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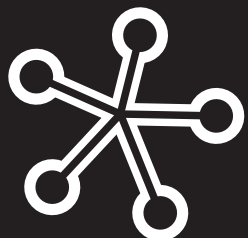


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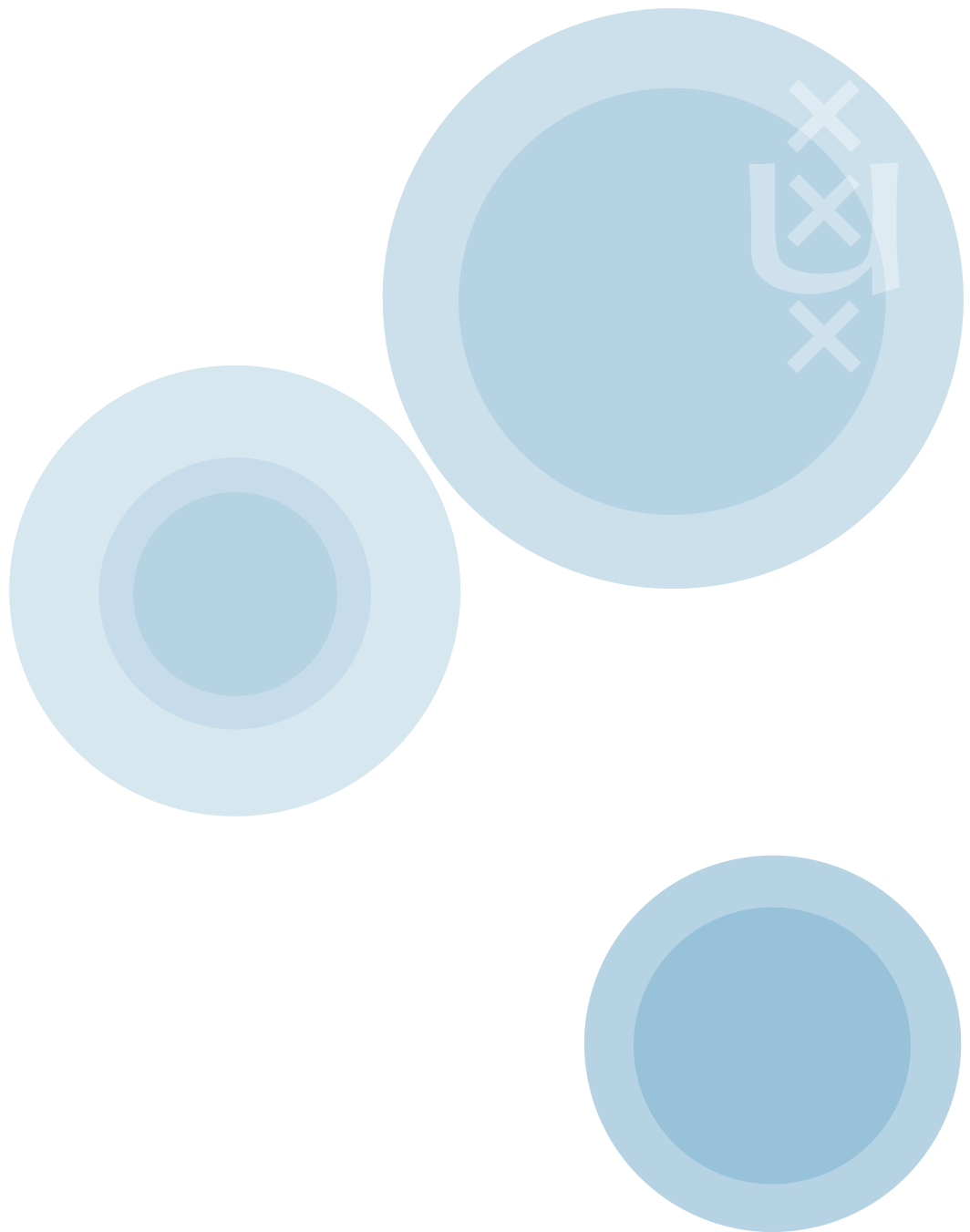
Employees' experiences of the impact of the economic crisis in 2009 and 2010

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Employees' experiences of the impact of the economic crisis in 2009 and 2010

A German-Dutch Comparison

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Abstract

Few studies have researched the impact of the 2008-2009 economic crisis on organisations' adjustment behaviour in Germany and the Netherlands. Using large-scale data from an employee web-survey running from 2009/08 to 2010/11, this paper investigates the likelihood that German and Dutch employees work for a crisis-hit organisation. The likelihood of labour hoarding or downward adjustments of the permanent or flexible workforce in crisis-hit organisations is studied, as is the likelihood of downward adjustments in basic wages or benefits. The results show that such effects occur in large firms and the manufacturing industry much more often, that women are more likely to be working in a crisis-hit organisation but less likely to be facing any of the adjustments, that education hardly matters and that elderly workers face many more adjustments than younger workers.

1. Introduction

A number of studies has been published on the effects of the economic and financial crisis in various countries, most of them taking a macro-level view. Hardly any study has investigated employees' experiences of organisational responses to the recent economic crisis, thus limiting empirical understanding of its effects. Following Nolan's argument, crisis theory, like the analysis of the state, remains underdeveloped (Nolan, 2011).

This study aims to understand organisations' use of crisis adjustment strategies as perceived by employees, comparing Germany and the Netherlands, within the framework of state policies and collective bargaining responses. Firstly, it investigates whether the chance of being an employee working for a crisis-hit organisation depends on the depth and the recovery of the crisis in the country of residence. Secondly, if working for a crisis-hit organisation, what workforce and wage adjustment strategies do employees report? The overall assumption is that these strategies are similar across the two countries. However, given the differences in each state's response with respect to short time working arrangements, it is assumed that the adjustment strategies with respect to labour hoarding vary across the two countries, all other things being equal. Given the differences in collective bargaining responses with respect to opening clauses, it is also assumed that adjustment strategies with respect to the basic wage vary across the two countries, all other things being equal. Thus, the paper tries to disentangle the economic, institutional and firm-level impacts on employees' experiences of their organisation's response to the economic crisis, thus addressing the research gap which exists with respect to employees' perceptions of the impact of the crisis

This paper builds on survey data collected in two countries, Germany and the Netherlands. From August 2009 until December 2010, seven survey questions were included in a continuous web-survey in both countries about workers' perceptions of how the economic crisis had affected their organisation and what measures had been taken. The large number of observations (36,130) allows for detailed analysis of the responses in crisis-hit organisations. This paper also builds on earlier work of the authors, using web-survey data from August 2009 to June 2010 (Bispinck *et al* 2010a, Bispinck *et al* 2011). The current study extends the previous study, because the data covers a longer period and the workforce versus wage adjustments are explored in greater detail.

The outline of the paper is as follows. Section 2 reviews previous studies about the impact of the economic crisis in Germany and the Netherlands, and relevant evidence on state and firms' responses to the crisis in both countries. Section 3 details the research objectives, the methods and the data used. Section 4 presents the findings from the analyses on organisations facing economic problems, and on workforce perceptions of the wage adjustment strategies of crisis-hit organisations. Section 5 ends with conclusions.

2. The impact of the economic crisis

2.1. The economic crisis in Germany and the Netherlands

Compared to 2008Q1, Gross Domestic Product (GDP) in both Germany and the Netherlands reached its lowest point in 2009Q1, though German economic growth had fallen slightly more than the Dutch. From 2009Q2 on, both countries witnessed a GDP increase, but from that point the German real growth rate was higher than the real growth of Dutch GDP. In 2010, the German economy grew in real terms by 3.6%, significantly higher than the Netherlands' 1.7% (Source: Eurostat). In both countries, exports contributed most to the economic recovery, though the effects of export growth were more evident in Germany, due to their different export composition. Industrial products make up the lion's share of German exports, with capital goods accounting for nearly half of total exports. The opposite is true of Dutch exports, dominated by food and agricultural products and energy. Comparative analyses point out that German exports are more sensitive to global economic developments than Dutch exports, negatively but also positively. The economic downturn in Germany was more serious than in the Netherlands, but the recovery was stronger, also because of the much worse performance of the Dutch construction sector compared to its German counterpart (CBS 2011; Rabobank 2011).

In both Germany and the Netherlands, unemployment levels increased during the crisis, but to a much lesser extent than could be expected based on what had occurred during earlier, milder recessions like that of the early 2000s. Obviously, in both countries the relationship between a decrease in GDP and an increase in unemployment changed recently. The 2009 real GDP of Germany fell by no less than 5.0% compared to that of 2008, whereas the German unemployment rate in 2009Q2 was only 0.2% higher than its equivalent one year earlier, in 2008Q2 (from 7.3% to 7.5%). For the Netherlands, the differences were slightly less spectacular but still significant: a decrease of the real GDP of 2009 by 4.6% compared to 2008, and an increase of the unemployment rate between 2008Q2 to 2009Q2 of 0.8%, from 4.0% to 4.8%. The diverging growth of German and Dutch GDPs in 2010 has already been noted. The development of the unemployment rates also diverged: the German rate was 0.3% lower in 2010Q2 than in 2009Q2, while the Dutch rate increased by 0.8% in the same period (Source: Eurostat). Möller (2010), after presenting similar data for 2008-09, argues that employment protection regulation is not able to explain the change in the

unemployment rate for Germany, but rather that the explanation is labour hoarding, promoted by official labour market policies.

The textbook definition of labour hoarding is a less than proportionate decrease in total hours worked in response to a negative demand shock (Hamermesh 1993), but such a definition does not address potentially complicating aspects like time lags between the macro-economic business cycle and micro-economic firm behaviour. Labour hoarding may be(come) attractive for firms because of state employment protection regulation, but also because of transaction costs related to hiring new staff (search costs, training costs, other HR costs), lack of labour supply in specific sectors or occupations and, in reverse, benefits of hoarding at workplace and firm level resulting from the employment relationship (loss of firm-specific knowledge and of trust relations that enhance work effort)(Dietz *et al* 2010). Management will weigh these advantages against the costs of hoarding and the related uncertainty (Cf. De Koning 1989). The outcomes of such calculations may change if supportive responses from the state are forthcoming, and thus such responses can also encourage labour hoarding (Dietz *et al* 2010; Van der Ende *et al* 2010).

Boysen-Hogrefe and Groll (2010) explain the small increase in German unemployment relative to the large fall of GDP in 2009 mainly by the good financial position of firms, partly due to wage moderation, and partly by the stock of working hours in working time accounts from the years prior to the 2008-2009 crisis. These authors argue that German firms affected by the crisis have resorted much more to internal adjustment, i.e. labour hoarding, than to external adjustment, i.e. dismissal of workers. As we will discuss below, labour hoarding has been practiced by Dutch private employers during the crisis as well, but to a lesser extent. Because of their relevance in both countries, we first consider state responses to the recent crisis, before examining firms' responses more elaborately.

2.2. State responses to the crisis

Both the German and the Dutch government have implemented crisis adjustment strategies to avoid steep unemployment rises. For this paper, the most important are the work sharing or Short-Term Work Arrangements (STWA), whereby employers can apply for temporary state assistance to top up the wages of employees working reduced hours. Since the 1920s, Germany has had a national STWA programme for additional unemployment benefits to be paid in the case of hours reduced due to an economic slump ('Kurzarbeit'). This programme was widely used in earlier crises, notably in those of 1974-75 and 1983 (Boysen-Hogrefe and Groll 2010; Brenke *et al* 2010). In 2008, with a view to the upcoming crisis, the arrangements

were extended from six to 18 months and employers' costs were lowered; the Bundesagentur fuer Arbeit (BAA) could now subsidize employers up to 67% of an employee's wage. From February 2009 another four changes were introduced, namely: extension of the coverage to atypical workers; a temporary increase of the maximum duration of compensation from six to 18 months; paying 50% of companies' social insurance contributions for employees receiving STWA allowances for the first six months and 100% thereafter; and easing the conditions for use of the arrangements (European Foundation 2009; European Commission 2009a, 2009b). From October 2008, the number of companies and employees under the German STWA rose massively, to a height of 64,000 companies with approximately 1.5 million employees in May 2009. By December 2009, these numbers had fallen to 53,000 and 800,000 respectively, also implying a rapid decrease in the average amount of 'Kurzarbeiter' per company, from 23 to 15 (Brenke *et al* 2010).

The Netherlands also had a STWA program with a set-up similar to the German before the 2008-2009 crisis, but it was mainly used for 'force majeure' of individual firms (in case of flood, fire, et cetera) and was not intended for economic crises. Accordingly, its use was quite limited (Bosch 2009; Flecker and Schönauer 2010). As of 30 November 2008, the Minister of Social Affairs and Employment (SZW), Jan-Hein Donner, reserved Euro 200 million to adapt the existing arrangement to the economic crisis, but trade union confederations, employers' associations and large steel and metal manufacturers (Corus, DAF) criticized the deadline for applications (1 January 2009), the budget available and the limited duration per worker (24 weeks). Minister Donner agreed on some modifications, and finally the STWA expired on 20 March 2009. In those four months 770 companies had used the scheme. As of 1 April 2009, the government replaced the existing STWA with a part-time unemployment scheme, with less strict entry rules (for the sake of simplicity, we will continue to call this facility 'STWA'). Companies could apply for part-time unemployment benefits paid by the state of up to 70% for maximum 15 months. Employees would lose 15% of their total wage in the case of 50% unemployment, though the unions succeeded in negotiating many company agreements with additional employer payments up to 100%. In June 2009, the Minister announced a halt as the budget foreseen for the new scheme, Euro 375 million, had been spent, but under renewed pressure from the social partners the STWA was prolonged, albeit with tighter entry criteria. The new scheme was due to end by 1 January 2010, but the government prolonged it by another three months, or until the Euro 950 million reserved for the scheme was exhausted. Employers participating in the scheme before 1 April 2010 could be funded for a maximum of 15 months, so the scheme ceased to exist by 30 June 2011 (Sources: AIAS-ETUI *Collective Bargaining Newsletter*, Dec 2008 and Feb Mar Apr May June Dec 2009; Ministry of SZW). Official informa-

tion on the use of the new SWTA is scanty; according to an official press release, between April 2009 and December 2010, 7,800 companies applied for assistance for 76,000 employees, or less than 10 per company on average; no indication was given of the share of applications that was turned down (press release Ministry of SZW, 20 January 2011). According to the SCP employers' survey, 9.5% of Dutch private companies had used SWTA between November 2008 and Summer 2010 (Josten 2011).

