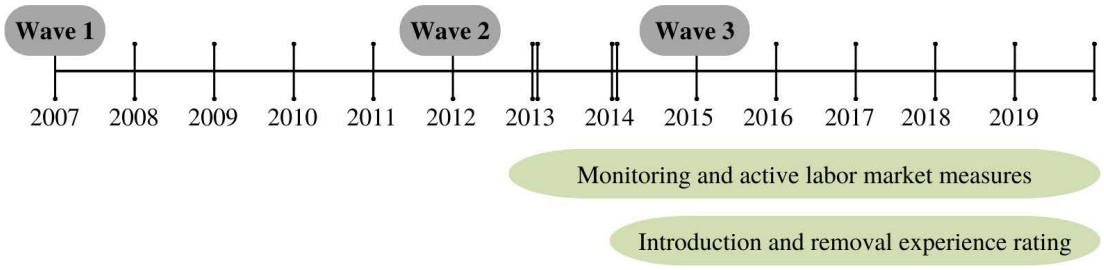
Based on our theoretical argument and the results from the survey by Groenewoud et al. (2015), we expect that BeZaVa, through the introduction of experience rating in public sick leave premiums for non-permanent employees, led more firms to opt out of public sick leave. Moreover, we expect that opting out is associated with higher accommodation rates during sick leave since firms are then fully responsible for the reintegration process.

In our argument so far, we have only focused on non-permanent employees and their sick leave insurance. However, the BeZaVa also removed experience rating in the partial disability insurance premiums paid for permanent employees at large firms (full removal) and medium-sized firms (partial removal). Through the reverse of the logic described above, this could have led to a decrease in the number of firms that opt out of public partial disability insurance. Unfortunately, we cannot estimate this mechanism since we have no data on whether a firm opts out of public partial disability insurance.

4. Data and summary statistics

4.1 Data source: Pathway to disability insurance survey

Figure 3: *Timeline of the reform and the Pathway to disability insurance survey waves*



Notes: This table portrays the timing of the three Pathway to disability insurance surveys and the dates at which the different measures of the BeZaVa went into effect.

We use data from the Pathway to Disability Insurance (*Weg naar de WIA* in Dutch), a repeated cross-sectional survey which was conducted by the Employee Insurance Agency UWV and research agencies APE and Astri (APE and Astri, 2007; APE and AStri, 2014; Deursen, 2018). This survey has been repeated three times (in 2008, 2012 and 2015) with three different cohorts (of permanent employees, non-permanent employees, and unemployed respondents), who had all been sick-listed for about nine months at the start of the survey. Each time, the entire population of nine-month sick-listed individuals was sent an invitation to the survey. The net response rate among the three waves was about 35% (APE and Astri, 2007; APE and AStri, 2014; Deursen, 2018).

The timing of the three waves and of the different measures of the BeZaVa is displayed in Figure 3. This shows that all measures were instituted between the second wave (2012) and the third wave (2015)[2]. The survey is recorded nine months after the start of the sick leave period. This means that the worker is still in the sick leave period, and a possible disability insurance application has not yet been started. However, there could already have been nine months of accommodation efforts by the employer.

The survey includes a broad range of questions and variables. Respondents were sent an invitation to participate in the survey by regular mail or e-mail and could fill out an extensive questionnaire, including questions about health, labor market outcomes, work accommodation provided by the employer, and some personal characteristics. The surveys for permanent and non-permanent employees slightly differed from each other. In addition, not all data in the Pathway to Disability Insurance data sets are self-reported, as some data are

2 There was also another measure, the possibility to opt out of public partial disability insurance for non-permanent employees, but this was only implemented after the third wave. It therefore play no role in our analyses.

derived from the Employee Insurance Agency. More specifically, the firm sector in which the respondent is or was employed is based on Employee Insurance Agency records, as well as whether the firm opted out of public sick leave insurance (which is only recorded in 2015). Moreover, the data distinguish between two groups of non-permanent employees based on Employee Insurance Agency records: agency workers with a contract clause whereby their employment ends when they become sick, and employees with a temporary contract that ends during the sick leave period (APE and Astri, 2007; APE and AStri, 2014; Deursen, 2018). From here on, these two groups will be referred to as *agency workers* and *temporary workers*.

4.2 Sample selection

For our analysis, we use all three waves but only use responses from non-permanent and permanent employees, and not from unemployed respondents. The waves also have a follow-up survey, 18 months after the start of the sick leave period, but we confine ourselves to the main waves of responses as the follow-up survey suffers from selection biases. The reason is the possibility that individuals who have been accommodated in the first nine months are less likely to still be sick or to need accommodation after 18 months due to the previous accommodation efforts, which would bias the results in the follow-up survey. This amounts to 18,962 respondents. The sample restrictions are reported in Table 2, which also lists the sample sizes after each sample restriction and the sample sizes of the subsamples used in specific analyses. The final sample consists of 12,524 respondents, which is 66.0% of the initial sample. Details of the sample selection and cleaning process can be found in Appendix A.

4.3 Variables

Dependent variables – The two main dependent variables of this study are employer accommodation and worker satisfaction with employer accommodation. Employer accommodation is a binary variable that takes the value of one if the respondent fills in that one of the accommodation options has been provided by the employer during the sick leave period so far, and zero if the respondent indicates that the employer did nothing. The question asked is: "*What has your employer/employment agency done to either get you back to work or to retain you at work since you first reported sick?*". The grouped options are: different/fewer tasks or hours; work on a therapeutic basis; workplace/equipment adjustment; other; and nothing. Rather than confine ourselves to a measure of the extensive margin of accommodation, we also include a measure of the intensive margin to assess the quality or intensity of accommodation efforts provided. That is, worker satisfaction with employer accommodation is a binary variable that takes the value of one when the respondent answers "yes" to the question whether he/she thinks that the employer did enough

Table 2: *Sample restrictions and sample size*

Sample	Nr. of respondents	% of initial sample
Initial sample of the three waves of survey respondents.	18,962	100%
Sample restrictions		
1. Excluding those with missing employment type variable and excluding the unemployed.	15,177	80.0%
2. Excluding those with missing key covariates.	14,104	74.4%
3. Excluding those who did not report firm size and those who are in the 'other' category of firm sector.	13,687	72.2%
4. Excluding those who filled in the permanent survey as non-permanent employee.	13,324	70.3%
5. Excluding those who answered that they became sick more than one month off from the inclusion period or are aged below 18 or above 67.	13,040	68.8%
6. Excluding those who did not answer the employer accommodation question.	12,524	66.0%
Subsamples per employment type		
Non-permanent employee.	2,968	23.7%
Permanent employee.	9,556	76.3%
Subsamples dif-in-dif analysis		
Analysis introduction experience rating (non-permanent workers, no medium-sized firms).	1,145	9.14%
Analysis abolishment experience rating (permanent workers, no medium-sized firms).	5,161	41.2%

Notes: This table reports the sample restrictions and the accompanying sample sizes. It also reports the sample sizes per group of the final sample: non-permanent employees versus permanent employees, and the subsamples for the difference-in-differences analysis that exclude respondents employed at medium-sized firms.

to get the employee back to work or to stay at work, and zero when "no" is answered. All respondents are asked this, regardless of whether they were accommodated or not.

Independent variables and controls – Our independent variables consist of: type of non-permanent contract (agency worker or temporary worker); demographic variables; disability types; and firm characteristics. We consider gender[3], education level (low, medium, high), migration background (which is a binary variable), and age classes at the time of the survey (between 18 and 35, 36 and 55, 55 and 60, and 61 to 67). The education levels are based upon the following classification: having attained primary education, preparatory secondary vocational education or lower secondary vocational education (in Dutch: *basisonderwijs, lbo, vmbo*) classifies as lower education. Secondary vocational education, senior general secondary education, and pre-university education (in Dutch: *mbo, havo, vwo*) are listed as medium education. University and University of Applied Science (in Dutch: *wo* and *hbo*) level are classified as higher education. We also include the type of disability or health problem that existed at the start of the sick leave, the types being grouped into musculoskeletal

3 It was only possible to choose between male and female in the survey.

issues, psychological issues, heart or vascular issues, and other. Respondents could indicate more than one health problem, so the types are not mutually exclusive. The first firm characteristic is firm size, which can be small (0-10 employees), medium (11-100 employees) or large (more than 100 employees), and firm sector pertains to the last employment. The firm sectors are grouped into industry, transport, trade, services, and the public sector. We also include whether a non-permanent employee's employer had opted out of public sick leave insurance, but this is only recorded in the final wave from 2015. Hence, we code the observations of non-permanent employees before 2015 as zero, whereas the observations of permanent employees are coded as missing in all waves, as this does not apply to them. Only 3% of all firms in The Netherlands opted out of public sick leave insurance in 2012 (Dumhs and Van Deursen, 2017). Finally, we also control for year-fixed effects.

4.4 Descriptive statistics

Table 3 reports the summary statistics of the full sample of 12,524 long-term sick-listed employees from the three waves. We also stratify the summary statistics by employment contract: non-permanent employees and permanent employees. The data indeed show that employer accommodation is provided much more frequently to permanent employees (79% of permanent employees) than to non-permanent employees (only 29%), which is one of the motivations behind the BeZaVa legislation (Tweede Kamer der Staten-Generaal, 2012). Moreover, non-permanent employees are less satisfied when they receive accommodation (58%) than permanent employees (81%).

Women are slightly over-represented in the full sample (56%), and most respondents are middle-aged, being in the 36 to 55 age category (57%). Permanent employees are more frequently in the 55+ age categories (31% combined) than non-permanent employees (16%). Besides, permanent employees are more likely to belong to the group with higher education (32%) than non-permanent employees (17%). The most common disabilities relate to the musculoskeletal system (41% in the full sample) and are more common for non-permanent (51%) than for permanent employees (38%). In 2015, the year in which opting out of public sick leave insurance was recorded for non-permanent employees, 28% of the respondents was employed at a firm that opted out. As to the other firm characteristics, we see that permanent employees are more frequently employed at a large firm (38%) than non-permanent employees (28%). Finally, we note that non-permanent employees are much more often employed in the services sector (46%) than permanent employees (19%), and that permanent employees are more often employed in the public sector (48%) than non-permanent employees (20%).

Table 3: *Summary statistics of the full sample, of non-permanent employees, and of permanent employees in 2008, 2012 and 2015*

	Full sample	Non-permanent employees	Permanent employees
	Mean	Mean	Mean
Accommodation rate and satisfaction			
Employer accommodation	67.3%	29.0%	79.2%
Satisfied with employer accommodation, conditional on being accommodated	78.7%	58.0%	80.8%
Employment contract			
Non-permanent	23.7%	100.0%	0.0%
Agency contract (conditional on non-permanent contract)		21.5%	
Permanent	76.3%	0.0%	100.0%
Worker characteristics			
Female	55.6%	53.2%	56.4%
Migration background	14.8%	22.8%	12.3%
Age			
18-35	15.5%	30.0%	11.1%
36-55	57.1%	53.6%	58.1%
56-60	18.8%	11.9%	21.0%
61-67	8.6%	4.5%	9.9%
Education level			
Low	37.8%	43.8%	36.0%
Medium	34.0%	39.1%	32.4%
High	28.2%	17.1%	31.7%
Disability characteristics			
Disability			
Musculoskeletal	40.8%	51.0%	37.7%
Psychological	36.9%	42.7%	35.2%
Heart/vascular	12.0%	9.7%	12.7%
Other	36.0%	30.8%	37.6%
Firm characteristics			
Opted out public sick leave insurance		27.8%	
Firm size			
Small	17.8%	24.9%	16.2%
Medium	46.3%	47.6%	46.0%
Large	35.9%	27.5%	37.8%
Firm sector			
Industry	15.4%	13.2%	16.1%
Transport	6.1%	8.0%	5.5%
Trade	12.1%	13.5%	11.7%
Services	25.4%	45.7%	19.1%
Public	41.0%	19.6%	47.6%

Notes: This table presents the distribution of characteristics for our sample of 12,524 long-term sick-listed respondents. Column 1 concerns the full sample, column 2 restricts to only non-permanent employees and column 3 to permanent employees. Data on opting out of public sick leave insurance is only provided for non-permanent employees in wave 2 (2012), not in wave 3 (2015). Also note that the disability types are not mutually exclusive, so the sum of the individual percentages does not add up to 100%.

5. Empirical framework

5.1 Determinants of accommodation

To identify the determinants of work accommodation, we conduct two analyses. Our analysis stratifies our final sample of 12,524 nine-month sick-listed employees by whether any accommodation was provided at all by the employer, and by type of accommodation, conditional on having received accommodation. After stratifying, we examine the means of several worker, disability, and firm characteristics. That is, we consider per group the socio-demographics (gender, migration background, age, and education level), the types of self-reported disability that caused the sick leave, and firm characteristics (firm size, firm sector, and whether the firm opted out of public sick leave for non-permanent employees). Recall that opting out of public sick leave insurance is coded as zero for all observations of non-permanent employees in Waves 1 and 2 (2008 and 2012) and as missing for permanent employees. For non-permanent employees only, we also consider the type of non-permanent contract, i.e., an agency contract or a temporary contract with end date.

Our second analysis, to define the determinants of work accommodation, is based on pooled OLS. We use pooled OLS, in which employer accommodation is the dependent variable. The regression analyses are conducted on non-permanent and permanent employees separately. We use the same control variables as listed above, adding wave dummies to the regressions. We cannot conduct a multinomial logistic regression on the types of accommodation, as the types are not mutually exclusive and there is much overlap in the provided types.

5.2 Effect of experience rating on work accommodation by employers

To assess whether experience rating increases the chance of a long-term sick-listed worker being accommodated by the employer and of worker satisfaction with the provided accommodation (proxying for the quality or intensity of the provided accommodation), we examine the policy variation caused by the BeZaVa. We single out the effect of either introducing or removing experience rating in public sick leave and partial disability insurance premiums, applying two separate difference-in-differences analyses.

To estimate the effect of *introducing* experience rating in public sick leave and partial disability insurance premiums, we use data of non-permanent employees only. Specifically, we compare non-permanent employees at large firms (the treatment group) to non-permanent employees at small firms (the control group). As mentioned before, we exclude medium-sized firms in this analysis because the level of experience rating in the premiums of medium-sized firms is not constant but rather depends on firm size, and we do not know the exact firm size, only that the number of employees is between 10 and 100. However, we check whether this exclusion affects our results as a robustness check in Appendix B,

Table 11. In addition, we also cannot include the first wave (2008) for this analysis since firm size was not recorded for non-permanent employees in this wave. So we only include the second and third wave.

We assess the following linear probability models for our estimation of the effect of introduc- ing experience rating. Here the second model is estimated using the subsample of respondents who have indicated that they were accommodated by the employer, thus conditional on positive accommodation:

$$Accom_{i,t} = \beta_0 + \beta_1 \cdot After_t + \beta_2 \cdot Large\,firm_{i,t} + \beta_3 \cdot After_t \cdot Large\,firm_{i,t} + \boldsymbol{X}'_{i,t}\delta + \varepsilon_{i,t} \quad (1)$$

$$Satisfaction_{i,t} = \beta_0 + \beta_1 \cdot After_t + \beta_2 \cdot Large\,firm_{i,t} + \beta_3 \cdot After_t \cdot Large\,firm_{i,t} + \boldsymbol{X}'_{i,t}\delta + \varepsilon_{i,t} \quad (2)$$

in which *Accom* is employer accommodation, *Satisfaction* is worker satisfaction with employer accommodation, *After* is a dummy that takes on the value of one if the observation took place after the reform (Wave 3, 2015), and *Large firm* is a dummy that equals one if the respondent reports having been employed at a large firm and zero if the respondent is employed at a small firm. X is the vector of controls, which is the same set as described in the previous subsection, except for the exclusion of the wave dummies since we only include *After*. The coefficient of interest is the difference-in-differences coefficient, β_3, which measures the effect of the introduction of experience rating. The stricter monitoring measures and active labor market measures of the BeZaVa take place at both small and large firms, so their effect is part of the time trend (β_1).

While our main analysis estimates the effect of experience rating on accommodation efforts in a causal way, we complement this analysis by exploring one potential mechanism that could mediate the effect of experience rating on accommodation. More precisely, we turn our attention to the option of opting out of the public sick leave insurance, for non-permanent employees only, which could affect our estimate of the effect of experience rating on work accommodation provided by the employer. According to our theoretical argument, especially firms that are well capable of accommodating might want to opt out rather than rely on public sick leave insurance.

Our analysis proceeds in three steps. First, we want to know whether our estimate of the effect of experience rating on the likelihood of and worker satisfaction with accommodation remains the same when excluding from our sample firms that opted out after the reform. That is, the pre-reform sample (2012) stays the same, but the sample after the reform is reduced, as we only have data on opting out after the reform. Next, we perform a difference-in-differences analysis on the effect of experience rating on the likelihood of being employed at a firm that opts out, with non-permanent employees at large firms as treatment group and at small firms as control group. In this analysis, we assume that the number of firms that opt out before the reform equals zero because only 3% of all firms in the Nether-

lands did so (Dumhs and Van Deursen, 2017). Therefore, we do not claim obtaining a fully causal estimate, but at least we provide a first indication of whether experience rating might have increased the number of firms that opt out. Finally, we aim to get more insight into what firms that opt out look like. Do they accommodate more? Which firm sizes opt out, and what sector are they active in? Which type of non-permanent employee is more commonly employed there? In combination, these three steps should indicate whether experience rating increases the likelihood of a firm opting out and whether this, in turn, could have affected our estimate of the effect of experience rating on accommodation through the impact that opting out has on accommodation.

Back to the main effect of experience rating on accommodation. To estimate the effect of *removing* experience rating in partial disability insurance premiums, we consider permanent employees only. We use permanent employees at small firms as our treatment group and compare them to permanent employees at large firms. For the same reason as before, we do not include permanent employees at medium-sized firms, as these differ in the degree of removal, but we check the robustness of this decision in Appendix B. In this analysis, we do include the 2008 wave since firm size was recorded for permanent employees in that wave. We employ the following linear probability models, where the second model is again applied to the subsample of respondents who indicate having been accommodated by their employer:

$$Accom_{i,t} = \beta_0 + \beta_1 \cdot After_t + \beta_2 \cdot Small\ firm_{i,t} + \beta_3 \cdot After_t \cdot Small\ firm_{i,t} + \boldsymbol{X}_{i,t}^{'}\delta + \varepsilon_{i,t}. \quad (3)$$

$$Satisfaction_{i,t} = \beta_0 + \beta_1 \cdot After_t + \beta_2 \cdot Small\ firm_{i,t} + \beta_3 \cdot After_t \cdot Small\ firm_{i,t} + \boldsymbol{X}_{i,t}^{'}\delta + \varepsilon_{i,t}. \quad (4)$$

The vector of controls, X, is slightly smaller in these two models: it does not contain the type of non-permanent contract and whether the employer opted out of public sick leave insurance, as these factors do not apply to permanent employees. In these models, the treatment is removing experience rating in partial disability insurance premiums for small employers after the reform, of which the effect is captured by β_3. The BeZaVa did not affect any other parts of the sick leave and disability insurance system of permanent employees, as the stricter monitoring measures and active labor market measures do not apply to them.

The parallel trend assumption can only be tested for permanent employees, not for non-permanent employees. The reason is that firm size is only recorded in two pre-reform waves (2008 and 2012) for permanent employees and only once for non-permanent employees (in 2012). For permanent employees, we can assess the parallel trend assumption both graphically and analytically. We will analytically assess the assumption by regressing a difference-in-differences set-up on the pre-reform data.

6. Results

6.1 Results: Determinants of accommodation

Table 4 reports our first analysis of the determinants of accommodation: the stratified distribution of employee and employer characteristics. Column 1 reports the summary statistics of all employees who indicate that they have been accommodated by their employer. Columns 2 to 5 report the summary statistics of employees who have been provided a certain type of accommodation, i.e., different or fewer tasks or hours, work on a therapeutic basis, workplace or equipment adjustment, or another type of accommodation.