Though the respective data concerning the application of the German and Dutch STWA are incomplete and not easy to compare, we estimate that in 2009 the total amount of German companies using STWA was about 15 times the amount of Dutch companies doing the same, and the total number of employees involved in Germany was 25 to 27 times the number of Dutch employees officially participating in STWA. Taking into account that the total number of companies (establishments) and of employed people (headcount) in Germany are both nearly five times as many as in the Netherlands, we may conclude that in 2009, relatively speaking, three times as many German companies used STWA, involving five times as many German employees (Sources: Eurostat; CBS *Statline*). Most likely the relative use of the respective arrangements diverged somewhat less in 2010, but the fact remains that the German STWA has found relatively a much wider application than its more restrictive Dutch equivalent.

2.3. Collective bargaining responses to the crisis

In both Germany and the Netherlands, with their institutionalised industrial relations, a look at collective bargaining is highly relevant in assessing how much room is generally left for genuine employers' labour market and wage policies. Here, developments in the two countries have diverged over the past two decades. German collective bargaining has undergone profound changes in this period of time. First, collective bargaining coverage has fallen considerably, largely because of the decline of employer organisation membership density (and allowance of membership of an employers' association without being bound by the collective agreements signed by that association). And although German law facilitates extension of collective agreements, in practice this applies for less than 2% of all agreements. In West Germany, the total proportion of employees covered by collective agreements has decreased from 76% in 1998 to 65% in 2009, while in the Eastern part the figures for the same period show a decline from 63% to 51%. In 2009, overall

collective bargaining coverage was 61% (Bispinck and Schulten 2010; European Commission 2011).

Collective bargaining in the Netherlands has demonstrated a more stable pattern over time, as has collective bargaining coverage in particular. Since 1990, coverage has fluctuated between 78 and 85%, without a clear trend. The continuously high density of employer organisation membership has been crucial in the Netherlands; moreover, 3 to 5% of all employees remain covered because of the mandatory extension of sectoral agreements by the responsible Minister (SZW 2007; Van Klaveren and Tijdens 2008; European Commission 2011).

A second important development in German collective bargaining has been the marked trend towards the use of opening clauses in sectoral agreements. Since the mid-1990s a growing number of sectoral agreements has allowed companies – under certain circumstances – to go below collectively agreed standards. A key step was taken in the mid-1990s in the metalworking industry, when the employers succeeded in instituting far-reaching flexibility on working time arrangements at company level in exchange for the first step in what became a progressive lowering of the average working week to 35 hours (Bispinck and Schulten 2010). In the Netherlands such working time adjustment clauses were introduced simultaneously, in metal manufacturing but also in banking, using the room already left in collective agreements by vague formulations of ‘the average working week’. In 1996, 22% of all Dutch employees worked according to flexible yearly rosters, implying annualised hours (Tijdens 1998, 2003). Yet, annualisation of working hours in the Netherlands did not expand in the 2000s, in contrast to Germany. According to *WageIndicator* data for 2004–07, annualised hours were more widespread in Germany than in the Netherlands in 11 of 13 industries, the exceptions being education and health care (Van Klaveren and Tijdens 2008). Notably in Germany in 2008 and 2009, working time accounts and the annualisation of working time formed a buffer stock of working hours that allowed the adaptation of the labour force to lower levels of production and servicing without massive lay-offs (Möller 2010). Glassner and Galgóczi (2009) found that in October and November 2008, many existing German working time account arrangements were revised. For example, at Daimler the number of minus hours was increased to 200 to impose a prolonged Christmas holiday break of four weeks, while at BMW Munich they were increased to 300. Thus, in Germany, working time arrangements have played a considerable role in firm-level adaptation to the crisis, in various ways. According to Boysen-Hogrefe and Groll (2010) STWA, albeit an important instrument in the recent crisis, only accounted for 32% of the observed working time reduction in 2008–09; they calculated that other practices contributing to that reduction were reductions of working hours with proportional reduction in pay (25%); reductions

in the volume of paid overtime (19%); reductions in the positive balances in the working time accounts (17%), and to the trend to part-time employment (18%). Dietz *et al* (2010) reported quite similar outcomes. Though the phrasing of the questions in the Dutch February 2010 survey was rather different from that for the German surveys, the outcomes suggest that working time reduction measures have been less widespread in the Netherlands and also that Dutch firms have concentrated on a smaller range of such measures; the measures most frequently mentioned were reductions in the volume of paid overtime (48% of firms with insufficient work in 2009, 31% in 2010) and pressing staff to take holidays (in respectively 31 and 27% of this category)(Van der Ende *et al* 2010).

Following the German unification in 1990, the country's trade unions have had to accept so-called 'hardship-clauses' that allow firms in serious economic difficulties to deviate from higher-level collective agreements. Since the Pforzheim Agreement in the metalworking industry in 2004, there has been a steady rise in opening clauses that allow deviations not only in case of economic problems but also to improve a firm's innovativeness and competitiveness and to facilitate new investment. 'Pforzheim' led to the establishment of common rules and procedures for deviations as well as to a much closer control of these processes by the metalworkers' union and the employers' association. In exchange for employee concessions on pay and working time, employers have usually had to offer a quid pro quo. The most important area for employer concessions is job protection, whereby the employer makes a commitment to refrain from compulsory economic terminations (Glassner and Galgóczi 2009; Bispinck and Schulten 2010). The WSI Works Council Survey, a representative survey of all establishments in Germany with at least 20 employees and a works council, shows that in 2010 in 58 % of these establishments an opening clause was in use, against 53% in 2007. One-third (33%, in 2007 30%) of clauses introduced variable working time clauses; 18% extended the agreed working time (2007: 21%), and 7% temporarily reduced it (2007: 9%). Pay-related issues were less widespread, but still in 13% of clauses an agreed pay increase was deferred (2007: 12%) and in 6% basic pay was reduced (2007: 8%)(Bispinck and Schulten 2010). Remarkably, though they grew somewhat in numbers between 2007 and 2010, the contents of the opening clauses hardly changed in the crisis. In contrast, in the Netherlands opening clauses were rarely used. There, in 2009-2010 downward wage adjustments through adaptations of wage clauses in collective agreements were rarely reported. If they were, even for small firms, they instantly attracted public attention. One measure of the Dutch social partners has been shortening the duration of collective agreements, sometimes even from two years to six months, as at the Corus/Tata steel works, thus creating more points in time to reconsider and re-negotiate the position of sectors and firms

(Sources: (editorial work for) AIAS-ETUI *Collective Bargaining Newsletter*, monthly issues 2009 and 2010). This picture is confirmed by a firm-level survey in February 2010, which reported that only a very few firms had lowered basic wages in 2009 or expected to do so in 2010 (Van der Ende *et al* 2010). According to these authors, the firms that lowered wages saved less than 3% on their yearly labour costs.

2.4. Firms' responses to the crisis

A few studies in Germany and the Netherlands have investigated firms' responses to the economic crisis in terms of reducing working hours and hiring, firing and hoarding labour. The German IAB Establishment Panel allows for detailed analyses of firm strategies concerning their use of labour (Dietz *et al* 2010); some other German studies have been undertaken in this field as well (Boysen-Hogrefe and Groll 2010; Möller 2010). For the Netherlands, three firm-level surveys are relevant, all covering private employers only: one held in December 2009/January 2010 (Intomart 2010), a second shortly afterwards, in February 2010 (Van der Ende *et al* 2010), and a third one, the SCP employers' survey, covering June to August 2010 (Josten 2011).

Summarizing these studies on firms' responses to the recent crisis, we can present a stylized picture of the order of these responses in Germany and the Netherlands. In both countries, as a first strategy firms aim at reducing labour costs (reduction of bonuses, salary freezes), but also reduction of other costs as well as postponing or cancelling investment. As a second strategy, firms aim at reducing labour volumes without firing permanent staff, through freezing new hires, reducing temp agency work, reducing paid overtime hours, ending (not prolonging) temporary contracts, requiring staff to use their stock of vacancy and lieu-days, and in-sourcing work that was previously outsourced. In Germany, temporary plant closures and prolonged holidays were used to a greater extent than in the Netherlands, where the relatively larger share of flexible workers (also larger than in the former recession, that of 2002-03) made it rational and relatively easy for Dutch employers to focus on freezing hiring, reducing temp work and ending (other) temporary contracts.¹ In Autumn 2009, about a quarter of those private employers reducing their workforce had used these measures (Josten 2010, Table 4.5). Temp agency workers were the first group targeted, followed by the self-employed-without-staff (Dutch: 'zzp'ers') might make more sense to a wider audience to refer to them as self-employed contract staff (Van der Ende *et al* 2010). The self-employed in particular are widely

1 Based on a narrow definition of flexible work (those with temporary contracts working over 12 hours per week, with contract of less than one year and with no prospect of a permanent contract, including temporary agency workers), the flexible workers' share of the German workforce in 2004 was 12.2% against 14.6% of the Dutch workforce (Mason and Salverda 2010, 80, based on OECD data). On this basis we calculated that the German flexible share during the crisis developed as follows: 2008: 11.5%, 2009: 11%, 2010: 11.5%, and the Dutch share as: 2008: 15%, 2009: 14%, 2010: 14%. During the crisis the respective shares of temporary agency workers have fallen: according to our calculations in Germany from 2.1% in 2008 to 1.4% in 2010 and in the Netherlands from 6.2% in 2008 to 3.5% in 2010, thus in the Netherlands (minus 42%) even more so than in Germany (minus 33%) (yearly averages; sources: Bundesagentur fuer Arbeit (BAA); Bosch *et al* 2010), ABU (Dutch temporary work agencies' employers' association); CBS; all figures are headcount). A wider definition of flexible work includes all those with non-permanent contracts as well as all self-employed-without-staff and freelancers. For 2009, the total share of those with temporary contracts in the Dutch *total* workforce has been estimated at 16% and that of self-employed and freelancers at 13%. The German shares were both somewhat lower, 13% for those with temporary contracts and 11% for the self-employed and freelancers (Cörvers *et al* 2011). Thus, following this definition the flexible share in the German workforce was 24% in 2009, and that in the Dutch workforce in that year 29%.

assumed to have been victims of the crisis, though a worsening of their position may hardly translate into higher unemployment.²

In a third strategy, firms also laid off permanent staff. According to Möller (2010), German firms applied internal rather than external adjustments; thus, in the German private sector adaptation to the crisis mainly meant the use of existing buffer capacities within firms. The reluctance of German firms to fire permanent staff during the recent crisis has partly been attributed to the difficulties enterprises experienced in finding skilled workers during the economic boom of the mid-2000s. Both Boysen-Hogrefe and Groll (2010) and Dietz *et al* (2010) argue that these experiences stimulated the willingness of companies to hold on to their skilled labour force. The Dutch firms surveyed referred to similar arguments, though – also because of the phrasing of survey questions – the relationship with ‘skills’ was less clear than in Germany. Based on a survey conducted between December 2009 and January 2010, Intomart (2010) concluded that 14% of the surveyed Dutch private employers hoarded staff, of which two-thirds (67%) did so to avoid the loss of useful employees. The survey subsequently undertaken in February 2010 found that in 2009 19% of private employers surveyed hoarded staff, with two in five indicating that this was because these employees could not be missed in the event of a recovery. Such hard-to-replace staff included not only technicians, but also, for instance, low-skilled kitchen staff and waiters/waitresses (Van der Ende *et al* 2010). In Spring/Summer 2010, in line with expectations, labour hoarding had diminished: by then 13% of private employers in the SCP survey indicated that they were keeping more staff than was justified by the supply of work. Again, two-fifths of these employers argued that they did so because “good staff” would be needed later (Josten 2011). Thus, it may be concluded that at the height of the crisis about 9% of Dutch private employers practised labour hoarding related to considerations of (prospective) labour shortages, falling to about 5% in 2010. A relaxation of dismissal legislation is one of the factors that may have acted as a disincentive to hoarding in the Netherlands. Through government measures and jurisprudence, in 2006–2008 individual dismissal “for reasons of company performance” was eased for firms and related firm costs were lowered. Indeed, in Autumn 2009 16% of the private employers that dismissed staff said they had taken this approach, as compared to 7% in the recession of 2003 (Josten 2010, Table 4.4).

2 This victimization is widely assumed, also by official Dutch institutions (Cf. CPB 2010). Firms in the crisis are believed to have cut back their assignments to this flexible group, whose worsening position hardly translates into higher unemployment rates: in order to be registered as unemployed, they have to work less than 12 hours per week and search actively for a(nother) job. However, the February 2010 survey outcomes suggest that the self-employed have been affected less than assumed: those firms working with self-employed (35% of all) had offered them 9% less assignments, as well as shorter lead times and lower fees; this may have led to a turnover loss for the self-employed in question of 1 to 6% in 2009 and 2010 (Van der Ende *et al* 2010).