If we compare the summary statistics of column 1 to those in columns 2 to 5, and also to the summary statistics of the full sample Table 3), several results stand out. A staggering 90% of the individuals who are accommodated by their employer are permanently employed. This is most likely both because there are more permanent employees in the full sample and because permanent employees are more often accommodated than non-permanent employees. Stratified per type of accommodation, the distribution is roughly similar. In addition, only 8% of the accommodated respondents are in the 56 to 60 age category, whereas 19% of the entire sample belongs to this group, indicating that this age category is less likely to be accommodated by the employer. Moreover, the distribution of disability types is very similar to that of the entire sample, with one exception: workplace or equipment adjustment is relatively less provided to individuals with psychological complaints. Only 26% of the cases with workplace or equipment provided concern psychological complaints, whereas 37% of the entire sample has psychological complaints. This could be explained by the fact that psychological issues might be less easily accommodated by simply adjusting the physical work environment. Finally, employees whose employer opted out of public sick leave insurance are over-represented in the sample of accommodated individuals with 35%, as only 28% of all non-permanent employees in 2015 are employed by an employer who opted out. This suggests that these employers are more likely to accommodate. To summarize, these distributions serve to indicate that type of employment contract, age, psychological issues, and the insurance choice of employers for sick leave are determinants of accommodation provided by employers.

Table 5 reports the results of our second analysis on the determinants of accommodation: pooled OLS regression. The dependent variable is work accommodation provided by the employer. The first column presents the OLS regression estimates of the effect on employer accommodation, applying the sample of non-permanent employees. Column 2 concerns accommodation within the sample of permanent employees. This table reveals that even though we already know that the rate of accommodation is much lower for non-permanent employees than for permanent employees, the determinants of accommodation seem to be quite similar across the two groups. We start by comparing accommoda-

Table 4: *Summary statistics per type of employer accommodation of both non-permanent employees and permanent employees in 2008, 2012 and 2015*

	Accom. by employer	Different/ fewer tasks or hours	Work on therapeutic basis	Workplace/ equipment adjustment	Other
Employment contract					
Non-permanent	10.2%	6.9%	6.7%	7.9%	21.2%
Agency contract (fraction of non-permanent workers)	13.6%	10.8%	8.6%	10.5%	19.2%
Permanent	89.8%	93.2%	93.3%	92.1%	78.8%
Accommodation rate and satisfaction					
Employer accommodation	100.0%	100.0%	100.0%	100.0%	100.0%
Satisfied with employer accommodation	78.7%	82.4%	81.8%	86.6%	68.6%
Worker characteristics					
Female	57.3%	56.6%	60.1%	58.2%	57.9%
Migration background	13.1%	14.0%	10.7%	14.7%	13.7%
Age					
18-35	14.0%	17.0%	13.6%	14.1%	14.3%
36-55	58.1%	57.8%	59.5%	62.2%	59.9%
56-60	8.4%	7.4%	7.7%	6.8%	7.9%
61-67	8.4%	7.4%	7.7%	6.8%	7.9%
Education level					
Low	34.3%	29.5%	32.5%	33.2%	36.3%
Medium	33.8%	33.9%	34.5%	37.0%	32.4%
High	31.9%	36.6%	33.0%	29.8%	31.3%
Disability characteristics					
Disability					
Musculoskeletal	39.1%	39.9%	36.8%	57.4%	38.6%
Psychological	36.9%	39.2%	38.4%	26.3%	41.7%
Heart/vascular	11.6%	10.7%	11.8%	6.9%	11.0%
Other	35.5%	33.1%	34.6%	33.2%	39.1%
Firm characteristics					
Opted out public sick leave insurance	34.5%	35.4%	37.3%	47.8%	33.1%
Firm size					
Small	15.6%	13.1%	15.2%	14.0%	18.8%
Medium	46.5%	45.5%	47.9%	44.9%	44.8%
Large	37.9%	41.4%	36.9%	41.2%	36.5%
Firm sector					
Industry	15.8%	15.8%	15.5%	16.1%	14.3%
Transport	5.5%	5.3%	5.0%	4.5%	5.9%
Trade	11.7%	11.0%	11.7%	12.4%	11.8%
Services	20.5%	19.6%	18.6%	21.7%	25.0%
Public	0.4659	48.2%	49.2%	45.3%	43.0%

Notes: The first column of this table displays the sample characteristics of the sample of respondents who are accommodated by their employer, whereas the second to fifth columns display the distribution over the different types of employer accommodation of the control characteristics, conditional on being accommodated by the employer.

Table 5: *Determinants of employer accommodation for both non-permanent and permanent employees*

Variables	(Non-perm.) accom	(Perm.) accom
Employment contract		
Agency contract (base = temporary)	-0.1245***	
	(0.0225)	
Worker characteristics		
Female	0.0016	0.0141
	(0.0180)	(0.0090)
Migration background	0.0010	-0.0154
	(0.0198)	(0.0129)
Age class (base = 36-55)		
18-35	0.0143	0.0396***
	(0.0196)	(0.0124)
56-60	-0.0219	-0.0153
	(0.0256)	(0.0108)
61-67	-0.0488	-0.0734***
	(0.0388)	(0.0160)
Education level (base = medium)		
Low	-0.0128	-0.0522***
	(0.0184)	(0.0105)
High	0.0720***	0.0151
	(0.0253)	(0.0100)
Disability characteristics		
Musculoskeletal	-0.0150	0.0008
	(0.0189)	(0.0107)
Psychological	-0.0275	-0.0082
	(0.0185)	(0.0105)
Heart/vascular	-0.0666**	-0.0313**
	(0.0271)	(0.0141)
Other	-0.0068	-0.0593***
	(0.0197)	(0.0103)
Firm characteristics		
Opted out public sick leave insurance	0.1197***	
	(0.0341)	
Firm sector (base = industry)		
Transport	-0.0532	-0.0267
	(0.0368)	(0.0209)
Trade	0.0071	-0.0218
	(0.0337)	(0.0166)
Services	-0.0269	-0.0313**
	(0.0286)	(0.0145)
Public	0.0485	0.0059
	(0.0328)	(0.0125)
Wave dummies (base = wave 1 (2008))		
Wave 2 (2012)	-0.1220***	0.0095
	(0.0210)	(0.0102)
Wave 3 (2015)	-0.1213***	0.0096
	(0.0243)	(0.0101)
Firm size (base = medium)		
Small		-0.0446***
		(0.0127)
Large		0.0154*
		(0.0089)
Constant	0.4219***	0.8370***
	(0.0371)	(0.0172)
Observations	2,968	9,556
R-squared	0.0460	0.0227

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table reports the regression coefficients of a pooled OLS on being accommodated by the employer in the sample of non-permanent employeess (column 1) and the sample of permanent employees (column 2).

tion of non-permanent employees (column 1) to accommodation of permanent employees (column 3). Gender and migration background are not significantly tied to accommodation for both types of employees. There does seem to be an age pattern: younger workers are more likely to be accommodated than older ones. This pattern is only significant for permanent workers. This could imply that employers expect a lower return from their accommodation of workers who are closer to retirement and are therefore less willing to accommodate them. In addition, both permanent and non-permanent workers seem to suffer from an education bias: individuals with a lower education level are less likely to be accommodated than those with a higher level. This is in line with Hill et al. (2016), who find that education has a positive effect on employer accommodation. Not only do socio-demographic factors matter, also disability characteristics are associated with certain accommodation levels and show the same pattern for both permanent and non-permanent contracts. Cardiac and

vascular diseases of both permanent and non-permanent employees are less likely to be accommodated by the employer, possibly because such inflictions are harder to accommodate. Finally, certain firm characteristics matter. That is, even though firm sector has no impact, small firms are less likely to accommodate and large firms more so. Note that this result on firm sector is only tested for permanent employees, as firm sector was not recorded before 2015 for non-permanent employees and is therefore not included in this regression.

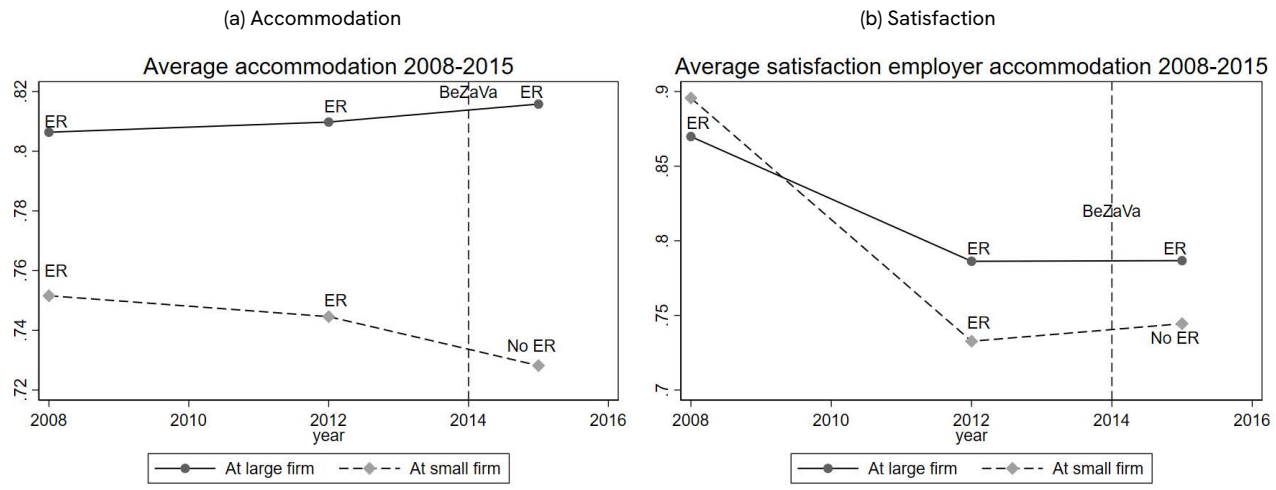
We conclude that the determinants of accommodation are broadly similar for permanent and non-permanent employees. Age, education level, disability type, and firm size can determine accommodation rates. For non-permanent employees alone, the type of non-permanent contract matters, as well as whether the employer opted out of public sick leave insurance. The only significant difference between the determinants of accommodation between permanent and non-permanent employees is that, for non-permanent employees, the 2008 and 2012 waves have a significantly higher negative impact on the accommodation rate than the 2015 wave. This might be caused by the BeZaVa, as we will see in the results subsection below.

6.2 Results: Effect of experience rating on work accommodation by employers

6.2.1 Parallel trend of accommodation and worker satisfaction

Having examined the general determinants of accommodation, we now turn to the difference-in-differences analysis on the effect of experience rating on work accommodation by the employer. For our difference-in-differences analysis on the effect of abolishing experience rating in partial disability insurance premiums paid for permanent employees, we can graphically and analytically inspect the parallel trend assumption. Unfortunately, this cannot be done for non-permanent employees, as firm size was not reported in 2008 for non-permanent employees. As such, we do not have two pre-treatment data points at our disposal. Figure 4 graphs the average accommodation and conditional worker satisfaction rates for permanent employees in 2008, 2012, and 2015, at small and large firms. As to the accommodation rate, the trends seem roughly similar from 2008 to 2012, while they diverge after the reform. However, for the average worker satisfaction rate, the trend does not appear parallel in the pre-treatment group. In Table 6 we confirm the graphical evidence by a placebo difference-in- differences analysis, using only the pre-treatment data. In case of a parallel trend in the pre-treatment period, the interaction should not be significant. For accommodation, the interaction is indeed not significant. It is significant, however, for worker satisfaction. Hence, the parallel trend assumption seems to be satisfied for the accommodation rate only, implying that the results of worker satisfaction cannot be interpreted causally, as they might be caused by other confounding factors. This also implies

Figure 4: *Graphical depiction of parallel trend assumption for permanent employees*



Notes: This figure displays the average accommodation rate and worker satisfaction rate (conditional on positive accommodation) of permanent employees at large versus small firms in the three Pathway to disability insurance surveys to assess the parallel trend assumption. ER stands for experience rating.

Table 6: *Testing the parallel trend assumption for permanent employees*

Variables	(1) accom	(2) satisfaction
Treatment indicators		
Wave 2	0.0034	-0.0836***
	(0.0163)	(0.0174)
Small firm	-0.0548***	0.0258
	(0.0206)	(0.0179)
Wave 2 * Small firm	-0.0104	-0.0794**
	(0.0320)	(0.0340)
Constant	0.8064***	0.8698***
	(0.0113)	(0.0108)
Observations	3,392	2,634
R-squared	0.0045	0.0218

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table reports the pooled OLS results of two regressions on accommodation and satisfaction (conditional on positive accommodation), using the sample of permanently employed respondents in 2008 and 2012. The first column reports the results on binary accommodation whereas the second one reports the results on worker satisfaction conditional on positive accommodation. The sample size is smaller than in the full sample because of the exclusion of respondents at medium-sized firms.

that the results of the introduction of experience rating for the sample of non-permanent employees should be approached with care, as it could be that the same confounding factors that disturb the parallel trend with regard to satisfaction for permanent employees are also present for non-permanent employees. In our interpretation of the results below, we will therefore mainly focus on the results related to binary accommodation, rather than the worker satisfaction rate.

6.2.2 Non-permanent employees

Table 7 presents the results of the estimation of equations 1 and 2. These are the difference-in-differences estimates of the effect of the introduction of experience rating in sick leave and partial disability insurance premiums for large employers of non-permanent employees. Columns 1 and 2 report the effect on accommodation, where column 1 does not include controls, while column 2 does. Columns 3 and 4 show the effect on the satisfaction of the respondent with the employer accommodation provided, conditional on positive accommodation, again with and without controls, respectively.

If we focus on the results of employer accommodation including controls (there are no substantial differences in the coefficients with and without controls), we see the following effects. The coefficient of the interaction term is the estimated treatment effect of the introduction of experience rating. This indicates an expected increase in the likelihood of being accommodated by the employer of 5.3 percentage points. However, this coefficient is statistically insignificant. Due to the large standard errors, our estimates are rather imprecise.

Compared to the literature, our insignificant estimate of the treatment effect is partially in line with that of Prinz and Ravesteijn (2020). They argue having found a negative but in their case significant effect of the introduction of experience rating on disability insurance inflow through the BeZaVa. However, they compare non-permanent workers to permanent workers, which captures the effect of the full reform instead of solely the experience rating part. Koning et al. (2022) do disentangle the two effects (monitoring/active labor market measures and experience rating) in their analysis of the effect of the reform. They find that the total disability insurance inflow of non-permanent workers decreased by 0.016 percentage points, of which only about 10% could be attributed to experience rating. Hence, even if we are willing to believe that our estimate is only insignificant because of the sample size and that there is indeed an increase in accommodation levels, experience rating still does not seem to reduce disability insurance inflow. This indicates that accommodation itself might be ineffective at limiting such inflow.

Table 7: *Difference-in-differences results introduction experience rating non-permanent employees at large firms*

Variables	(Non-perm.) accom	(Non-perm.) accom	(Non-perm.) satisfaction	(Non-perm.) satisfaction
Treatment indicators				
After	0.0217	0.0258	-0.0948	-0.0900
	(0.0360)	(0.0363)	(0.0964)	(0.1010)
Large firm	0.0083	0.0228	0.0218	-0.0315
	(0.0337)	(0.0350)	(0.0924)	(0.0981)
After * Large firm	0.0684	0.0530	0.0860	0.0729
	(0.0510)	(0.0514)	(0.1282)	(0.1354)

Continued on next page

Variables	(Non-perm.) accom	(Non-perm.) accom	(Non-perm.) satisfaction	(Non-perm.) satisfaction
Employment contract				
Agency contract (base = temporary)		-0.0283		0.1965*
		(0.0361)		(0.1117)
Worker characteristics				
Female		0.0079		0.0672
		(0.0280)		(0.0733)
Migration background		0.0177		-0.0641
		(0.0311)		(0.0843)
Age class (base = 36-55)				
18-35		0.0244		0.1253*
		(0.0308)		(0.0720)
56-60		-0.0479		0.0609
		(0.0384)		(0.1185)
61-67		-0.0707		-0.1282
		(0.0542)		(0.1896)
Education level (base = medium)				
Low		0.0060		0.0085
		(0.0284)		(0.0838)
High		0.0933**		0.0133
		(0.0372)		(0.0886)
Disability characteristics				
Musculoskeletal		-0.0412		-0.1416*
		(0.0284)		(0.0811)
Psychological		-0.0430		-0.1049
		(0.0274)		(0.0822)
Heart/vascular		-0.1143***		-0.2073
		(0.0376)		(0.1359)
Other		-0.0414		-0.0783
		(0.0296)		(0.0859)
Firm characteristics				
Firm sector (base = industry)				
Transport		-0.0989		0.0684
		(0.0604)		(0.1591)
Trade		0.0132		-0.2301*
		(0.0531)		(0.1196)
Services		-0.0754		-0.2286**
		(0.0460)		(0.1145)
Public		-0.0055		-0.1098
		(0.0522)		(0.1251)
Constant	0.2143***	0.2911***	0.5179***	0.7471***
	(0.0240)	(0.0541)	(0.0673)	(0.1307)
Observations	1,145	1,145	252	252
R-squared	0.0084	0.0427	0.0077	0.0862

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Notes: The first two columns report the pooled linear probability model results of a difference-in-differences approach using the sample of long-term sick-listed non-permanent employees in wave 2 and 3, i.e., 2012 and 2015. The dependent variable is self-reported binary employer accommodation. The last two columns report the pooled OLS results using the same sample but excluding individuals who reported to have had no accommodation. The dependent variable is self-reported binary satisfaction with the provided accommodation by the employer. The control group consists of non-permanent employees at small firms, and the treatment group of non-permanent employees at large firms. Respondents at medium-sized firms are not included in the analysis.

Columns 3 and 4 report the treatment effect on worker satisfaction with the accommodation provided by the employer, conditional on being accommodated. Again, however, the results are statistically insignificant, and we cannot claim causality due to the absence of a parallel trend for satisfaction.

Next to the effect that experience rating has on accommodation, we also hypothesized that experience rating could have increased the number of firms that opted out of public sick leave insurance for non-permanent employees. Table 8 reports the difference-in-differences results of the introduction of experience rating for non-permanent employees on the accommodation rate and on worker satisfaction with accommodation, excluding employees whose employer opted out of public sick leave insurance after the reform. The treatment effects remain insignificant.

Table 8: *Difference-in-differences results introduction experience rating excluding firms that opt out of public sick leave insurance for non-permanent employees*

Variables	(Non-perm.) accom	(Non-perm.) accom	(Non-perm.) satisfaction	(Non-perm.) satisfaction
Treatment indicators				
After	0.0121	0.0107	-0.1032	-0.1487
	(0.0375)	(0.0376)	(0.1029)	(0.1141)
Large firm	0.0083	0.0226	0.0218	-0.0333
	(0.0337)	(0.0352)	(0.0926)	(0.1019)
After * Large firm	0.0391	0.0106	0.0507	0.0871
	(0.0562)	(0.0573)	(0.1454)	(0.1549)
Employment contract				
Agency contract (base = temporary)		-0.0741**		-0.0654
		(0.0376)		(0.1491)
Worker characteristics				
Female		-0.0071		0.0015
		(0.0295)		(0.0836)
Migration background		0.0396		-0.0359
		(0.0329)		(0.0932)
Age class (base = 36-55)				
18-35		0.0282		0.1402*
		(0.0326)		(0.0825)
56-60		-0.0368		0.1806
		(0.0406)		(0.1221)
61-67		-0.0702		-0.2193
		(0.0573)		(0.1745)
Education level (base = medium)				
Low		0.0218		0.0957
		(0.0296)		(0.0932)
High		0.1109***		0.1141
		(0.0401)		(0.1062)
Disability characteristics				
Musculoskeletal		-0.0545*		-0.1238
		(0.0296)		(0.0944)
Psychological		-0.0689**		-0.1464
		(0.0287)		(0.0948)
Heart/vascular		-0.0933**		-0.2059
		(0.0401)		(0.1420)
Other		-0.0508		-0.0226
		(0.0309)		(0.0993)

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Variables	(Non-perm.) accom	(Non-perm.) accom	(Non-perm.) satisfaction	(Non-perm.) satisfaction
Firm characteristics				
Firm sector (base = industry)				
Transport		-0.0802		-0.0194
		(0.0636)		(0.1627)
Trade		-0.0120		-0.2414*
		(0.0550)		(0.1353)
Services		-0.0939*		-0.2726**
		(0.0481)		(0.1288)
Public		-0.0001		-0.1128
		(0.0558)		(0.1402)
Constant	0.2143***	0.3223***	0.5179***	0.7648***
	(0.0240)	(0.0565)	(0.0675)	(0.1445)
Observations	984	984	199	199
R-squared	0.0024	0.0456	0.0085	0.1230

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Notes: This table excludes the non-permanent employees who are employed at a firm that opted out of public sick leave insurance in 2015 from the analysis of table 7, i.e., the difference-in-differences analysis on the introduction of experience rating for non- permanent employees. The dependent variable is self-reported binary employer accommodation. The last two columns report the pooled OLS results using the same sample but excluding individuals who reported to have had no accommodation. The dependent variable is self-reported binary satisfaction with the provided accommodation by the employer. Respondents at medium-sized firms are not included in the analyses.