3. Objectives, data and method

3.1. Research objectives

This study aims to understand organisations' use of crisis adjustment strategies as perceived by the employees. Firstly, it aims to investigate whether the chance of being an employee working for a crisis-hit organisation depends on the depth of the crisis and the extent of recovery in the country of employment. Secondly, where employees are working for a crisis-hit organisation, it aims to understand which adjustment strategies they report, disentangling the economic, the institutional and the firm-level impact on employees' experiences of their organisation's response to the economic crisis. Although the studies discussed in the previous section predominantly refer to private firms, here the public sector is included; henceforth we use the term 'organisation(s)' to refer to firms in either sector. Four hypotheses explore the research objectives:

- 1) Given that the German crisis was deeper and the recovery steeper and more concentrated in exporting industries, but that the pattern over time was similar across the two countries, it is hypothesized that the chance of a German employee working in a crisis-hit organisation depends to a larger extent on the development of the crisis over time and on the industry as compared to the chance of working for a crisis-hit organisation for a Dutch employee, all other things being equal.
- 2a) Given that both countries have basically similar capitalist societal and company structures, it is hypothesized that organisations will exhibit equal workforce adjustment levels if hit by the economic crisis, regardless of the development of the crisis over time.
- 2b) Given that the German state approved STWA requests more often, it is hypothesized that German organisations will apply labour hoarding strategies more often.
- 2c) Given that the Netherlands labour force has a larger share of flexible workers, it is hypothesized that Dutch organisations will apply flexible labour force adjustment strategies more often.
- 3a) Given that both countries have basically similar capitalist societal and company structures, it is hypothesized that organisations will exhibit equal wage adjustment levels if hit by the economic crisis, regardless of the development of the crisis over time.
- 3b) Given that German collective agreements included opening clauses more often, it is hypothesized that German organisations will apply basic wage adjustment strategies more often.
- 4) Although the focus is on workforce and wage adjustment strategies, it is assumed that the adjust-

ment strategies of individual organisations are heterogeneous, as demonstrated by the diversity of spontaneous responses given by employees to the ‘adjustment’ survey question.

3.2. Extra questions in the WageIndicator web-survey

From August 2009 until December 2010, seven questions about the impact of the economic crisis on both respondents and their organisations were included in the German and Dutch versions of the continuous *WageIndicator* web-survey. This survey is posted on the WageIndicator websites in Germany and the Netherlands, known as Lohnspiegel and Loonwijzer respectively.³ The websites receive large numbers of visitors because they provide free information on occupation-specific wages, minimum wages, labour law issues and the like. The number of visitors varies with the web-marketing efforts undertaken. The websites are consulted by employees for their job mobility decisions, annual performance talks or other reasons. All web-visitors are asked to complete the web-survey, in return for the free information provided on the site. The survey is comparable across countries, it is in the national language(s) and it has questions about wages, education, occupation, industry, and other job-related issues (Bispinck *et al* 2010b; Tijdens *et al* 2010). The survey offers a prize incentive and takes approximately 10 minutes to complete part 1 and 10 minutes for part 2.

The crisis questions were asked using an extra page in the web-survey. The first survey question asked whether the economic situation of the employee’s organisation had changed since early 2009. Responses could be given on a 5-point Likert scale, ranging from 1= significantly worsened to 5= significantly improved. The reader should note that the suitability of the phrasing ‘since early 2009’ for a continuous web-survey can be disputed, because the question was asked until December 2010. An alternative phrasing would have been ‘in the last half year’ or similar. Given the pros and cons of such phrasings, the choice was made in favour of ‘since early 2009’. In 2011, the extra page was removed. The English, German and Dutch versions of the crisis survey questions can be found in the Appendix. The questions used in the analyses will be discussed in the relevant sections of this paper.

³ *WageIndicator* is currently running national websites on work and wages in almost 60 countries on five continents (www.wageindicator.org). Worldwide, *WageIndicator* attracts large numbers of web-visitors (2009: over 10 million, 2010: over 12.5 million).

3.3. Data selection

For the analyses, the *WageIndicator* data from August 2009 until December 2010 have been used. The following data selections have been made. Only respondents who indicated being an employee have been included. Thus, the self-employed, students and school pupils, and respondents currently looking for a job, have been excluded. Note that for reasons related to the routing of respondents throughout the survey, it was impossible to identify respondents who were unemployed and had lost their job due to the economic crisis and subsequently ask them to answer the crisis questions. Only respondents who started their job with their current employer in 2009 at the latest have been included. Respondents who did so in 2010 have been excluded, because this group may not have been able to answer the survey question asking them to consider their organisation's economic situation since early 2009. Only respondents with a valid answer to at least one of the crisis survey questions and with a valid answer to questions covering explanatory variables in the research model have been included. Table 1 shows the number of respondents included in the analyses. It totals 36,130 observations, with 22,975 for Germany (over 1,350 per month) and 13,155 for the Netherlands (almost 775 per month). In the remaining part of this paper these observations will be called 'employees'. See the Appendix for the means, standard deviations and number of observations by country for the variables used in the analyses.

Table 1 Number of respondents in the *Lohnspiegel/Loonwijzer* crisis survey pages, break down by country and by quarter.

| | 2009Q3 | 2009Q4 | 2010Q1 | 2010Q2 | 2010Q3 | 2010Q4 | Total | Total col % |
|-------------|--------|--------|--------|--------|--------|--------|-------|-------------|
| Germany | 2039 | 6553 | 3992 | 3594 | 3681 | 3116 | 22975 | 64% |
| Netherlands | 1645 | 2026 | 2609 | 2613 | 2442 | 1820 | 13155 | 36% |
| Total | 3684 | 8579 | 6601 | 6207 | 6123 | 4936 | 36130 | 100% |
| Total row% | 10% | 24% | 18% | 17% | 17% | 14% | 100% | |

Source: WageIndicator data 2009/08-2010/12, selection employees in Germany and Netherlands. The data are not weighted across or within countries.

Although the survey is voluntarily completed, we do not use within-country weights. First, compared to the means of demographic variables known from other sources, the sample variable means do not deviate to a large extent. The most underrepresented groups are found in small groups, for example employees with a part-time job of less than 10 hours per week. Weighting to correct for these groups will hardly affect the means of the variables under study. Second, and most importantly, weighting volunteer surveys to control for socio-demographic composition does not solve the small bias in wages, our targeted variable (Steinmetz

et al 2009). With respect to the dependent variables in this paper the population means, insofar as available, did not differ largely from the sample means. For this reason it is assumed that weighting would also not solve the small bias in our targeted variable.

4. Results

4.1. Working in a crisis-hit organisation

Hypothesis 1 states that the chance of a German employee working in a crisis-hit organisation depends to a larger extent on the development of the crisis over time and on the industry than for a Dutch employee. Using a five-point scale from 1=significantly worsened to 5= significantly improved (Table 2), German employees had on average a higher score on the survey question about their organisation's economic situation since early 2009, namely 2.97 versus 2.72. From August 2009 to December 2010, 29% of the German employees indicated that the situation had worsened, whereas this was the case for 39% of the Dutch employees. The Table also shows 5% 'don't know' responses in both countries. These observations have been excluded from the graphs in the remaining part of the paper, but not from the analyses, as will be explained later.

Table 2 Distribution of responses to the survey question "How has the economic situation in your organisation changed since early 2009"; breakdown by country.

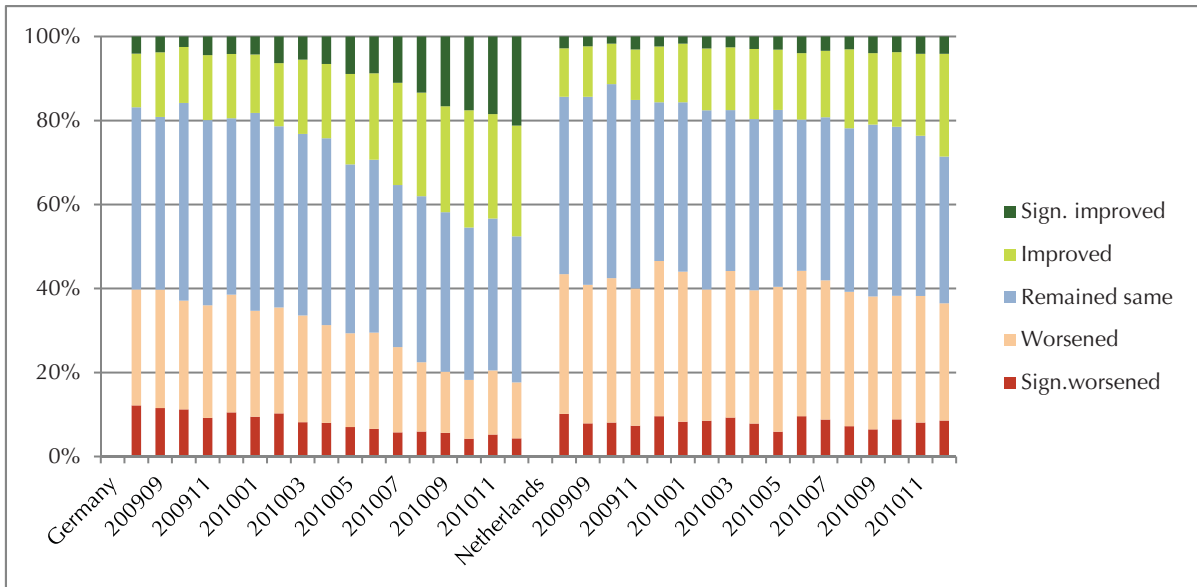
| Economic situation since early 2009 | Germany | Netherlands |
|---|---------|-------------|
| Significantly worsened | 7.7% | 7.7% |
| Worsened | 21.7% | 31.0% |
| Remained the same | 39.4% | 38.6% |
| Improved | 18.0% | 14.4% |
| Significantly improved | 7.9% | 2.8% |
| I don't know | 5.0% | 5.2% |
| Missing | 0.4% | 0.3% |
| Total | 100.0% | 100.0% |
| Mean (1=significantly worsened, .. , 5= significantly improved) | 2.97 | 2.72 |
| Standard deviation | 1.038 | .922 |
| N | 22,975 | 13,155 |

Source: WageIndicator data 2009/08-2010/12, selection employees in Germany and Netherlands.

The data are not weighted across or within countries.

The overall averages for the two countries hide the changes over time. These are depicted in Graph 1, revealing that the two countries did not differ much in August 2009. From early 2010 onwards, the employees in Germany noticed a quicker and steeper recovery than their Dutch counterparts. By the end of 2010, the German employees perceived their organisations to be performing better than the Dutch employees (3.5 versus 2.9). Thus, the descriptive statistics point to a confirmation of hypothesis 1, namely that the economic situation of organisations in Germany varies to a larger extent over time than in the Netherlands.

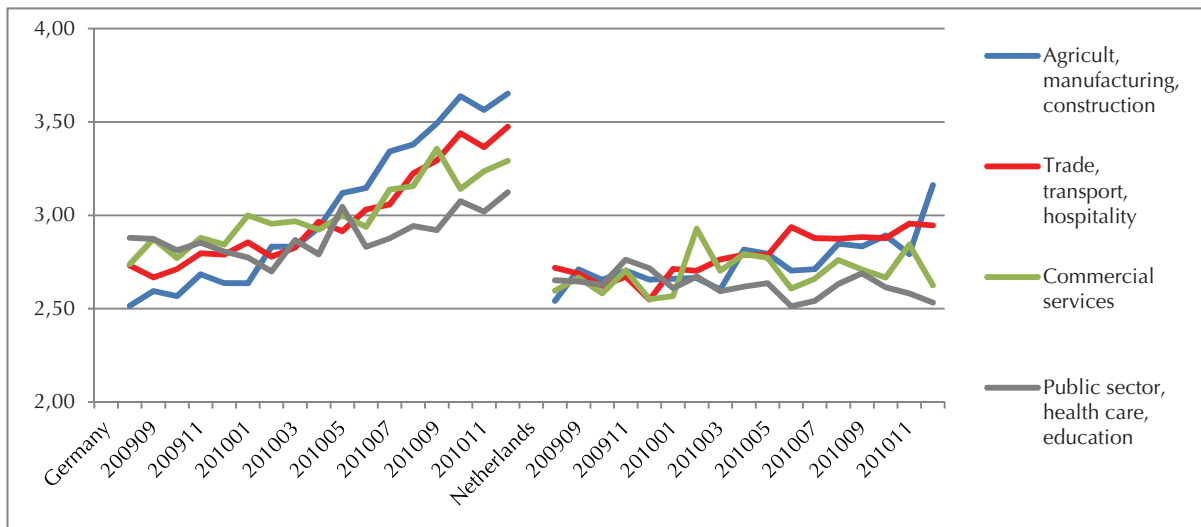
Graph 1 Distribution over response categories for the survey question ‘In your organisation, how has the economic situation changed since early 2009?’ (excluding the don’t know responses), break down by country and by month.



Source: WageIndicator data 2009/08-2010/12, selection employees in Germany (N=21,750) and Netherlands (N=12,439). The data are not weighted across or within countries.

Graph 2 depicts the mean scores by industry on the survey question about the economic situation of organisations since early 2009. In Germany, the agricultural/manufacturing/construction industries performed worse from August 2009 on, but from February 2010 performed gradually better compared to the national average. The public sector, health care and education reveal a reversed pattern. From mid-2010 onwards the mean for those industries falls below the national average. For the Netherlands no such large industry differences can be detected. There, by the end of 2010 the agricultural/manufacturing/ construction industries show a steep increase in employees’ expectations. Yet, in the Netherlands variation around the mean score develops relatively little over the survey months. Thus, the descriptive statistics point to a confirmation of hypothesis 1, namely that the economic situation of organisations in Germany varies to a larger extent across industries compared to the Netherlands.

Graph 2 Means per industry for the survey question 'In your organisation, how has the economic situation changed since early 2009?' (1=significantly worsened, .. , 5= significantly improved, excluding the don't know responses), breakdown by country and by month.



Source: WageIndicator data 2009/08-2010/12, selection employees in Germany (N=21,750) and Netherlands (N=12,439). The data are not weighted across or within countries.

Does a German employee's chance of working in a crisis-hit organisation versus a not-crisis-hit organisation depend to a larger extent on the development of the crisis over time and on the industry as compared to a Dutch employee's chance, all other things being equal? To test this hypothesis, a dichotomous dependent variable has been computed, including the perceptions 'worsened' and 'significantly worsened' on the one hand and the perceptions 'remained the same', 'improved', 'significantly improved' or 'don't know' on the other hand. Logistic regressions have been applied to estimate whether an employee is or is not employed in a crisis-hit organisation, using two models for each country (Table 3). Model 1 and 3 estimate the odds ratio of the chance of an employee working in a worsening organisation from the survey month for the two countries. Model 2 and 4 includes controls for organisational characteristics, namely industry, firm size and collective bargaining coverage, and for individual characteristics, namely age, gender, education, employment contract and working hours.

Table 3 reveals, as hypothesized, that the business cycle is much more important in Germany than the Netherlands. In Germany in August 2009, the odds ratio of an employee being employed by a worsening organisation increases by 62% compared to the reference month January 2010. For the Netherlands, the comparable figure is 8% and not significant. From May 2010 on, in Germany the odds ratio falls below 1, pointing to an economic recovery. In the Netherlands no clear picture emerges regarding development over time. Model 2 and model 4 reveal that the odds ratios of the survey months remain stable when controlled

for other variables, indicating robust patterns over time. Table 3 reveals also that in Germany the economic crisis largely hit the agricultural/manufacturing/construction industries. For this sector the odds ratio of an employee being employed in a worsening organisation increases by 72% compared to those in the public sector/health care/education. In the Netherlands the comparable figure is only 17%.

The control variables in Table 3 show that in Germany firm size does not matter to a large extent, but that in the Netherlands the micro and small organisations have been less vulnerable to the economic crisis. Here, the odds ratio of an employee being employed in a worsening organisation decreases by 30% for micro-organisations (1-10 employees) and by 21% for small organisations (10-50 employees) compared to the reference group (50-100 employees). With respect to collective bargaining coverage, in both countries being covered has no significant impact on the odds ratio. The individual control variables show that gender, age and working hours are relevant factors in each of the two countries. The odds ratio of being employed in a worsening organisation increases by 20% in Germany and by 15% in the Netherlands for females compared to males. Age is also a major factor and its impact is very similar across the two countries. Elderly employees are much more likely to be working in such an organisation, whereas this is much less the case for young employees. The odds ratio of being employed in a worsening organisation increases for employees aged 50 and over compared to employees aged 40-49 (17% in Germany and 18% in the Netherlands) and the odds ratio of employees aged 30 and younger decreases (33% in both countries). In both countries, the odds ratio of being employed in a worsening organisation increases for full-timers compared to part-timers (Germany 16%, Netherlands 10%).

As expected, large differences were found between Germany and the Netherlands. Whereas in Germany a decrease and an increase in organisations' economic situation over time can be observed, this is not the case in the Netherlands. Industry differences are larger in Germany. The control variables reveal little difference across the two countries, with the exception of micro- and small organisations in the Netherlands being less affected by the crisis. The explanatory power of the models is much better for Germany compared to the Netherlands.

Table 3 Chance of an employee to be working in a worsening organisation compared to a stable or improving organisation plus don't know responses for Germany and Netherlands (logistic regression: odds ratio, significance levels and standard errors in brackets)

| | DEU Model1 | | | DEU Model2 | | | NLD Model3 | | | NLD Model4 | | |
|-------------------------------|------------|------|---------|------------|------|---------|------------|------|---------|------------|------|---------|
| | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. |
| 2009-08 | 1.618 | *** | 0.09 | 1.736 | *** | 0.09 | 1.083 | | 0.10 | 1.096 | | 0.10 |
| 2009-09 | 1.534 | *** | 0.07 | 1.655 | *** | 0.07 | .984 | | 0.08 | .998 | | 0.08 |
| 2009-10 | 1.373 | *** | 0.07 | 1.481 | *** | 0.08 | 1.033 | | 0.09 | 1.073 | | 0.09 |
| 2009-11 | 1.342 | *** | 0.06 | 1.430 | *** | 0.06 | .917 | | 0.09 | .944 | | 0.09 |
| 2009-12 | 1.508 | *** | 0.06 | 1.534 | *** | 0.06 | 1.230 | ** | 0.10 | 1.228 | ** | 0.10 |
| 2010-02 | 1.276 | *** | 0.08 | 1.357 | *** | 0.08 | .928 | | 0.08 | .923 | | 0.08 |
| 2010-03 | 1.201 | *** | 0.07 | 1.244 | *** | 0.07 | 1.105 | | 0.09 | 1.125 | | 0.09 |
| 2010-04 | 1.078 | | 0.08 | 1.108 | | 0.08 | .935 | | 0.09 | .924 | | 0.09 |
| 2010-05 | .969 | | 0.08 | .976 | | 0.08 | .967 | | 0.09 | .969 | | 0.09 |
| 2010-06 | .983 | ** | 0.07 | .984 | ** | 0.07 | 1.076 | | 0.08 | 1.089 | | 0.08 |
| 2010-07 | .842 | *** | 0.07 | .847 | *** | 0.07 | 1.002 | | 0.09 | 1.002 | | 0.09 |
| 2010-09 | .608 | *** | 0.09 | .615 | *** | 0.09 | .848 | * | 0.09 | .864 | | 0.10 |
| 2010-10 | .545 | *** | 0.08 | .550 | *** | 0.08 | .880 | | 0.09 | .883 | | 0.10 |
| 2010-11 | .623 | *** | 0.09 | .625 | *** | 0.09 | .870 | | 0.09 | .851 | * | 0.09 |
| 2010-12 | .525 | *** | 0.10 | .510 | *** | 0.10 | .814 | | 0.13 | .771 | ** | 0.13 |
| Agriclt, manufact, constr | | | | 1.716 | *** | 0.05 | | | | 1.171 | *** | 0.06 |
| Trade, transport, hospitality | | | | 1.486 | *** | 0.05 | | | | 1.093 | * | 0.05 |
| Commercial services | | | | 1.184 | *** | 0.05 | | | | 1.134 | ** | 0.06 |
| Firm size 1 - 10 | | | | .980 | | 0.06 | | | | .766 | *** | 0.07 |
| Firm size 10 - 50 | | | | 1.023 | | 0.05 | | | | .820 | *** | 0.06 |
| Firm size 100-500 | | | | 1.086 | | 0.05 | | | | .929 | | 0.06 |
| Firm size 500 and over | | | | 1.103 | * | 0.05 | | | | 1.030 | | 0.07 |
| Covered by coll. agreement | | | | 1.023 | | 0.03 | | | | 1.051 | | 0.04 |
| Female (0,1) | | | | 1.204 | *** | 0.03 | | | | 1.148 | *** | 0.04 |
| Education low (0,1) | | | | .945 | | 0.05 | | | | .947 | | 0.05 |
| Education high (0,1) | | | | 1.011 | | 0.05 | | | | .964 | | 0.05 |
| Age 30- | | | | .753 | *** | 0.04 | | | | .750 | *** | 0.05 |
| Age 30-39 | | | | .919 | ** | 0.04 | | | | .834 | *** | 0.05 |
| Age 50+ | | | | 1.169 | *** | 0.04 | | | | 1.182 | *** | 0.05 |
| Permanent contract (0,1) | | | | 1.053 | | 0.05 | | | | .988 | | 0.05 |
| Full-time (0,1) | | | | 1.163 | *** | 0.05 | | | | 1.105 | ** | 0.05 |
| Constant | .390 | *** | 0.04 | .214 | *** | 0.11 | .651 | *** | 0.05 | .630 | *** | 0.11 |
| -2 Log likelihood | 27283.48 | | | 26996.38 | | | 17508.05 | | | 17366.64 | | |
| Nagelkerke R Sq | .030 | | | .047 | | | .003 | | | .017 | | |
| Chi-sq (sign, df) | 481.81 | *** | df (15) | 768.92 | *** | df (31) | 25.59 | ** | df (15) | 167.01 | *** | df (31) |

Source: WageIndicator data 2009/08-2010/12, selection employees in Germany (N=23986) and Netherlands (N=14687).

NOTE: *** p<0.01, ** p<0.05, * p<0.10

NOTE: Reference groups are 2010-01; industry Public sector, health care and education; firm size 50-100; education middle; age 40-49

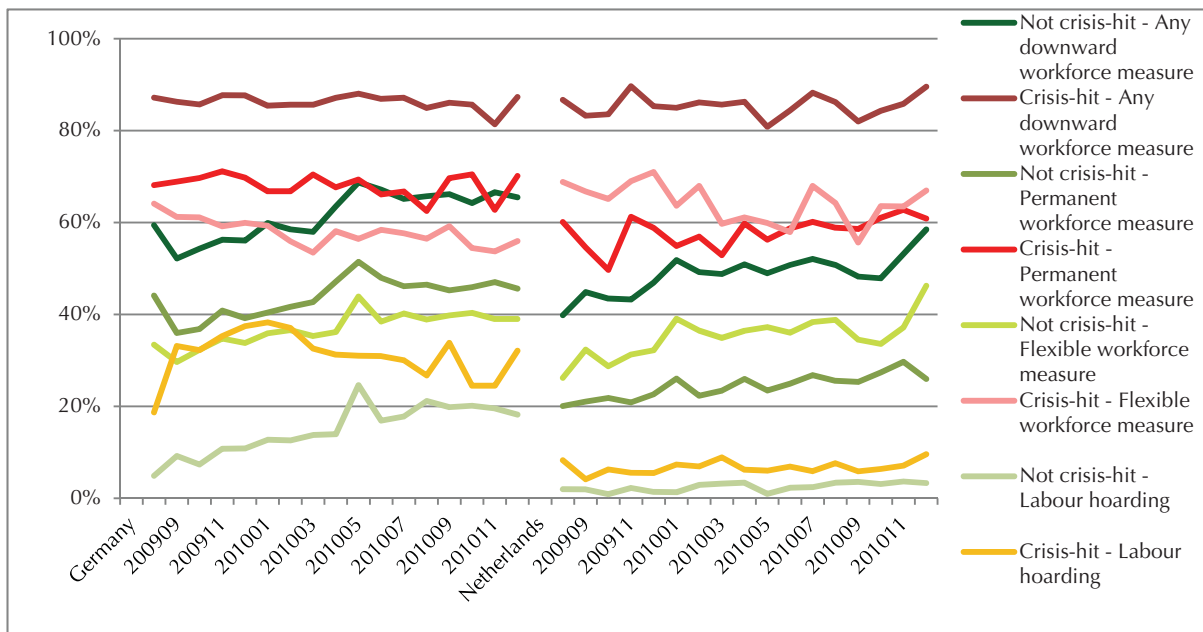
NOTE: The data are not weighted across or within countries.

4.2. Variations in workforce adjustment strategies in crisis-hit organisations

Hypothesis 2a assumes that organisations will exhibit equal workforce adjustment levels if hit by the economic crisis. To test this hypothesis, we focus on data from the survey question which asked if the employee's organisation had taken any personnel measures. Respondents could tick one or more items from a list of nine, including an item 'No measures' and an item 'Other measures' followed by an open response format. For the analyses, the items have been clustered into three categories, namely measures implying labour hoarding, measures targeting the flexible workforce, and measures targeting the permanent workforce. The permanent workforce is targeted when the measures aim at lay-offs of permanent staff, when vacant positions are not filled, where incentives are offered for voluntary dismissal, or in the case of part-time retirement arrangements. The flexible workforce is targeted when the measures aim at lay-offs of temp agency workers, expiration of temporary employment relationships, or no employment offers for trainees. Labour hoarding is evident when the measures aim at using STWA.

The percentages of employees reporting downward workforce adjustment measures in the two countries over time in crisis-hit and not-crisis-hit organizations are depicted in Graph 3. It shows that in both countries 80 to 90% of the crisis-hit organisations apply at least one downward workforce adjustment measure, regardless of the month of the economic crisis. Thus, these bivariate analyses support hypothesis 2a. Additionally, Graph 3 reveals that not-crisis-hit organisations apply downward workforce adjustment measures too, though at lower levels (between 40 and 70%). These levels are on average higher in Germany than the Netherlands, but in both countries they increase slightly towards the end of 2010.

Graph 3 Percentages of employees reporting downward workforce adjustment strategies in crisis-hit and in not-crisis-hit organisations, by country and by survey month



Source: WageIndicator data 2009/08-2010/12, selection employees in Germany (N=22,809) and Netherlands (N=12,964). The data are not weighted across or within countries.

In the multivariate analyses, the bivariate findings are confirmed, as shown in Table 4. The dependent variable is any downward workforce adjustment strategy, which includes measures targeting either the permanent workforce or the flexible workforce, and labour hoarding. The explanatory factor relates to the month of survey. Table 4 shows that the country does not affect the chance of workforce adjustments. In both countries, with one exception, none of the survey months from August 2009 to December 2010 has a significant impact on the workforce adjustment strategies in crisis-hit organisations. Thus, as assumed, whenever organisations face worsening economic conditions, they will apply downward workforce adjustment strategies, regardless of the development of the economic crisis over time and regardless of the country.

Table 4 Chance of an employee to be working in a workforce adjusting organisation that is hit by the crisis for Germany and Netherlands (logistic regression: odds ratio, significance levels and standard errors in brackets)

| | DEU+NLD | | DEU | | NLD | | | |
|----------------------|---------|------|---------|---------|--------|------|---------|-----|
| | Exp(B) | S.E. | Exp(B) | S.E. | Exp(B) | Sig. | S.E. | |
| Germany (0,1) | 1.077 | 0.06 | | | | | | |
| 2009-08 | 1.135 | 0.15 | 1.175 | 0.21 | 1.092 | | 0.23 | |
| 2009-09 | .955 | 0.12 | 1.085 | 0.17 | .833 | | 0.17 | |
| 2009-10 | .946 | 0.13 | 1.034 | 0.17 | .851 | | 0.19 | |
| 2009-11 | 1.232 | * | 1.232 | 0.14 | 1.454 | | 0.23 | |
| 2009-12 | 1.128 | 0.12 | 1.227 | 0.15 | .972 | | 0.22 | |
| 2010-02 | 1.051 | 0.13 | 1.029 | 0.19 | 1.042 | | 0.18 | |
| 2010-03 | 1.009 | 0.13 | 1.030 | 0.17 | 1.001 | | 0.20 | |
| 2010-04 | 1.114 | 0.14 | 1.171 | 0.21 | 1.053 | | 0.20 | |
| 2010-05 | .924 | 0.13 | 1.272 | 0.20 | .707 | * | 0.18 | |
| 2010-06 | 1.020 | 0.13 | 1.145 | 0.18 | .906 | | 0.18 | |
| 2010-07 | 1.205 | 0.14 | 1.170 | 0.19 | 1.257 | | 0.21 | |
| 2010-09 | .890 | 0.15 | 1.068 | 0.23 | .764 | | 0.20 | |
| 2010-10 | .967 | 0.15 | 1.032 | 0.21 | .901 | | 0.21 | |
| 2010-11 | .906 | 0.15 | .756 | 0.22 | 1.014 | | 0.21 | |
| 2010-12 | 1.292 | 0.21 | 1.190 | 0.28 | 1.438 | | 0.33 | |
| Constant | 5.644 | *** | 0.08 | 5.785 | *** | 0.11 | 5.967 | *** |
| -2 Log likelihood | 9535.23 | | | 5308.59 | | | 4213.14 | |
| Nagelkerke R Sq | .003 | | | .002 | | | .007 | |
| Chi-sq (sign, df=15) | 18.592 | ns | df (16) | 9.15 | ns | | 18.98 | ns |

Source: WageIndicator data 2009/08-2010/12, selection employees in crisis-hit organisations in Germany (N=6,730) and Netherlands (N=5,059).