We proceed our exploration with a difference-in-differences analysis on the effect of introducing experience rating, not on accommodation, but on the likelihood of being employed at a firm that opted out of public sick leave insurance. For this analysis, we act as if all non-permanent employees were employed at a firm that did not opt out in 2012 (as we have no data on this and only 3% of all firms in The Netherlands at that time opted out). Then, in Table 9 we compare non-permanent employees at large firms (the treatment group) to non-permanent employees at small firms (the control group). The estimated treatment effect of the introduction of experience rating is 28 percentage points and is statistically significant at the 1% level. This must be interpreted with caution, however, as we do not have actual data on the number of firms in our sample that opted out in 2012, and since we cannot test the parallel trend assumption (not having two pre-treatment data points). Still, it does provide suggestive evidence that experience rating increased the number of firms that opt out of public sick leave insurance.

The third step of our exploration is a graphical inspection of the characteristics of firms that opt out versus those who do not. Figure 5 shows that employees of firms that opt out are more likely to be accommodated by both the employer and the Employee Insurance Agency, compared to those at firms that do not opt out. A higher employer accommodation rate could mean that firms who are good at accommodating self-select into opting out, or that firms who opted out are more incentivized to accommodate since they are fully responsible for the reintegration process. We cannot disentangle the effects and determine which is stronger. Besides, a much larger fraction of employees who are employed by a firm that opted out work for a large firm (46%) compared to those at publicly insured firms (24%), and

Table 9: *Difference-in-differences analysis on opting out of public sick leave insurance for non- permanent employees*

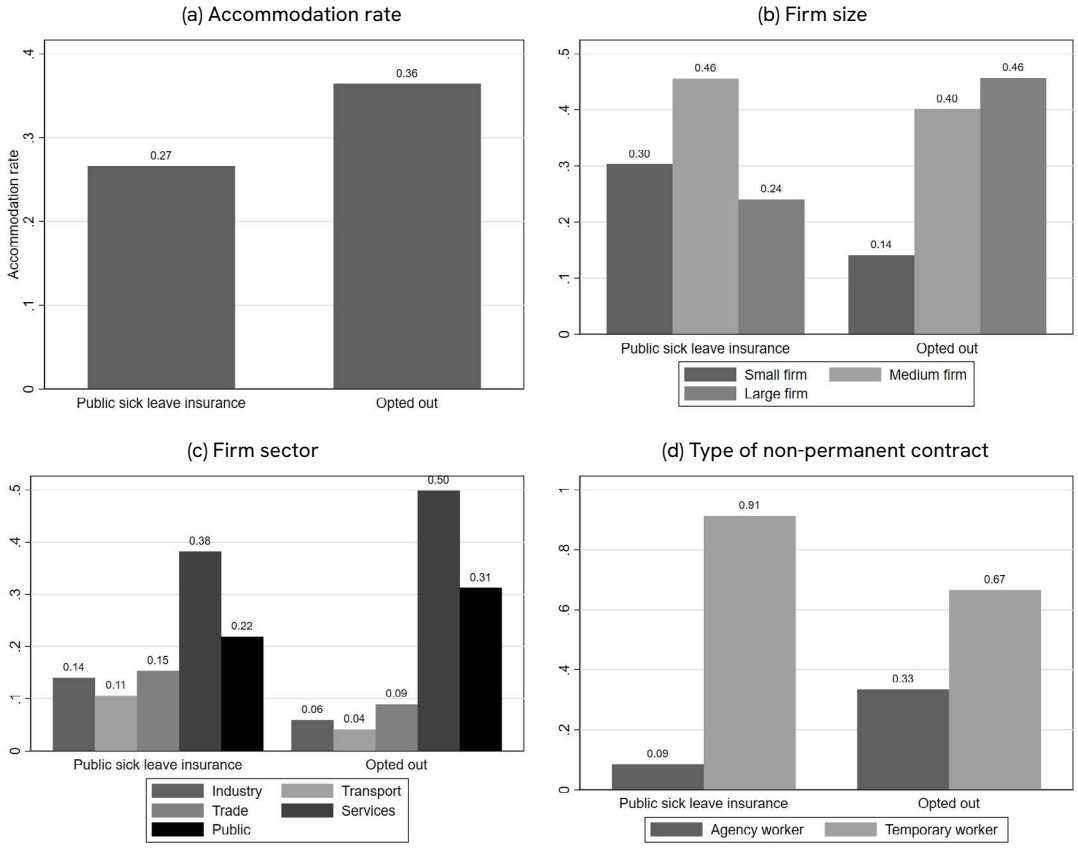
Variables	(Non-perm.) opted out public sick leave insurance
Treatment indicators	
After	0.1654***
	(0.0231)
Large firm	-0.0183*
	(0.0098)
After * Large firm	0.2783***
	(0.0363)
Employment contract	
Agency contract (base = temporary)	0.1815***
	(0.0261)
Worker characteristics	
Female	0.0377**
	(0.0191)
Migration background	-0.0405**
	(0.0203)
Age class (base = 36-55)	
18-35	0.0040
	(0.0209)
56-60	-0.0289
	(0.0279)
61-67	0.0096
	(0.0385)
Education level (base = medium)	
Low	-0.0378*
	(0.0195)
High	-0.0184
	(0.0259)
Disability characteristics	
Musculoskeletal	-0.0316
	(0.0206)
Psychological	-0.0241
	(0.0195)
Heart/vascular	-0.0326
	(0.0301)
Other	-0.0144
	(0.0219)
Firm characteristics	
Firm sector (base = industry)	
Transport	-0.0888**
	(0.0398)
Trade	-0.0004
	(0.0284)
Services	-0.0097
	(0.0271)
Public	0.0100
	(0.0339)
Constant	0.0173
	(0.0323)
Observations	1,145
R-squared	0.3071

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table reports the pooled linear probability model results of a difference-in-differences analysis on the introduction of experience rating on whether a non-permanent employee is employed at a firm that opted out of public sick leave insurance. The treatment group consists of non-permanent employees at large firms, and the control group at small firms. We assume that no firms opted out of public sick leave insurance in 2012. The sample consists of non-permanent employees in 2012 and 2015 and respondents at medium-sized firms are not included in the analyses.

a much smaller fraction has fewer than 10 co-workers (14%) compared to publicly insured firms (30%). This may indicate one of two directions. The first is that large firms might be more effective at accommodating and therefore decide to take control of the reintegration process themselves by opting out of the public system. The second is that large firms might be driven towards opting out because of experience rating, which is only fully implemented for large firms. In addition, non-permanent employees at employers that opt out work much more often in the services sector (50%) compared to non-permanent employees at publicly insured firms (38%), and also much more often in the public sector (31% versus 22%, respectively). Part of this can be explained by the fact that a higher percentage of non-permanent employees at firms that opt out are agency workers (33% versus 9%), who are all categorized as within the services sector.

Figure 5: *Distribution of accommodation, firm size, firm sector, and type of non-permanent contract of non-permanently employed respondents who are employed at a firm that opted out of sick leave and of those who are not.*



Notes: This figure reports the relative percentages of four characteristics of non-permanent employees at firms who are and are not publicly insured for sick leave.

Summarizing, we find that experience rating is at least associated with a significant increase in the number of firms that opt out. In turn, opting out is associated with higher accommodation rates. This could be because of two forces (possibly co-existing) that we cannot disentangle. First, there might be self- selection of firms that are capable of accommodating themselves. Second, firms that opt out might be more incentivized to accommodate because they are responsible for the full reintegration process during the sick leave period. Overall, we expect that our estimated insignificant but positive treatment effect of experience rating on the chance of being accommodated as a long-term sick-listed employee is mediated, at least partially, by an indirect selection effect of firms opting out due to experience rating.

6.2.3 Permanent employees

Table 10 reports the results from equations 3 and 4. Specifically, these are the estimated coefficients of the difference-in-differences analysis on the abolishment of experience-rated partial disability insurance premiums for permanent employees at small firms.

Columns 1 and 2 present the results on accommo- dation. Columns 3 and 4 report the results on worker satisfaction with the employer accommodation, conditional on being accommodated.

The inclusion of control variables in the model of column 2 does not substantially change the estimated coefficients of column 1. Hence, we focus on column 2. This shows an estimated decrease of 3.29 percentage points in the likelihood of being accommodated when the employer no longer pays experience-rated partial disability insurance premiums. However, the estimated treatment effect is not statistically significant. This is in line with the results that we find for non-permanent employees and for the sign, but not the significance, of the findings of De Groot and Koning (2016) in their study on the abolishment of experience rating in The Netherlands in 2003. They find that removing experience rating significantly increased disability insurance inflow by 7% and decreased disability insurance outflow by 12%.

As to worker satisfaction with the accommodation provided, columns 3 and 4 show that the removal of experience rating in partial disability insurance premiums reduces the satisfaction rate, possibly hinting at a drop in the quality of accommodation. Again, this result might not necessarily be causal.

6.2.4 Robustness checks difference-in-differences analyses

Our difference-in-differences analyses demonstrate that shifting the costs of sick leave and partial disability insurance towards (or away from) the firm has an insignificant effect on employer accommodation of nine-month sick-listed employees. We have checked the robustness of these results in a variety of ways. A detailed description of the robustness checks is presented in Appendix B, but we discuss the main outcomes briefly here. Our results remain robust against the inclusion of medium-sized firms, which we excluded in our main analysis (although respondents at medium-sized firms do not follow the same parallel trend in the pre-treatment period as those at small and large firms). In addition, if we split our sample of non-permanent employees by type of contract, we find evidence that our pooled estimate on the effect of experience rating might be driven mostly by agency workers rather than temporary workers. Our estimates do not change if we exclude employees who changed employer, or employees who received a different type of contract. Finally, we also mimic the model specifications of existing literature (Koning et al., 2022; Prinz and Ravesteijn, 2020), which does change our results, but we argue that these specifications are not suited to our research question.