NOTE: *** $p < 0.01$, ** $p < 0.05$; * $p < 0.10$

NOTE: The data are not weighted across or within countries

Hypotheses 2b and 2c assume that crisis-hit organisations utilising downward workforce adjustment strategies will apply labour hoarding more often in Germany and flexible workforce adjustments more often in the Netherlands, all other things being equal. The bivariate analyses in Graph 3 confirm the hypotheses, showing that in Germany labour hoarding is applied to a much larger extent than in the Netherlands, in line with the picture drawn in the overview of policies in section 2. In the Netherlands, the levels of flexible workforce adjustments are higher compared to labour hoarding measures whereas the opposite holds for Germany [Graph 3 also reveals that permanent workforce adjustments are slightly higher in Germany.

To test hypothesis 2b and 2c in a multivariate way, the incidence of the three categories of workforce adjustment in crisis-hit organisations have been analyzed with logistic regressions, using a dummy to investigate the differences across the two countries. The results are shown in Table 5. The explanatory power of the model is highest for the labour hoarding measures and lowest for the permanent workforce measures, with the flexible workforce measures in between. Other results will be discussed hereafter per adjustment category. With respect to the survey months, the results in Table 5 reveal hardly any significant impact of the development of the crisis over time, as was already shown in Table 4.

When analysing the permanent workforce adjustment measures in crisis-hit organisations, the odds ratio of a German employee being employed in an organisation applying these measures increases by 58% compared to a Dutch employee, as expected. The odds ratios increase for employees in both the agricultural/manufacturing/construction industries and the trade/transport/hospitality industries by 12% compared to employees in the public sector/health care/education. The odds ratios increase for employees in large and very large organisations by 28% and 88% respectively, as compared to medium-sized organisations. The odds ratio increases by 18% for employees covered by a collective agreement. The odds ratio increases by 20% for employees aged 50 and over compared to those aged 40-49. The odds ratio increases by 31% for an employee on a permanent labour contract and by 21% for an employee with a full-time job. The odds ratios decrease almost twice for an employee in a micro-organisation and by 34% for an employee in a small organisation compared to one in a medium-sized organisation. Finally, the odds ratio decreases by 19% for low educated employees compared to middle educated employees.

When analysing the flexible workforce adjustment measures in crisis-hit organisations, the odds ratio of a German employee being employed in an organisation applying these measures decreases by 34% compared to a Dutch employee, as expected. The odds ratio increases by 41% for an employee in the agricultural/manufacturing/construction industries compared to one in the public sector/health care/education. The odds ratios increase for employees in large and in very large organisations by 48% and 54% respectively, whereas they decrease almost three times for an employee in a micro-organisation and 34% for an employee in a small organisation compared to medium-sized organisations. The odds ratio increases by 42% for employees covered by a collective agreement. It decreases by 15% for an employee aged 30 or younger compared to one aged 40-49. It decreases by 43% for an employee on a permanent labour contract.

When analysing the labour hoarding measures in crisis-hit organisations, the odds ratio increases almost six times for a German employee compared to a Dutch employee, as expected. Labour hoarding is applied largely in the agricultural/manufacturing/construction industries. The odds ratios increase twelve times for the agricultural/manufacturing/construction industries, three times for the trade/transport/hospitality industries and more than twice for the commercial services compared to the public sector/health care/education. With respect to firm size, the odds ratios decrease substantially for micro- and small enterprises. The odds ratio decreases by 17% for employees covered by a collective agreement and by 25% for female employees. The odds ratios increase by 17% for an employee aged 30 or younger compared to one aged 40-49 and by 60% for an employee on a permanent labour contract.

Table 5 *Chance of permanent workforce adjustments, flexible workforce adjustments and labour hoarding for employees in crisis-hit organisations (logistic regression: odds ratio, significance levels and standard errors in brackets)*

| | Permanent | | | Flexible | | | Labour hoarding | | |
|---------------------------------------|-----------|------|------|----------|------|------|-----------------|------|------|
| | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. |
| Germany (0,1) | 1.580 | *** | 0.05 | .746 | *** | 0.05 | 6.285 | *** | 0.07 |
| 200908 | 1.157 | | 0.11 | 1.282 | ** | 0.12 | .482 | *** | 0.16 |
| 200909 | 1.069 | | 0.09 | 1.176 | * | 0.09 | .822 | | 0.12 |
| 200910 | 1.003 | | 0.10 | 1.102 | | 0.10 | .901 | | 0.13 |
| 200911 | 1.170 | * | 0.08 | .993 | | 0.08 | .965 | | 0.10 |
| 200912 | 1.122 | | 0.09 | 1.131 | | 0.09 | .978 | | 0.11 |
| 201002 | 1.030 | | 0.10 | 1.049 | | 0.10 | 1.220 | | 0.13 |
| 201003 | 1.074 | | 0.10 | .809 | ** | 0.10 | 1.026 | | 0.12 |
| 201004 | 1.076 | | 0.11 | .891 | | 0.11 | .865 | | 0.15 |
| 201005 | 1.061 | | 0.10 | .860 | | 0.10 | .871 | | 0.14 |
| 201006 | 1.090 | | 0.10 | .915 | | 0.10 | .979 | | 0.13 |
| 201007 | 1.063 | | 0.10 | 1.051 | | 0.10 | .953 | | 0.14 |
| 201009 | 1.143 | | 0.12 | .822 | * | 0.12 | .975 | | 0.16 |
| 201010 | 1.334 | ** | 0.12 | 1.017 | | 0.12 | .732 | * | 0.16 |
| 201011 | 1.078 | | 0.11 | .877 | | 0.12 | .729 | * | 0.17 |
| 201012 | 1.196 | | 0.15 | 1.022 | | 0.15 | 1.063 | | 0.19 |
| Agricult, manufact, constr | 1.125 | * | 0.06 | 1.410 | *** | 0.06 | 12.244 | *** | 0.11 |
| Trade, transport, hospitality | 1.124 | * | 0.06 | 1.033 | | 0.06 | 3.067 | *** | 0.12 |
| Commercial services | 1.109 | | 0.07 | .933 | | 0.07 | 2.509 | *** | 0.13 |
| Firm size 1 – 10 | .488 | *** | 0.08 | .265 | *** | 0.08 | .420 | *** | 0.11 |
| Firm size 10 - 50 | .743 | *** | 0.07 | .528 | *** | 0.07 | .703 | *** | 0.09 |
| Firm size 100-500 | 1.278 | *** | 0.07 | 1.484 | *** | 0.07 | .831 | ** | 0.09 |
| Firm size 500 and over | 1.880 | *** | 0.07 | 1.545 | *** | 0.07 | 1.075 | | 0.09 |
| Covered by collective agreement (0,1) | 1.175 | *** | 0.05 | 1.421 | *** | 0.05 | .851 | *** | 0.06 |
| Female (0,1) | 1.078 | | 0.05 | 1.071 | | 0.05 | .799 | *** | 0.06 |
| Education low (0,1) | .837 | *** | 0.05 | .953 | | 0.05 | .973 | | 0.07 |
| Education high (0,1) | .925 | | 0.06 | .963 | | 0.06 | .913 | | 0.08 |
| Age 30- | .800 | *** | 0.06 | .870 | ** | 0.06 | 1.173 | ** | 0.08 |
| Age 30-39 | .892 | ** | 0.05 | .962 | | 0.05 | .998 | | 0.07 |
| Age 50+ | 1.201 | *** | 0.06 | .964 | | 0.06 | .958 | | 0.07 |
| Permanent contract (0,1) | 1.312 | *** | 0.06 | .697 | *** | 0.06 | 1.604 | *** | 0.09 |
| Full-time (0,1) | 1.209 | *** | 0.06 | 1.002 | | 0.06 | 1.068 | | 0.10 |
| Constant | .773 | ** | 0.13 | 2.300 | *** | 0.13 | .015 | *** | 0.21 |
| -2 Log likelihood | 14262.85 | | | 14262.79 | | | 9386.04 | | |
| Nagelkerke R Sq | .164 | | | .164 | | | .334 | | |
| Chi-sq (sign, df=32) | 1518.48 | *** | | 1518.48 | | *** | 2861.45 | *** | |

Source: WageIndicator data 2009/08-2010/12, selection employees in crisis-hit organisations in Germany and Netherlands (N=11,789).

NOTE: *** $p < 0.01$, ** $p < 0.05$; * $p < 0.10$

NOTE: Reference groups are 2010-01; industry Public sector, health care and education; firm size 50-100; education middle; age 40-49

NOTE: The data are not weighted across or within countries.

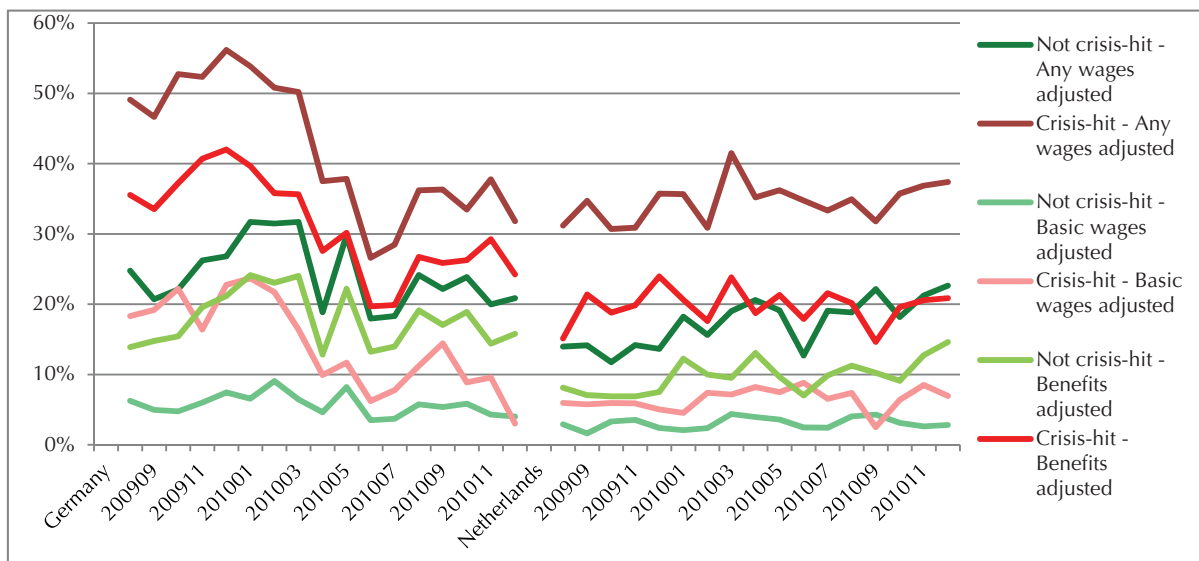
4.3. Wage adjustment strategies

Hypothesis 3a assumes that organisations in both countries exhibit equal wage adjustment levels if hit by the economic crisis, regardless of the development of the crisis over time. To test this assumption, we examine data from the survey question which asked employees what the effects of the economic crisis had been for the employees themselves. Two modes of wage adjustment strategies have been distinguished. Basic wage adjustments occur when employees report 'My monthly income has decreased'. Benefit adjustments occur when employees report 'Holiday pay has been reduced', 'Christmas bonuses have been reduced', or 'Annual bonuses have been reduced'. For Graph 4 a third mode has been included, namely

overall downward wage adjustments, to be applied when employees report that either their basic wage or their benefits are adjusted and or when they report that 'Other' adjustments took place. The reader should note that the survey questions addressing workforce adjustment strategies have been asked with respect to the employees' organisations, whereas the survey questions on wage adjustment strategies have been asked with respect to the employees themselves. This is done deliberately, assuming that employees will be much more aware of any workforce adjustments in their organisation than of any wage adjustments. Hence, the downward wage adjustment for hypothesis 3 could be modelled to be dependent on the downward workforce adjustments, whereas the reverse was not possible.

Graph 4 depicts the percentages of employees reporting the downward wage adjustment strategies for the two countries and for the crisis-hit and the not-crisis-hit organisations over time. The graph shows large country differences and large differences related to the month of the crisis. Until March 2010, between 47% and 56% of the German employees in crisis-hit organisations report overall wage adjustments, compared to 31-41% of their Dutch counterparts. From mid 2010 on, the levels of overall downward wage adjustments are more or less similar across the two countries. Employees in not-crisis-hit organisations also report downward wage adjustments, though at substantially lower levels. In both countries and in all survey months, the benefits are much more affected than the basic wage. Nevertheless, until March 2010 between 16 and 24% of the German employees in crisis-hit organisations report that their basic wage is affected, whereas this is the case for only 5-7% of the similar group of Dutch employees. Thus, in Germany wage strategies have been much more pronounced in the first months of the crisis than they have been in the Netherlands. Thus, these bivariate analyses do not support hypothesis 3a. However, hypothesis 3b, which assumes that crisis-hit organisations will apply basic wage adjustments more often in Germany, seems to be supported.