Table 10: *Difference-in-differences results abolishment experience rating permanent employees at small firms*

Variables	(Perm.) accom	(Perm.) accom	(Perm.) satisfaction	(Perm.) satisfaction
Treatment indicators				
After	0.0078	0.0098	-0.0428***	-0.0143
	(0.0136)	(0.0138)	(0.0155)	(0.0158)
Small firm	-0.0592***	-0.0505***	0.0014	-0.0282
	(0.0157)	(0.0160)	(0.0161)	(0.0174)
After * Small firm	-0.0284	-0.0334	-0.0437	-0.0621**
	(0.0275)	(0.0275)	(0.0309)	(0.0301)
Worker characteristics				
Female		0.0072		0.0293**
		(0.0122)		(0.0134)
Migration background		0.0101		-0.0360*
		(0.0174)		(0.0200)
Age class (base = 36-55)				
18-35		0.0559***		-0.0078
		(0.0166)		(0.0214)
56-60		-0.0259*		-0.0059
		(0.0151)		(0.0161)
61-67		-0.0620***		-0.0179
		(0.0215)		(0.0224)
Education level				
Low		-0.0569***		-0.0194
		(0.0144)		(0.0154)
High		0.0094		-0.0271*
		(0.0135)		(0.0154)
Disability characteristics				
Musculoskeletal		-0.0155		-0.0914***
		(0.0146)		(0.0161)
Psychological		-0.0142		-0.1364***
		(0.0143)		(0.0164)
Heart/vascular		-0.0365*		0.0242
		(0.0189)		(0.0187)
Other		-0.0657***		-0.0222
		(0.0139)		(0.0156)
Firm characteristics				
Firm sector (base = industry)				
Transport		-0.0317		-0.0118
		(0.0284)		(0.0306)
Trade		-0.0226		-0.0190
		(0.0223)		(0.0241)
Services		-0.0469**		-0.0379*
		(0.0195)		(0.0213)
Public		-0.0041		-0.0242
		(0.0168)		(0.0187)
Constant	0.8080***	0.8788***	0.8295***	0.8627***
	(0.0081)	(0.0216)	(0.0087)	(0.0242)
Observations	5,161	5,161	4,016	5,056
R-squared	0.0062	0.0268	0.0051	0.0300

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table reports the pooled linear probability model results of a difference-in-differences analysis on the abolishment of experience rating for small firms. The sample consists of permanent employees at small and large firms in wave 1, wave 2 and wave 3. The dependent variables are self-reported binary employer accommodation (columns 1 and 2) and self-reported satisfaction with the provided accommodation, conditional on being accommodated (columns 3 and 4). The treatment group consists of permanent employees at small firms and the control group of permanent employees at large firms. Respondents at medium-sized firms are not included in the analyses.

7. Summary and Discussion

European countries are experiencing an increased risk of poverty among older people. For individuals aged 75 and above, poverty rates increased between 2014 and 2018 to 19% for women and to 12.5% for men (Eurostat, 2020). To address the challenges of old-age poverty, policymakers need to ensure sustainable employment until the statutory retirement age. Our study explores the role of employers in ensuring sustainable employment, by assessing the effectiveness of increased financial employer responsibility for disabled workers on their efforts to accommodate the workplace to maintaining these workers.

We find that introducing experience rating in sick leave and partial disability insurance premiums has insignificant effect on employer accommodation of non-permanent employees. The positive effect sign appears to be largely driven by respondents whose employer opted out of public sick leave insurance after the reform. For permanent employees, we find that removing experience rating in partial disability insurance premiums for small firms led to an insignificant decrease in the accommodation rate. In addition, we find some striking results considering the determinants of accommodation. Non-permanent employees are far less frequently accommodated by their employers. The factors associated with accommodation show that firm and worker characteristics seem to be important in terms of accommodation: Employees working in a large firms and with permanent contracts, who are relatively young and highly educated, are more likely to get accommodation.

Our findings have important implications for policymakers. First, our insignificant result concerning the effect of experience rating on the accommodation rate provided to long-term sick-listed employees suggests that attempting to increase firm responsibility via experience rating does not seem to yield the expected results. As a consequence, moral hazard on the part of employers – i.e. the disincentive to provide help to sick-listed workers – is likely not at place. Instead, our results suggest that other measures are needed for this vulnerable group of workers. Second, many firms opted out of the public sick leave insurance after the reform, and those who did seem to be more likely to accommodate. This suggests that giving firms the choice to opt out of the public system might create an unwanted problem, as only firms with high sick leave risks stay on, who must then pay higher premiums for the system to remain affordable. Third, the importance of specific firm and worker characteristics for the likelihood to get accommodated indicates, for example, that young and highly educated employees are favorably treated in terms of accommodation efforts.

While our study is the first to provide evidence of the direct effect of experience rating on accommoda- tion, it is not without its limitations. An obvious one is the small sample size, as the Pathway to Disability Insurance survey has only been sent to the group of nine-month

sick-listed individuals in each wave, thereby severely limiting the target population. Besides, the timing of the survey cannot rule out selection effects in terms of firms who are willing to accommodate. If there are enough people who, because of sufficient accommodation within nine months, already reintegrated and left the sick leave period, the survey sample then suffers from an over-representation of firms who are on average less willing to accommodate. Other limitations are that the information on accommodation is self-reported by the employee and that employers might diverge in their opinions about the accommodation efforts.

Further work is required to investigate the channel of opting out of public sick leave insurance. Also, future research could analyze the effect of experience rating on the accommodation efforts provided to individuals who just experienced their disability onset, or could analyze the second step of the causal chain (the impact of accommodation and different types of accommodation) on disability insurance and sick leave flows. For a broader welfare perspective, further research is needed on other unintended effects, such as selective hiring or lower employment rates.

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Appendix A: Sample selection and cleaning

Our first sample restriction was that the sample was confined to persons who fall within the specific groups: non-permanent employees (with two subcategories, i.e., agency workers and temporary workers) and permanent employees.

The second restriction was that the sample was limited to those who filled in the questions which provide the key covariates of our analysis. These are gender, education level, year of birth, firm sector[4], type of disability, and migration background.

Third, we excluded respondents who did not report firm size, as this information is required to determine whether a person is subjected by a certain treatment or not. However, firm size was not asked in the non-permanent survey of Wave 1. Instead, we allowed the respondents in this wave to have a missing firm size variable. We also excluded respondents whose firm sector is categorized as 'other', as there were only ten observations.

The fourth sample restriction was to exclude respondents who reported being an agency worker or temporary worker but filled in the permanent worker survey.

Fifth, we excluded respondents who entered *i*) that their first date of reported sickness was more than one month away from the inclusion period (for Wave 2, October and November 2011, and for Wave 3, October 2014 through January 2015[5]), or reported *ii*) being below 18 or above 67 years of age, as the disability insurance system as described above does not apply to them.

Finally, we restricted the sample to those who answered the question which informs our key dependent (binary) variable of whether accommodation was provided by the employer.

4 These data are not self-reported but derive from the Employee Insurance Agency.

5 These data were not available for Wave 2.

Appendix B: Robustness checks

Our main analysis shows that the introduction (or instead: removal) of experience rating in public premiums increases (or decreases) the accommodation rate, but the finding is not statistically significant. In this section, we explore whether our estimates are robust to different samples and different model specifications.

In our main analysis, we significantly reduce our sample size by excluding employees employed at medium-sized firms. To verify that our results are not driven by this decision, we include them in our first robustness check. In table 11 employees at medium-sized firms are included as a separate treatment group in a multi-valued difference-in-differences analysis. This analysis is the same as our main difference-in-differences analyses, except for the inclusion of this separate treatment group. The first two columns represent non-permanent employees, while the last two columns include permanent employees. For non-permanent employees, the treatment estimates of the introduction of full experience rating remain fairly stable. The estimated effect of partial experience rating as a separate treatment on accommodation is much smaller than that of full experience rating, which intuitively makes sense as the incentive is weaker. For permanent employees, the estimated effect of full removal of experience rating is unchanged, while the effect of partial removal of experience rating is almost negligible. Overall, the inclusion of medium-sized firms does not change our results, but we do have some indication that partial removal or introduction of experience rating has less effect than a full one. However, this must be interpreted with caution: when we check for the parallel trend assumption for permanent employees at medium-sized firms, it does not seem to be valid, as shown in Figure 6.

A second concern might be that the two types of non-permanent workers in our sample – agency workers and workers with an ending, temporary contract – might have different relationships to their employer. This would mean that pooling them into a single specification is inappropriate. To deal with this concern, we split the main difference-in-differences analysis on non-permanent employees by type of contract. In Table 12, the first two columns report the difference-in-differences estimates of the subsample of workers with a temporary contract, whereas the last two columns report those of workers with an agency contract. If anything, it seems that our pooled estimate on the effect of the introduction of experience rating on the accommodation rate is mostly driven by agency workers, as this sample has a much larger and even significant estimate. Yet, this coefficient should be interpreted with caution as the sample size drops substantially.

During the nine months of sick leave, it could be that some employees received a new employment contract type. This might distort the accuracy of our results since this changes the employer incentives. Specifically, this pertains to permanent employees who stayed at their initial employer during the nine months but received a non-permanent contract, and

non-permanent employees who changed to a permanent contract. The first group is not recorded in our data set, while the second group is. To prevent this distortion, we exclude these individuals from our analysis in Table 13. This exercise does not affect our previously found results.

Another potential distortion could arise due to people moving to a different employer or becoming self-employed during the sick leave period, as this can cause confusion about the firm accommodation question and change the incentives of the employer. In Table 14 we report the main analyses when these employees are excluded from the sample. This hardly changes the sample size, while the treatment estimates remain consistent.

Finally, to verify that our results are not driven by our model specification in terms of treat- ment group selection, we also try other model specifications that closely resemble those of Koning et al. (2022) and Prinz and Ravesteijn (2020). Koning et al. (2022) estimate the effect of experience rating on disability insurance inflow, using the same treatment and control groups on non-permanent workers and the same reform as we do. However, they also examine the effect of the overall reform (the alignment of financial incentives *and* the monitoring measures) by comparing all non-permanent employees to all permanent employees in a difference-in-differences analysis. Table 15 shows that the effect of the overall reform on the accommodation rate of non-permanent workers compared to permanent workers is even slightly negative, which differs from our previously found effect, which was insignificant but positive. Two comments must be made here, however, on why this analysis is not entirely appropriate to our research question. First, our analysis focuses on accommodation efforts which would in theory not have been affected by the monitoring measures of the reform; hence there is no need for an assessment of the effect of the entire reform (while this is fundamental in the research by Koning et al., which focuses on disability insurance inflow). Second, our estimate is not entirely accurate due to the lack of a fully clean control group. There have been changes to the incentives of the employers of non-permanent employees too, as experience rating was partially or fully eliminated for small and medium-sized firms.