Graph 4 Percentages of employees reporting downward wage adjustment strategies in crisis-hit and in not-crisis-hit organisations, by country and by survey month



Source: WageIndicator data 2009/08-2010/12, selection employees Germany (N=22,782) and Netherlands (N=12,939). The data are not weighted across or within countries.

In order to test hypothesis 4, the incidence of downward wage adjustments in crisis-hit organisations has been analysed with logistic regressions for the two adjustment categories. In a first analysis the two countries have been analysed jointly, using a country dummy (see Appendix). This analysis reveals large differences across the two countries. As expected, German employees in crisis-hit organisations report more often that their basic wage was adjusted. The odds ratio increases almost 2.5 times for Germany as compared to the Netherlands. No hypothesis has been made about benefit adjustments, but the analysis shows that German employees also report more often that their benefits were adjusted. The odds ratio for downward benefits adjustment increases by 68% for a German employee compared to a Dutch employee. Thus, in crisis-hit organisations in Germany, downward wage adjustments occur more often than in the Netherlands. For this reason, the analyses have been performed for each country separately (Table 6). The explanatory power of the model is highest for basic wage adjustments in Germany and lowest for basic wage adjustments in the Netherlands.

With respect to the impact of the crisis over time, the results show that in Germany from April 2010 the downward wage adjustments are gone. The odds ratios for basic wage adjustments decrease by 40-90% in the months from April 2010 onwards compared to the reference month January 2010. Similarly, the odds ratios for downward benefits adjustments decrease from April 2010 onwards, though here not all months are significant. The table shows that in December 2010 the odds ratio even decreases sevenfold compared to January 2010. We may conclude that by that time the crisis had disappeared in Germany. In contrast, the

Netherlands hardly reveals any pattern over time. This is fully in line with the macro-economic findings presented concerning the development of the crisis in the two countries.

When analyzing the downward basic wage adjustments, Table 6 reveals that in crisis-hit organisations in Germany, workforce and wage adjustment strategies coincide. The odds ratio of facing downward basic wage adjustments increases more than two-and-a-half times when a German employee's organisation also applies downward workforce adjustment strategies. In the Netherlands, the odds ratio increases too, but remains insignificant. In Germany, the odds ratio of facing basic wage adjustments almost doubles for an employee in the agricultural/manufacturing/construction industries and increases by 29% for an employee in the trade/transport/hospitality industries compared to the public sector/health care/education. In the Netherlands, no effect of industry can be noticed. In both countries, firm size has no impact on basic wage adjustments, with the exception of very large firms in Germany. Here the odds ratio of facing basic wage adjustments decreases by 26% compared to those in medium-sized organisations. Collective bargaining coverage has no impact on basic wage adjustments in the two countries. Gender and education matter similarly in the two countries. The odds ratio of facing basic wage adjustments decreases by 62% for a female German employee and 42% for a female Dutch employee, compared to their male counterparts. The odds ratio of a low educated employee facing basic wage adjustments increases by 39% in Germany and 40% in the Netherlands, and that of a high educated employee increases by 28% in Germany and 40% in the Netherlands, all compared to middle educated employees. In Germany the odds ratio for young employees decreases compared to middle aged employees, whereas in the Netherlands the odds ratio decreases for employees on a permanent labour contract.

When analyzing the downward benefits adjustments, Table 6 reveals that in crisis-hit organisations in both countries, workforce and benefits adjustment strategies coincide. The odds ratio of a German employee facing downward benefits adjustments increases by 80% when this employee's organisation also applies downward workforce adjustment strategies, whereas the comparable figure for the Netherlands is 46%. The industry matters in both countries in a similar way. The odds ratio of facing benefits adjustments increases by 45% in Germany and 85% in the Netherlands for an employee in the agricultural/manufacturing/construction industries compared to one in the public sector/health care/education. The comparable figures for the trade/transport/hospitality industries are 19% and 84% respectively, and those for the commercial services are 29% and more than 100%. Firm size also matters for adjustments. The odds ratio of facing benefit adjustments decreases by 51% in Germany and 61% in the Netherlands for employees in

micro-organisations compared to medium-sized organisations, whereas the comparable figures for large organisations are 21% in Germany and of a similar but insignificant magnitude in the Netherlands. Gender matters similarly in the two countries. The odds ratio of facing benefit adjustments decreases by 37% in Germany and 31% in the Netherlands for females compared to males. Education has no impact on benefit adjustments, but age does. In Germany, the odds ratio of facing benefit adjustments decreases by 16% in Germany and 24% in the Netherlands for elderly employees compared to middle aged employees. Employment contract matters too. The odds ratio of facing benefits adjustments increases by 31% in Germany and 56% in the Netherlands for an employee on a permanent contract. Working hours matter in Germany only. Here, the odds ratio of facing benefits adjustments increases by 22% for an employee in a full-time job.

Table 6 Chance of basic wage adjustments and benefits adjustments for employees in crisis-hit organisations in Germany and the Netherlands (logistic regression: odds ratio, significance levels and standard errors in brackets)

| | DEU basic wage adjustments | | | DEU benefits adjustments | | | NLD basic wage adjustments | | | NLD benefits adjustments | | |
|--|----------------------------|------|------|--------------------------|------|------|----------------------------|------|------|--------------------------|------|------|
| | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. | Exp(B) | Sig. | S.E. |
| Downward workforce adjustment strategy (0,1) | 2.684 | *** | 0.14 | 1.796 | *** | 0.09 | 1.298 | | 0.17 | 1.461 | *** | 0.11 |
| 200908 | 1.065 | | 0.19 | .997 | | 0.15 | .926 | | 0.33 | .662 | * | 0.22 |
| 200909 | 1.011 | | 0.15 | .880 | | 0.13 | .931 | | 0.27 | 1.040 | | 0.16 |
| 200910 | 1.297 | * | 0.16 | 1.077 | | 0.13 | .916 | | 0.30 | .885 | | 0.18 |
| 200911 | .967 | | 0.13 | 1.109 | | 0.10 | .909 | | 0.31 | .869 | | 0.19 |
| 200912 | 1.198 | | 0.13 | 1.216 | * | 0.11 | .829 | | 0.34 | 1.128 | | 0.18 |
| 201002 | 1.287 | | 0.17 | 1.040 | | 0.14 | 1.133 | | 0.25 | .857 | | 0.16 |
| 201003 | .923 | | 0.16 | 1.015 | | 0.12 | 1.130 | | 0.28 | 1.217 | | 0.17 |
| 201004 | .494 | *** | 0.23 | .668 | ** | 0.16 | 1.347 | | 0.27 | .891 | | 0.18 |
| 201005 | .544 | *** | 0.20 | .763 | * | 0.15 | 1.197 | | 0.27 | 1.123 | | 0.17 |
| 201006 | .273 | *** | 0.23 | .450 | *** | 0.15 | 1.419 | | 0.25 | .943 | | 0.17 |
| 201007 | .388 | *** | 0.22 | .454 | *** | 0.15 | 1.060 | | 0.29 | 1.112 | | 0.17 |
| 201009 | .712 | | 0.23 | .639 | ** | 0.18 | .419 | * | 0.45 | .625 | ** | 0.21 |
| 201010 | .435 | *** | 0.25 | .687 | ** | 0.17 | 1.054 | | 0.32 | .963 | | 0.20 |
| 201011 | .498 | *** | 0.27 | .808 | ** | 0.18 | 1.504 | | 0.27 | .976 | | 0.18 |
| 201012 | .131 | *** | 0.52 | .616 | ** | 0.22 | 1.204 | | 0.41 | 1.000 | | 0.25 |
| Agricult, manufact, constr | 1.975 | *** | 0.13 | 1.446 | *** | 0.09 | .912 | | 0.18 | 1.852 | *** | 0.12 |
| Trade, transport, hospitality | 1.287 | * | 0.13 | 1.194 | * | 0.09 | .954 | | 0.16 | 1.842 | *** | 0.11 |
| Commercial services | 1.118 | | 0.15 | 1.291 | ** | 0.10 | .847 | | 0.20 | 2.126 | *** | 0.12 |
| Firm size 1 - 10 | 1.078 | | 0.14 | .660 | *** | 0.11 | 1.328 | | 0.21 | .622 | *** | 0.15 |
| Firm size 10 - 50 | .834 | | 0.13 | .781 | ** | 0.10 | 1.088 | | 0.19 | .892 | | 0.12 |
| Firm size 100-500 | .880 | | 0.12 | .937 | | 0.10 | .798 | | 0.21 | .952 | | 0.12 |
| Firm size 500 and over | .795 | * | 0.12 | 1.211 | ** | 0.10 | .935 | | 0.21 | 1.158 | | 0.12 |
| Covered by collective agreement (0,1) | .977 | | 0.08 | .929 | | 0.06 | .922 | | 0.13 | .612 | *** | 0.08 |
| Female (0,1) | .616 | *** | 0.09 | .732 | *** | 0.06 | .702 | ** | 0.15 | .764 | *** | 0.09 |
| Education low (0,1) | 1.390 | *** | 0.11 | 1.000 | | 0.08 | 1.396 | ** | 0.13 | .895 | *** | 0.09 |
| Education high (0,1) | .779 | ** | 0.12 | .990 | ** | 0.08 | .712 | ** | 0.16 | .894 | *** | 0.09 |
| Age 30- | .825 | * | 0.11 | .895 | | 0.08 | 1.029 | | 0.16 | 1.058 | | 0.10 |
| Age 30-39 | .839 | * | 0.09 | 1.015 | | 0.07 | .806 | | 0.17 | 1.074 | | 0.10 |
| Age 50+ | 1.027 | | 0.09 | .864 | * | 0.07 | .945 | | 0.16 | .801 | ** | 0.10 |
| Permanent contract (0,1) | .864 | | 0.11 | 1.306 | *** | 0.09 | .468 | *** | 0.14 | 1.559 | *** | 0.11 |
| Full-time (0,1) | 1.021 | | 0.14 | 1.220 | * | 0.11 | .727 | ** | 0.15 | 1.034 | *** | 0.10 |
| Constant | .091 | *** | 0.29 | .223 | *** | 0.22 | .161 | *** | 0.37 | .134 | *** | 0.25 |
| -2 Log likelihood | 5441.16 | | | 8189.35 | | | 2364.03 | | | 4817.08 | | |
| Nagelkerke R Sq | .114 | | | .080 | | | .046 | | | .062 | | |
| Chi-sq (sign, df=32) | 464.37 | *** | | 398.29 | *** | | 89.54 | *** | | 200.89 | *** | |

Source: WageIndicator data 2009/08-2010/12, selection Germany (N=6,721) and Netherlands (N= 5,044).

*** p<0.01, ** p<0.05, * p<0.10

NOTE: Reference groups are 2010-01; industry Public sector, health care and education; firm size 50-100; education middle; age 40-49

NOTE: The data are not weighted across or within countries.

4.4. The heterogeneity of adjustments

The survey had two open response format questions, which were used extensively by respondents in both Germany and the Netherlands. This section aims to summarize these responses to highlight the heterogeneity of adjustment strategies, insofar as that was not clear from the previous sections. These responses are not quantified, but briefly summarized.

Large numbers of respondents highlighted the downward wage adjustments they had experienced, only a very few mentioned upward wage adjustments. A comment frequently made was that respondents had not received a salary increase, or that a salary increase was less than expected. Although in the previous sections a salary freeze was not categorised as a downward wage adjustment, it certainly can be perceived as one. In addition, many respondents reported that their overtime hours were no longer paid. There were also comments related to cost reduction policies of employing organisations, such as an absence of Christmas presents, commuting allowances, lease cars, or other extras. Some respondents reported not being paid in time.

An approximately similar number of respondents referred to downward workforce adjustments, although some of them also mentioned upward workforce adjustments. The adjustments mentioned included fewer overtime hours being available, an obligation to take up days of leave reduction of working time, an increasing number of zero hour contracts, and the like. Regarding staffing, some respondents reported that their organisation had less work due to the economic crisis and that as a result they had a lower workload. However, many more respondents reported that due to staff reductions, hiring freezes and a lack of replacements for staff on sick leave, they experienced a higher workload. Many respondents reported stress and uncertainty, whereas few reported that they faced idle hours. During a crisis, organisations run the risk of not adjusting their workforce in time to a decreased workload and thus facing idle hours. From the open response format questions, it is evident that many organisations succeeded in quickly realising downward workforce adjustments to prevent idle hours.

5. Conclusions

This study aimed to compare Germany and the Netherlands with regard to the impact of the economic crisis on downward workforce and wage adjustments, using data of a continuous employee web-survey running from August 2008 until December 2010 in the two countries. In line with the macro-economic findings, the survey data of the perceptions of employees regarding the economic situation of their employer shows that the crisis hit Germany severely in 2009, but from Spring 2010 onwards a steep recovery took place. The data show that the crisis hit Dutch organisations to a much lesser extent, but that a recovery hardly took place in 2010. The mean score of employees' perceptions during the survey period is on average lower in the Netherlands than in Germany. In the data analysis, the month of survey indeed affected the likelihood of an employee being employed in a worsening organisation: substantially negatively until February 2010 and positively since then, whereas the Netherlands hardly reveals a month-related pattern. Employees reporting that the economic situation of their employers had worsened since early 2009 are categorized as working in crisis-hit organisations. The study aims to contribute to the understanding of adjustments made by organisations when they were hit by the crisis. This is a dichotomous approach, not differentiating the degree to which the crisis hit the organisation, as the data does not allow to do so.

The analysis in this paper focussed on explanations for the kinds of workforce and wage adjustments carried out in crisis-hit organisations. Downward workforce adjustments can be categorised as labour hoarding, adjustments in the flexible workforce, or adjustments in the permanent workforce, whereas downward wage adjustments can be categorised as adjustments in basic pay or adjustments in benefits. The explanations relate to the survey month, to organisational factors, namely industry, firm size and collective bargaining coverage, and to individual factors, namely gender, education, age, labour contract and working hours. Germany and the Netherlands vary with respect to the intensity of state actions to prevent an increase of unemployment. Therefore, the analyses have been performed first to test if a significant country difference

existed, and if so, the analyses have been performed for the two countries separately.

When focussing on the industries, the data also confirm the macro-economic findings. In Germany, the crisis has affected the manufacturing and construction industries substantially, whereas these effects are much smaller in the Netherlands.

When focussing on firm size, the data shows that size hardly matters in Germany, but that it does so considerably in the Netherlands, where small organisations are far less likely to be affected by the crisis. Female employees are more likely to be affected and so are employees aged 50 and over. The explanatory power of the models is much better for Germany than they are for the Netherlands.

When focussing on the impact of collective bargaining coverage, the data show that coverage does not affect the likelihood of working in a crisis-hit or not crisis-hit organisation. Being covered by a collective agreement does affect the likelihood of downward workforce adjustments, increasing this likelihood for adjustments in the permanent and the flexible workforce, but decreasing the likelihood for labour hoarding adjustments. Coverage does not affect the likelihood of downward wage adjustments, nor the basic wage or the benefits.

When focussing on gender, the analyses confirm that female workers are more likely to be employed in an organisation that is hit by the crisis, but when working in a crisis-hit organisation, they are less likely to be working for an organisation that applies labour hoarding, and they are less likely to be facing wage adjustments.

When focussing on education, the analyses reveal that education is not a relevant factor for working in a crisis-hit organisation. However, when working in such an organisation, the data reveals that low-educated employees are less likely to be working in an organisation that adjusts its permanent workforce, whereas for other workforce adjustments education is irrelevant. Concerning wage adjustments, the analyses reveal that low-educated employees are more likely to face downward basic wage adjustments, whereas the high educated are more likely not to face basic wage adjustments.

When focussing on age, the analyses reveal that age is a relevant factor for the likelihood of working in a crisis-hit organisation. Elderly employees are more likely and young employees are less likely to do so. When working in a crisis-hit organisation, elderly employees are more likely to be working in an organisation that adjusts its permanent workforce, whereas young employees are less likely to be so. Young employees are more likely to be working in an organisation that applies labour hoarding. If working in a crisis-hit organisa-

tion, elderly employees are less likely to face downward benefit adjustments.

When focussing on the impact of labour contract, the analyses show that having a permanent contract does not affect the likelihood of working for a crisis-hit organisation. When working in a crisis-hit organisation, employees with a permanent contract are more likely to be working in an organisation adjusting its permanent workforce or one that applies labour hoarding, and less likely to be working in an organisation that adjusts its flexible workforce. Having a permanent contract reduces the likelihood of facing a downward basic wage adjustment but increases the likelihood of facing a downward benefit adjustment.

When focussing on the impact of working hours, the analyses reveal that having a full-time job increases the likelihood of working for a crisis-hit organisation. When working in a crisis-hit organisation, full-time employees are more likely to be working in an organisation adjusting its permanent workforce and they are more likely to face a downward basic wage adjustment.

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Appendix Descriptive statistics

Table 7 Means, standard deviations and number of observations for the variables in use in the analyses by country

| | Germany | | | Netherlands | | | Total | | |
|--|---------|------|-------|-------------|------|-------|-------|------|-------|
| | Mean | sd | N | Mean | sd | N | Mean | sd | N |
| Economic situation organisation worsened (0,1) | 29.5% | 0.46 | 22894 | 38.9% | 0.49 | 13119 | 32.9% | 0.47 | 36013 |
| Downward workforce adjustment strategy (0,1) | 68.7% | 0.46 | 22890 | 62.9% | 0.48 | 13000 | 66.6% | 0.47 | 35890 |
| Labour hoarding (0,1) | 20.1% | 0.40 | 22890 | 4.1% | 0.20 | 13000 | 14.3% | 0.35 | 35890 |
| Permanent workforce affected (0,1) | 51.0% | 0.50 | 22890 | 37.2% | 0.48 | 13000 | 46.0% | 0.50 | 35890 |
| Flexible workforce targetted (0,1) | 43.2% | 0.50 | 22890 | 46.5% | 0.50 | 13000 | 44.4% | 0.50 | 35890 |
| Downward renumerations adjustments (0,1) | 30.6% | 0.46 | 22863 | 23.9% | 0.43 | 12976 | 28.2% | 0.45 | 35839 |
| Basic pay affected (0,1) | 8.7% | 0.28 | 22863 | 4.4% | 0.21 | 12976 | 7.2% | 0.26 | 35839 |
| Benefits affected (0,1) | 22.8% | 0.42 | 22860 | 13.6% | 0.34 | 12975 | 19.5% | 0.40 | 35835 |
| 200908 (0,1) | 3.1% | 0.17 | 22975 | 4.0% | 0.20 | 13155 | 3.4% | 0.18 | 36130 |
| 200909 (0,1) | 5.8% | 0.23 | 22975 | 8.5% | 0.28 | 13155 | 6.8% | 0.25 | 36130 |
| 200910 (0,1) | 5.3% | 0.22 | 22975 | 5.8% | 0.23 | 13155 | 5.5% | 0.23 | 36130 |
| 200911 (0,1) | 14.7% | 0.35 | 22975 | 5.6% | 0.23 | 13155 | 11.4% | 0.32 | 36130 |
| 200912 (0,1) | 8.5% | 0.28 | 22975 | 4.1% | 0.20 | 13155 | 6.9% | 0.25 | 36130 |
| 201001 (0,1) | 6.5% | 0.25 | 22975 | 5.1% | 0.22 | 13155 | 6.0% | 0.24 | 36130 |
| 201002 (0,1) | 4.1% | 0.20 | 22975 | 9.3% | 0.29 | 13155 | 6.0% | 0.24 | 36130 |
| 201003 (0,1) | 6.7% | 0.25 | 22975 | 5.4% | 0.23 | 13155 | 6.2% | 0.24 | 36130 |
| 201004 (0,1) | 4.0% | 0.20 | 22975 | 6.2% | 0.24 | 13155 | 4.8% | 0.21 | 36130 |
| 201005 (0,1) | 5.2% | 0.22 | 22975 | 6.6% | 0.25 | 13155 | 5.7% | 0.23 | 36130 |
| 201006 (0,1) | 6.4% | 0.25 | 22975 | 7.1% | 0.26 | 13155 | 6.7% | 0.25 | 36130 |
| 201007 (0,1) | 6.6% | 0.25 | 22975 | 6.0% | 0.24 | 13155 | 6.4% | 0.24 | 36130 |
| 201009 (0,1) | 4.6% | 0.21 | 22975 | 5.2% | 0.22 | 13155 | 4.8% | 0.21 | 36130 |
| 201010 (0,1) | 5.9% | 0.24 | 22975 | 5.1% | 0.22 | 13155 | 5.6% | 0.23 | 36130 |
| 201011 (0,1) | 4.2% | 0.20 | 22975 | 6.1% | 0.24 | 13155 | 4.9% | 0.22 | 36130 |
| 201012 (0,1) | 3.4% | 0.18 | 22975 | 2.6% | 0.16 | 13155 | 3.1% | 0.17 | 36130 |
| Agricult, manufact, constr (0,1) | 34.6% | 0.48 | 22975 | 26.3% | 0.44 | 13155 | 31.5% | 0.46 | 36130 |
| Trade, transport, hospitality (0,1) | 27.1% | 0.44 | 22975 | 31.4% | 0.46 | 13155 | 28.7% | 0.45 | 36130 |
| Commercial services (0,1) | 21.1% | 0.41 | 22975 | 17.0% | 0.38 | 13155 | 19.6% | 0.40 | 36130 |
| Firm size 1 – 10 (0,1) | 15.5% | 0.36 | 22975 | 16.5% | 0.37 | 13155 | 15.9% | 0.37 | 36130 |
| Firm size 10 - 50 (0,1) | 22.2% | 0.42 | 22975 | 29.1% | 0.45 | 13155 | 24.7% | 0.43 | 36130 |
| Firm size 100-500 (0,1) | 23.6% | 0.42 | 22975 | 21.2% | 0.41 | 13155 | 22.7% | 0.42 | 36130 |
| Firm size 500 and over (0,1) | 27.3% | 0.45 | 22975 | 20.7% | 0.41 | 13155 | 24.9% | 0.43 | 36130 |
| Covered by collective agreement (0,1) | 50.8% | 0.50 | 22975 | 71.2% | 0.45 | 13155 | 58.2% | 0.49 | 36130 |
| Female (0,1) | 34.3% | 0.47 | 22975 | 41.7% | 0.49 | 13155 | 37.0% | 0.48 | 36130 |
| Education low (0,1) | 48.4% | 0.50 | 22975 | 26.6% | 0.44 | 13155 | 40.5% | 0.49 | 36130 |
| Education high (0,1) | 38.3% | 0.49 | 22975 | 26.4% | 0.44 | 13155 | 34.0% | 0.47 | 36130 |
| Age 30- (0,1) | 19.4% | 0.40 | 22975 | 25.8% | 0.44 | 13155 | 21.8% | 0.41 | 36130 |
| Age 30-39 (0,1) | 29.5% | 0.46 | 22975 | 26.1% | 0.44 | 13155 | 28.3% | 0.45 | 36130 |
| Age 50+ (0,1) | 19.9% | 0.40 | 22975 | 20.4% | 0.40 | 13155 | 20.1% | 0.40 | 36130 |
| Permanent employment contract (0,1) | 88.4% | 0.32 | 22975 | 83.4% | 0.37 | 13155 | 86.6% | 0.34 | 36130 |
| Full-time job - self-defined (0,1) | 88.9% | 0.31 | 22975 | 72.7% | 0.45 | 13155 | 83.0% | 0.38 | 36130 |

Source: WageIndicator data 2009/08-2010/12, selection employees in Germany and Netherlands.
The data are not weighted across or within countries.

Appendix Survey questions

| VAR_NAME | SOURCE LABEL | GERMANY | NETHERLANDS |
|----------------|--|---|---|
| PAGE_crisis | Many organisations feel consequences of the current economic crisis. How does it affect your organisation? | Die aktuelle Wirtschaftskrise macht vielen Betrieben zu schaffen. Wie ist die Situation zurzeit in Ihrem Betrieb? | Veel organisaties voelen de gevolgen van de economische crisis. Hoe is de situatie in jouw organisatie? |
| crisis_01 | In comparison to the beginning of 2009 the economic situation of my organisation has | Die wirtschaftliche Lage des Betriebes ist im Vergleich zum Jahresbeginn 2009 | Hoe is de economische situatie in jouw organisatie nu in vergelijking met het begin van 2009? |
| crisis_01_1 | Significantly worsened | Erheblich schlechter | Sterk verslechterd |
| crisis_01_2 | Worsened | Schlechter | Verslechterd |
| crisis_01_3 | Remained the same | Gleich geblieben | Gelijk gebleven |
| crisis_01_4 | Improved | Besser | Verbeterd |
| crisis_01_5 | Significantly improved | Deutlich besser | Sterk verbeterd |
| crisis_01_-7 | Don't know | Weiss nicht | Weet niet |
| INFO_crisis_02 | Which of the following personnel actions have taken place in your organisation? | Welche der folgenden Personalmaßnahmen haben in Ihrem Betrieb stattgefunden? | Welke personele maatregelen zijn in jouw organisatie genomen? |
| crisis_02a | No reoccupation of vacant positions | Keine Wiederbesetzung von frei werdenden Stellen | Vacatures worden niet vervuld |
| crisis_02b | Lay off of temporary employees | Kündigung von Leiharbeiter/innen | Minder uitzendkrachten |
| crisis_02c | Expiry of temporary employment relationships | Auslaufen von befristeten Beschäftigungsverhältnissen | Geen verlenging van tijdelijke contracten |
| crisis_02d | No takeover of trainees | keine Übernahme von Auszubildenden | Stagiaires/trainees worden niet in vaste dienst genomen |
| crisis_02e | Lay off of permanent staff | Kündigung von Stammpersonal | Ontslag van personeel in vaste dienst |
| crisis_02f | Redemption offers for voluntary dismissal | Abfindungsangebote bei freiwilliger Kündigung | Bij vrijwillig ontslag een aantal maanden loon |
| crisis_02i | Part-time unemployment benefit | Kurzarbeit | Deeltijd-WW |
| crisis_02g | Part-time retirement | Altersteilzeit | Deeltijdarbeid voor ouderen / Vervroegde uittreding |
| crisis_02j | No measures | Keinerlei Personalmaßnahmen | Geen maatregelen |
| crisis_02h | Other measures | Sonstiges | Anders, namelijk ... |
| crisis_02h_txt | TEXTBOX NO LABEL | TEXTBOX NO LABEL | TEXTBOX NO LABEL |
| crisis_03 | In comparison to the beginning of 2009 the number of employees in my organisation has ... | Wie war es seit Jahresbeginn 2009: Ist die Zahl der Beschäftigten in Ihrem Betrieb | In vergelijking met het begin van 2009 is het aantal werknemers in mijn organisatie ... |
| crisis_03_1 | Decreased | Zurückgegangen | Afgenomen |
| crisis_03_2 | Remained unchanged | Gleich geblieben | Gelijk gebleven |
| crisis_03_3 | Increased | Gestiegen | Toegenomen |
| crisis_03_4 | I don't know | Weiß nicht | Weet niet |
| crisis_04 | Were mostly women affected by this? | Waren Frauen vom Personalabbau besonders betroffen? | Betrof dit vooral vrouwen? |
| crisis_04_1 | Yes | Ja | Ja |
| crisis_04_0 | No | Nein | Nee |
| crisis_04_-7 | I don't know | Weiß nicht | Weet niet |
| crisis_05 | Has working time reduction been introduced since the beginning of 2009? | Hat es in Ihrem Betrieb seit Jahresbeginn 2009 Kurzarbeit gegeben? | NOT ASKED IN THE NETHERLANDS |
| crisis_05_1 | Yes | Ja | |
| crisis_05_0 | No | Nein | |
| crisis_05_-7 | I don't know | Weiß nicht | |
| crisis_06 | What impact does the economic crisis have on your working conditions? | Welche Auswirkungen hat die Wirtschaftskrise auf Ihre Arbeitsbedingungen | Wat betekent de economische crisis voor jouw arbeidsomstandigheden? |