To estimate the effect of experience rating on disability insurance inflow, also based on the BeZaVa, Prinz and Ravesteijn (2020) compare agency workers at large firms to all permanent workers. In Table 16 reports the estimates of a difference-in-differences analysis that imitates their treatment and control groups. We find a significant (at the 1% level) and very sizeable positive effect of 22 percentage points increase in the average accommodation rates of agency workers at large firms, compared to permanent workers. This coincides with our robustness check, which splits the sample of non-permanent employees into agency workers and temporary workers with an ending contract. There we also find a significant and positive effect of experience rating on agency workers. Yet again, we think that this result should be interpreted with caution. First, the sample of agency workers at large firms

is very small (especially compared to the control group), and second, the control group is not a clean control since changes were made there, too.

Overall, our results appear robust to other sample and model specifications. We do find a significant effect of experience rating on agency workers, but the sample size is very limited. In addition, we find a significant and positive effect when we compare agency workers at large firms to all permanent workers, but again we argue that this estimate does not convey the causal effect of experience rating on accommodation efforts, due to the lack of a clean control group and due to the small sample size.

Table 11: *Difference-in-differences results: including medium-sized firms*

	Multi-valued DiD			
Variables	(Non-perm.) accom	(Non-perm.) satisfaction	(Perm.) accom	(Perm.) satisfaction
Treatment indicators				
After	0.0229	-0.0194	0.0107	-0.0150
	(0.0362)	(0.0387)	(0.0137)	(0.0156)
Medium firm	0.0643**	-0.0007	-0.0152	-0.0028
	(0.0299)	(0.0327)	(0.0109)	(0.0120)
After * Medium firm	0.0099	0.0344	-0.0002	-0.0196
	(0.0459)	(0.0484)	(0.0187)	(0.0212)
Large firm	0.0212	0.0005		
	(0.0340)	(0.0381)		
After * Large firm	0.0452	0.0234		
	(0.0509)	(0.0539)		
Small firm			-0.0489***	-0.0262
			(0.0158)	(0.0170)
After * Small firm			-0.0344	-0.0623**
			(0.0274)	(0.0300)
Employment contract				
Agency contract (base = temporary)	-0.0745***	0.0208		
	(0.0265)	(0.0300)		
Worker characteristics				
Female	0.0028	0.0265	0.0141	0.0414***
	(0.0208)	(0.0215)	(0.0090)	(0.0099)
Migration background	0.0078	-0.0315	-0.0153	-0.0400***
	(0.0229)	(0.0239)	(0.0129)	(0.0145)
Age class (base = 36-55)				
18-35	0.0186	0.0598**	0.0395***	0.0075
	(0.0228)	(0.0235)	(0.0124)	(0.0151)
56-60	-0.0469	-0.0641**	-0.0151	0.0129
	(0.0285)	(0.0289)	(0.0108)	(0.0116)
61-67	-0.0622	-0.0447	-0.0723***	-0.0170
	(0.0398)	(0.0452)	(0.0159)	(0.0166)
Education level (base = medium)				
Low	-0.0240	-0.0064	-0.0527***	-0.0182
	(0.0211)	(0.0223)	(0.0105)	(0.0113)
High	0.0808***	0.0690**	0.0150	-0.0065
	(0.0283)	(0.0282)	(0.0100)	(0.0115)

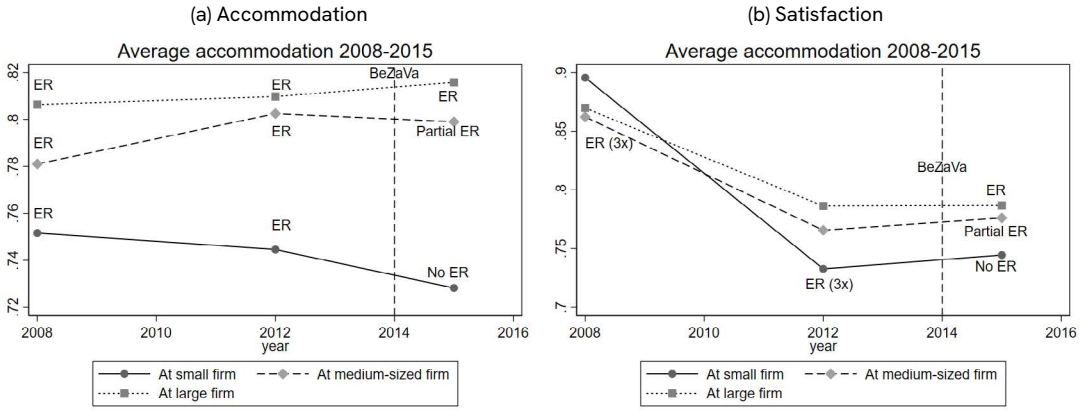
Continued on next page

	Multi-valued DiD			
Variables	(Non-perm.) accom	(Non-perm.) satisfaction	(Perm.) accom	(Perm.) satisfaction
Disability characteristics				
Musculoskeletal	-0.0162	-0.0612***	0.0011	-0.0608***
	(0.0216)	(0.0221)	(0.0107)	(0.0118)
Psychological	-0.0403*	-0.0962***	-0.0082	-0.1232***
	(0.0208)	(0.0221)	(0.0105)	(0.0119)
Heart/vascular	-0.1043***	-0.0417	-0.0311**	0.0295**
	(0.0288)	(0.0330)	(0.0141)	(0.0139)
Other	-0.0427*	-0.0397	-0.0592***	-0.0035
	(0.0228)	(0.0243)	(0.0103)	(0.0114)
Firm characteristics				
Firm sector (base = industry)				
Transport	-0.0830**	0.0055	-0.0261	-0.0393*
	(0.0420)	(0.0453)	(0.0209)	(0.0229)
Trade	-0.0039	-0.0735*	-0.0228	-0.0324*
	(0.0388)	(0.0386)	(0.0166)	(0.0178)
Services	-0.0616*	-0.0602*	-0.0315**	-0.0241
	(0.0324)	(0.0337)	(0.0145)	(0.0156)
Public	0.0267	-0.0241	0.0070	-0.0188
	(0.0370)	(0.0373)	(0.0125)	(0.0137)
Constant	0.2988***	0.3469***	0.8544***	0.8175***
	(0.0425)	(0.0461)	(0.0168)	(0.0186)
Observations	2,186	1,941	9,556	9,369
R-squared	0.0457	0.0284	0.0228	0.0253

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table adds the observations in which employees are employed at a medium-sized firm as a separate treatment group in a multi-valued difference-in-differences analysis in which small firms are the control group in the sample of non-permanent employees, and large firms are the control group in the sample of permanent employees. The first two columns include the sample of non-permanent employees whereas the latter two include non-permanent employees.

Figure 6: *Graphical depiction of parallel trend assumption including medium-sized firms*



Notes: this figure displays the average accommodation rate and worker satisfaction rate (conditional on positive accommodation) of permanent employees at small, *medium* and large firms in the three Pathway to disability insurance surveys to assess the parallel trend assumption. ER stands for experience rating.

Table 12: *Difference-in-differences results: subsamples of non-permanent contracts*

Variables	(Temporary) accom	(Temporary) satisfaction	(Agency) accom	(Agency) satisfaction
Treatment indicators				
After	0.0281	-0.0235	0.0191	0.1062
	(0.0394)	(0.0398)	(0.1000)	(0.1296)
Large firm	0.0614	0.0839*	-0.0646	-0.2507***
	(0.0419)	(0.0447)	(0.0656)	(0.0866)
After * Large firm	-0.0012	-0.0784	0.2539**	0.2820*
	(0.0583)	(0.0591)	(0.1248)	(0.1525)
Worker characteristics				
Female	0.0008	-0.0023	0.0615	0.1099*
	(0.0320)	(0.0332)	(0.0573)	(0.0640)
Migration background	0.0412	-0.0202	-0.0560	-0.0727
	(0.0370)	(0.0375)	(0.0575)	(0.0686)
Age class (base = 36-55)				
18-35	0.0404	0.0775**	-0.0529	0.0024
	(0.0355)	(0.0358)	(0.0636)	(0.0720)
56-60	-0.0457	-0.0220	-0.0644	-0.0824
	(0.0439)	(0.0461)	(0.0866)	(0.0909)
61-67	-0.0976*	-0.1269**	0.0753	0.2410
	(0.0567)	(0.0574)	(0.1388)	(0.1702)
Education level (base = medium)				
Low	0.0036	0.0133	0.0357	0.0362
	(0.0325)	(0.0344)	(0.0595)	(0.0724)
High	0.0978**	0.0413	0.0711	-0.0101
	(0.0413)	(0.0393)	(0.0922)	(0.0927)
Disability characteristics				
Musculoskeletal	-0.0347	-0.0921***	-0.0514	0.0425
	(0.0323)	(0.0326)	(0.0608)	(0.0706)
Psychological	-0.0318	-0.1212***	-0.0881*	0.0113
	(0.0321)	(0.0318)	(0.0486)	(0.0687)
Heart/vascular	-0.1159***	-0.1026**	-0.1285*	-0.0049
	(0.0442)	(0.0463)	(0.0737)	(0.0929)
Other	-0.0217	-0.0794**	-0.0982	0.0323
	(0.0340)	(0.0344)	(0.0611)	(0.0767)
Firm characteristics				
Firm size (base = industry)				
Transport	-0.0923	0.0635	-0.0150	-0.0580
	(0.0616)	(0.0685)	(0.2971)	(0.2874)
Trade	0.0196	-0.0764	-0.4718	-0.4874*
	(0.0540)	(0.0546)	(0.2958)	(0.2736)
Services	-0.0810*	-0.0950*	-0.0333	0.0483
	(0.0471)	(0.0495)	(0.2911)	(0.2652)
Public	-0.0051	-0.0214	-0.5795*	-0.5085*
	(0.0539)	(0.0561)	(0.3105)	(0.2882)
Constant	0.2661***	0.3820***	0.2900	0.2287
	(0.0583)	(0.0607)	(0.3060)	(0.2881)
Observations	921	815	224	202
R-squared	0.0409	0.0560	0.1107	0.1784

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table reports the same analysis as table **??** but instead conducted on the two subsamples: agency workers and workers with an ending, temporary contract. The first two columns report the difference-in-differences analysis on the introduction of experience rating, including the sample of workers with an ending contract. The last two columns report the same analysis but include only agency workers.