| VAR_NAME | SOURCE LABEL | GERMANY | NETHERLANDS |
|----------------|---|--|--|
| crisis_06_1 | Yes | Ja | Ja |
| crisis_06_0 | No | Nein | Nee |
| crisis_06_-7 | I don't know | Keine Angabe | Weet niet |
| crisis_06a | The time pressure increases | Der Zeit- und Leistungsdruck nimmt zu. | De tijdsdruk neemt toe |
| crisis_06d | The performance pressure increases | Das Betriebsklima verschlechtert sich. | De prestatiedruk neemt toe |
| crisis_06b | The working climate is deteriorating | Das Betriebsklima verschlechtert sich. | Het werkklimaat verslechterd |
| crisis_06c | Prospects are worsening | Aufstiegchancen verschlechtern sich | De vooruitzichten verslechteren |
| INFO_crisis_07 | What are the effects of the economic crisis for you personally? | Welche Auswirkungen hat Wirtschaftskrise für Sie persönlich? | Wat betekent de economische crisis voor jou persoonlijk? |
| crisis_07a | I am in working time reduction | Ich befinde mich in Kurzarbeit | Ik maak gebruik van de deeltijd-WW |
| crisis_07b | I have been dismissed | Ich bin gekündigt | Ik ben ontslagen |
| crisis_07c | My monthly income has decreased | Mein Monatseinkommen ist gesunken | Mijn loon is verminderd |
| crisis_07d | The allowances and benefits have been reduced | Die Zulagen und Zuschläge haben sich verringert | Mijn toeslagen zijn verminderd |
| crisis_07g | Holiday pay has been reduced | Die Jahressonderzahlungen (Urlaubsgeld, Weihnachtsgeld) ist geringer | Mijn vakantiegeld is verminderd |
| crisis_07e | Christmas bonuses has been reduced | Die Jahressonderzahlungen (Urlaubsgeld, Weihnachtsgeld) ist geringer | Mijn eindejaarsuitkering of 13e maand is verminderd |
| crisis_07h | Annual bonuses have been reduced | NOT ASKED IN GERMANY | Mijn bonus of winstuitkering is verminderd |
| crisis_07i | None of the above | Keine | Geen |
| crisis_07f | Other | Sonstiges | Anders, namelijk ... |
| crisis_07f_txt | TEXTBOX NO LABEL | TEXTBOX NO LABEL | TEXTBOX NO LABEL |

Appendix Tables

Table 8 *Chance of overall downward wage adjustments, basic wage adjustments and benefits adjustments for employees in crisis-hit organisations (logistic regression: odds ratio, significance levels and standard errors in brackets)*

| | Downward wage adjustment strategies | | | Basic wage affected | | | Benefits affected | | |
|---|-------------------------------------|-------|------|---------------------|-------|------|-------------------|-------|------|
| | Exp(B) | sign. | S.E. | Exp(B) | sign. | S.E. | Exp(B) | sign. | S.E. |
| Germany (0,1) | 1.370 | *** | 0.05 | 2.439 | *** | 0.08 | 1.681 | *** | 0.05 |
| Downward work-force adj. strategy (0,1) | 1.953 | *** | 0.06 | 2.080 | *** | 0.11 | 1.637 | *** | 0.07 |
| 200908 | .911 | | 0.11 | 1.006 | | 0.16 | .860 | | 0.12 |
| 200909 | .927 | | 0.09 | .978 | | 0.13 | .929 | | 0.10 |
| 200910 | 1.030 | | 0.09 | 1.189 | | 0.13 | 1.016 | | 0.10 |
| 200911 | 1.079 | | 0.08 | 1.005 | | 0.11 | 1.090 | | 0.09 |
| 200912 | 1.271 | *** | 0.09 | 1.217 | | 0.12 | 1.228 | ** | 0.09 |
| 201002 | .925 | | 0.09 | 1.144 | | 0.14 | .915 | | 0.11 |
| 201003 | 1.173 | * | 0.09 | .963 | | 0.14 | 1.072 | | 0.10 |
| 201004 | .781 | ** | 0.10 | .717 | ** | 0.17 | .748 | ** | 0.12 |
| 201005 | .825 | * | 0.10 | .711 | ** | 0.16 | .892 | | 0.11 |
| 201006 | .617 | *** | 0.10 | .531 | *** | 0.16 | .606 | *** | 0.11 |
| 201007 | .601 | *** | 0.10 | .533 | *** | 0.17 | .651 | *** | 0.11 |
| 201009 | .718 | *** | 0.12 | .603 | ** | 0.20 | .635 | *** | 0.14 |
| 201010 | .741 | *** | 0.11 | .565 | *** | 0.20 | .784 | * | 0.13 |
| 201011 | .862 | | 0.11 | .761 | | 0.18 | .862 | | 0.13 |
| 201012 | .714 | ** | 0.15 | .331 | *** | 0.31 | .743 | * | 0.17 |
| Agricult, manufact, constr | 1.400 | *** | 0.06 | 1.568 | *** | 0.10 | 1.653 | *** | 0.07 |
| Trade, transport, hospitality | 1.227 | *** | 0.06 | 1.105 | | 0.10 | 1.441 | *** | 0.07 |
| Commercial services | 1.271 | *** | 0.07 | .951 | | 0.12 | 1.601 | *** | 0.08 |
| Firm size 1 – 10 | .812 | *** | 0.08 | 1.133 | | 0.11 | .638 | *** | 0.09 |
| Firm size 10 - 50 | .874 | ** | 0.07 | .903 | | 0.10 | .821 | *** | 0.08 |
| Firm size 100-500 | .924 | | 0.07 | .891 | | 0.10 | .950 | | 0.07 |
| Firm size 500 and over | 1.127 | * | 0.07 | .873 | | 0.10 | 1.226 | *** | 0.07 |
| Covered by collective agreement(0,1) | .773 | *** | 0.04 | .964 | | 0.07 | .820 | *** | 0.05 |
| Female (0,1) | .886 | *** | 0.05 | .634 | *** | 0.08 | .735 | *** | 0.05 |
| Education low (0,1) | .957 | | 0.05 | 1.337 | *** | 0.08 | .931 | | 0.06 |
| Education high (0,1) | .915 | * | 0.05 | .746 | *** | 0.09 | .936 | | 0.06 |
| Age 30- | .925 | | 0.06 | .911 | | 0.09 | .963 | | 0.06 |
| Age 30-39 | .981 | | 0.05 | .840 | ** | 0.08 | 1.038 | | 0.06 |
| Age 50+ | .830 | *** | 0.05 | .994 | | 0.08 | .838 | *** | 0.06 |
| Permanent contract (0,1) | .948 | | 0.06 | .678 | *** | 0.09 | 1.367 | *** | 0.07 |
| Full-time (0,1) | .957 | | 0.06 | .803 | ** | 0.10 | 1.102 | | 0.07 |
| Constant | .436 | *** | 0.14 | .079 | *** | 0.22 | .138 | *** | 0.16 |
| -2 Log likelihood | 15350.58 | | | 7960.29 | | | 13111.20 | | |
| Nagelkerke R Sq | .062 | | | .104 | | | .092 | | |
| Chi-sq (sign, df=33) | 550.25 | | | 654.31 | | | 779.08 | | |

Source: WageIndicator data 2009/08-2010/12, selection Germany and Netherlands (N= 11,765). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

NOTE: Reference groups are 2010-01; industry Public sector, health care and education; firm size 50-100; education middle; age 40-49

NOTE: The data are not weighted across or within countries.

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March 2004 - Randy Kesselring (Professor of Economics at Arkansas State University, USA) was guest at AIAS in April and May 2003
- 04-26 [Economische effecten van Immigratie – Ontwikkeling van een Databestand en eerste analyses](#)
Januari 2004 - Joop Hartog & Aslan Zorlu
- 03-25 [Wage Indicator – Dataset Loonwijzer](#)
Januari 2004 - Kea Tijdens
- 03-24 [Codeboek DUCADAM dataset](#)
December 2003 - Kilian Schreuder & Kea Tijdens
- 03-23 [Household consumption and savings around the time of births and the role of education](#)
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- 03-17 [Working women's choices for domestic help](#)
October 2003 - Kea Tijdens, Tanja van der Lippe & Esther de Ruijter
- 03-16 [De invloed van de Wet arbeid en zorg op verlofregelingen in CAO's](#)
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- 03-15 [Flexibility and social protection](#)
August 2003 - Ton Wilthagen
- 03-14 [Top incomes in the Netherlands and the United Kingdom over the Twentieth Century](#)
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- 03-13 [Tax evasion in Albania: An institutional vacuum](#)
April 2003 - Klarita Gërzhani
- 03-12 [Politico-economic institutions and the informal sector in Albania](#)
May 2003 - Klarita Gërzhani
- 03-11 [Tax evasion and the source of income: An experimental study in Albania and the Netherlands](#)
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- 03-07 Teleworking policies of organisations- The Dutch experience
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- 03-06 Flexible work - Arrangements and the quality of life
February 2003 - Cees Nierop
- 01-05 Employer's and employees' preferences for working time reduction and working time differentiation – A study of the 36 hours working week in the Dutch banking industry
2001 - Kea Tijdens
- 01-04 Pattern persistence in european trade union density
October 2001 - Danielle Checchi & Jelle Visser
- 01-03 Negotiated flexibility in working time and labour market transitions – The case of the Netherlands
2001 - Jelle Visser
- 01-02 Substitution or segregation: Explaining the gender composition in Dutch manufacturing industry 1899 – 1998
June 2001 - Maarten van Klaveren & Kea Tijdens
- 00-01 The first part-time economy in the world. Does it work?
2000 - Jelle Visser

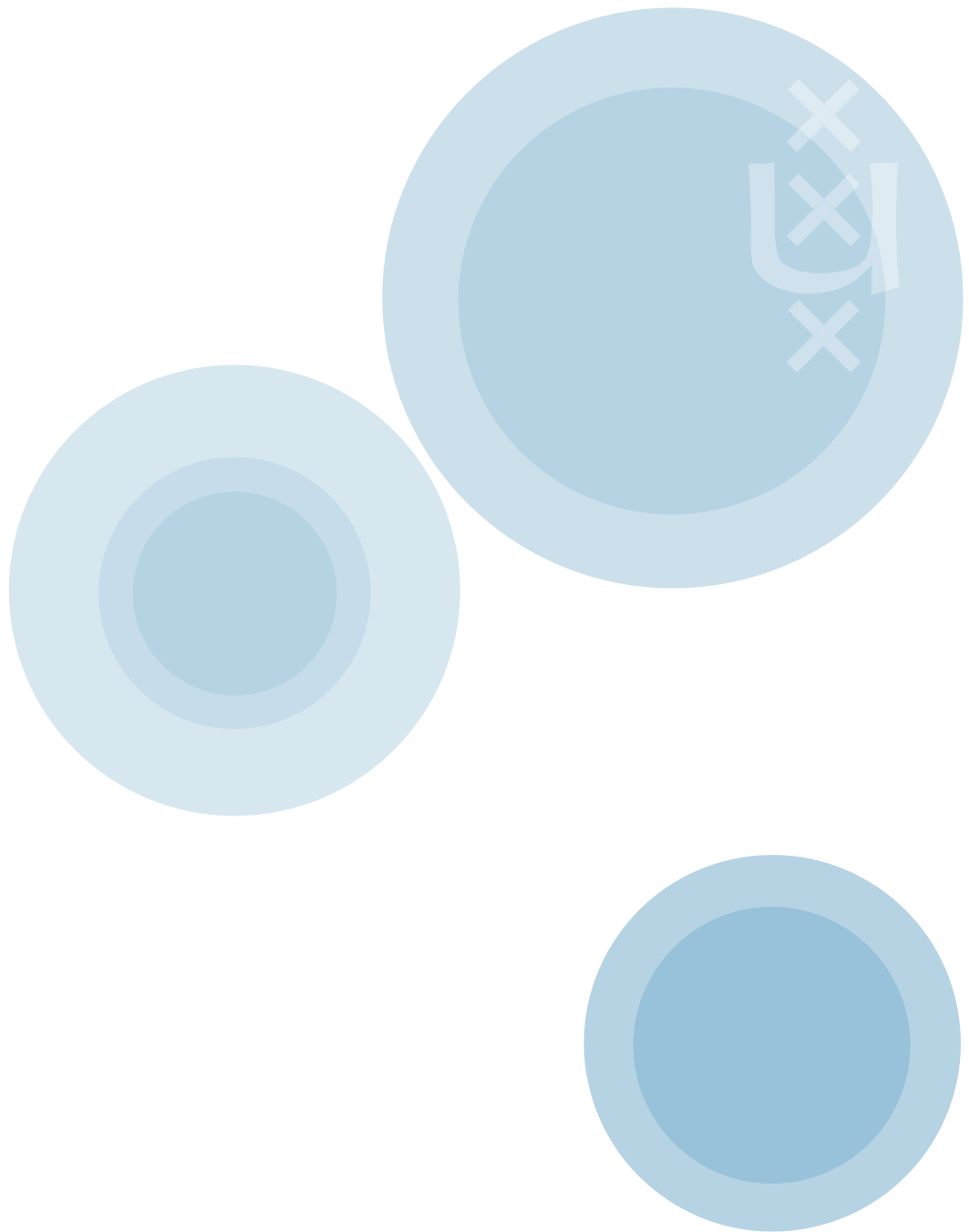
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- Law
- Economics
- Sociology
- Psychology
- Health and safety studies

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- Wage formation, social policy and industrial relations
- The cycles of policy learning and mimicking in labour market reforms in Europe
- The distribution of responsibility between the state and the market in social security
- The wage-indicator and world-wide comparison of employment conditions
- The projects of the LoWER network



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