Table 13: *Difference-in-differences results: removing non-permanent workers who received a permanent contract during the sick leave period*

Variables	(Non-perm.) accom	(Non-perm.) satisfaction
Treatment indicators		
After	0.0269	-0.1009
	(0.0364)	(0.1014)
Large firm	0.0261	-0.0336
	(0.0349)	(0.0984)
After * Large firm	0.0512	0.0848
	(0.0516)	(0.1366)
Employment contract		
Agency contract	-0.0303	0.1949*
(base = temporary)	(0.0362)	(0.1121)
Worker characteristics		
Female	0.0049	0.0603
	(0.0281)	(0.0737)
Migration background	0.0191	-0.0603
	(0.0312)	(0.0843)
Age class (base = 36-55)		
18-35	0.0248	0.1255*
	(0.0307)	(0.0725)
56-60	-0.0474	0.0704
	(0.0386)	(0.1191)
61-67	-0.0703	-0.1256
	(0.0543)	(0.1905)
Education level (base = medium)		
Low	0.0105	0.0164
	(0.0284)	(0.0840)
High	0.0994***	0.0229
	(0.0373)	(0.0893)
Disability characteristics		
Musculoskeletal	-0.0380	-0.1388*
	(0.0284)	(0.0812)
Psychological	-0.0437	-0.1110
	(0.0274)	(0.0830)
Heart/vascular	-0.1101***	-0.2040
	(0.0381)	(0.1359)
Other	-0.0438	-0.0919
	(0.0296)	(0.0868)
Firm characteristics		
Firm sector (base = industry)		
Transport	-0.0937	0.0804
	(0.0603)	(0.1591)
Trade	0.0213	-0.2050*
	(0.0529)	(0.1215)
Services	-0.0681	-0.2089*
	(0.0459)	(0.1158)
Public	-0.0029	-0.0904
	(0.0521)	(0.1271)
Constant	0.2802***	0.7319***
	(0.0540)	(0.1313)
Observations	1,139	250
R-squared	0.0422	0.0843

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table reports the same analysis as table **??** but excludes all non-permanent workers who received a permanent contract during the sick leave period.

Table 14: *Difference-in-differences results: removing employees who got a new employer or became self-employed for both non-permanent and permanent employees*

Variables	(Non-perm.) accom	(Non-perm.) satisfaction	(Perm.) accom	(Perm.) satisfaction
Treatment indicators				
After	0.0245	-0.0262	0.0077	-0.0148
	(0.0384)	(0.0418)	(0.0139)	(0.0158)
Large firm	0.0360	0.0010		
	(0.0367)	(0.0426)		
After * Large firm	0.0359	0.0166		
	(0.0544)	(0.0580)		
Small firm			-0.0470***	-0.0202
			(0.0162)	(0.0175)
After * Small firm			-0.0271	-0.0681**
			(0.0277)	(0.0304)
Employment contract				
Agency contract (base = temporary)	-0.0465	0.0760*		
	(0.0375)	(0.0449)		

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Variables	(Non-perm.) accom	(Non-perm.) satisfaction	(Perm.) accom	(Perm.) satisfaction
Worker characteristics				
Female	0.0138	0.0150	0.0120	0.0327**
	(0.0300)	(0.0325)	(0.0123)	(0.0135)
Migration background	0.0192	-0.0652*	0.0178	-0.0260
	(0.0320)	(0.0342)	(0.0175)	(0.0202)
Age class (base = 36-55)				
18-35	0.0350	0.0587*	0.0664***	0.0017
	(0.0333)	(0.0357)	(0.0162)	(0.0215)
56-60	-0.0456	-0.0415	-0.0257*	-0.0069
	(0.0398)	(0.0430)	(0.0152)	(0.0162)
61-67	-0.0805	-0.0718	-0.0584***	-0.0181
	(0.0549)	(0.0644)	(0.0217)	(0.0226)
Education level (base = medium)				
Low	0.0256	0.0151	-0.0579***	-0.0175
	(0.0299)	(0.0331)	(0.0145)	(0.0155)
High	0.1092***	0.0382	0.0063	-0.0269*
	(0.0407)	(0.0406)	(0.0135)	(0.0154)
Disability characteristics				
Musculoskeletal	-0.0577*	-0.0621*	-0.0093	-0.0895***
	(0.0300)	(0.0326)	(0.0146)	(0.0162)
Psychological	-0.0428	-0.0799**	-0.0097	-0.1333***
	(0.0286)	(0.0314)	(0.0144)	(0.0165)
Heart/vascular	-0.1228***	-0.0664	-0.0290	0.0264
	(0.0373)	(0.0442)	(0.0189)	(0.0187)
Other	-0.0415	-0.0600*	-0.0620***	-0.0182
	(0.0312)	(0.0339)	(0.0140)	(0.0157)
Firm characteristics				
Firm sector (base = industry)				
Transport	-0.0883	0.0572	-0.0341	-0.0122
	(0.0647)	(0.0726)	(0.0287)	(0.0308)
Trade	-0.0045	-0.1060*	-0.0166	-0.0121
	(0.0575)	(0.0573)	(0.0225)	(0.0243)
Services	-0.0848*	-0.0790	-0.0298	-0.0189
	(0.0500)	(0.0526)	(0.0196)	(0.0214)
Public	-0.0241	-0.0171	-0.0038	-0.0204
	(0.0563)	(0.0601)	(0.0169)	(0.0188)
Constant	0.2924***	0.3671***	0.8697***	0.8558***
	(0.0573)	(0.0614)	(0.0216)	(0.0243)
Observations	998	883	5,016	4,914
R-squared	0.0476	0.0336	0.0252	0.0290

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table reports the same analyses as table 7 and 10 but excludes workers who indicate that they got a new employer or became self-employed during the nine months of sick leave.

Table 15: *Replicating Koning et al. (2022):: comparing non-permanent employees to permanent employees*

Variables	(1) accom	(2) satisfaction
Treatment indicators		
After	0.0045	-0.0328***
	(0.0088)	(0.0099)
Non-permanent	-0.4865***	-0.3808***
	(0.0121)	(0.0132)
After * Non-permanent	-0.0068	-0.0542***
	(0.0197)	(0.0210)
Worker characteristics		
Female	0.0151*	0.0381***
	(0.0081)	(0.0088)
Migration background	-0.0126	-0.0365***
	(0.0109)	(0.0120)
Age class (base = 36-55)		
18-35	0.0288***	0.0252**
	(0.0107)	(0.0122)
56-60	-0.0154	0.0067
	(0.0100)	(0.0107)
61-67	-0.0719***	-0.0222
	(0.0147)	(0.0155)
Education level (base = medium)		
Low	-0.0452***	-0.0140
	(0.0091)	(0.0099)
High	0.0293***	0.0063
	(0.0094)	(0.0104)
Disability characteristics		
Musculoskeletal	-0.0035	-0.0609***
	(0.0093)	(0.0101)
Psychological	-0.0099	-0.1186***
	(0.0092)	(0.0102)
Heart/vascular	-0.0396***	0.0113
	(0.0125)	(0.0126)
Other	-0.0460***	-0.0024
	(0.0092)	(0.0100)
Firm characteristics		
Firm sector (base = industry)		
Transport	-0.0334*	-0.0163
	(0.0181)	(0.0198)
Trade	-0.0198	-0.0334**
	(0.0149)	(0.0158)
Services	-0.0488***	-0.0198
	(0.0125)	(0.0134)
Public	0.0114	-0.0136
	(0.0117)	(0.0127)
Constant	0.8325***	0.8032***
	(0.0145)	(0.0156)
Observations	12,524	12,031
R-squared	0.2215	0.1498

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table shows the results of a difference-in-differences analysis that uses the same control and treatment group as Koning et al. (2022): all non-permanent workers are included as the treatment group and all permanent workers are included as the control group.

Table 16: *Replicating Prinz and Ravesteijn (2020): comparing agency workers at large firms to permanent employees*

Variables	(1) accom	(2) satisfaction
Treatment indicators		
After	0.0052	-0.0339***
	(0.0089)	(0.0100)
Agency worker at large firm	-0.6729***	-0.6034***
	(0.0318)	(0.0341)
After * Agency worker at large firm	0.2209***	0.3725***
	(0.0727)	(0.0787)
Worker characteristics		
Female	0.0131	0.0403***
	(0.0090)	(0.0098)
Migration background	-0.0167	-0.0426***
	(0.0127)	(0.0142)
Age class (base = 35-55)		
18-35	0.0340***	0.0079
	(0.0122)	(0.0148)
56-60	-0.0150	0.0141
	(0.0107)	(0.0115)
61-67	-0.0707***	-0.0138
	(0.0159)	(0.0165)
Education level (base = medium)		
Low	-0.0554***	-0.0204*
	(0.0104)	(0.0112)
High	0.0191*	-0.0049
	(0.0100)	(0.0114)
Disability characteristics		
Musculoskeletal	-0.0012	-0.0602***
	(0.0105)	(0.0116)
Psychological	-0.0093	-0.1218***
	(0.0104)	(0.0118)
Heart/vascular	-0.0332**	0.0292**
	(0.0139)	(0.0137)
Other	-0.0604***	-0.0029
	(0.0102)	(0.0112)
Firm characteristics		
Firm sector (base = industry)		
Transport	-0.0229	-0.0376*
	(0.0209)	(0.0228)
Trade	-0.0271	-0.0351**
	(0.0166)	(0.0178)
Services	-0.0310**	-0.0236
	(0.0145)	(0.0156)
Public	0.0081	-0.0184
	(0.0125)	(0.0137)
Constant	0.8420***	0.8117***
	(0.0158)	(0.0173)
Observations	9,702	9,506
R-squared	0.0535	0.0433

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Notes: This table shows the results of a difference-in-differences analysis that uses the same control and treatment group as Prinz and Ravesteijn (2020): agency workers at large firms are included as the treatment group and all permanent workers are included as the control group.

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