

# **Fairness and the labour market: A theoretical and empirical analysis of layoffs in Germany \***

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## **Fairness and the labour market:**

### **A theoretical and empirical analysis of layoffs in Germany**

#### **Abstract**

In recent years layoffs have increasingly become the focus of public attention. So far, however, there has been no representative study for Germany of how far and under what conditions layoffs are accepted by the population – in other words by people who are not immediately affected. Principles of distributive justice, rules of procedural justice, attribution theory, and psychological contract theory form the framework of the analysis. On this basis, hypotheses are generated, which are tested empirically in a telephone survey conducted among East and West Germans in 2004 (n=3039). Key findings are:

- By relinquishing their own bonus payment, the management of a firm can increase the acceptance of layoffs.
- Generous compensation payments for those made redundant are perceived to be fairer than wage cuts to avoid layoffs. Wage cuts are not even preferred to layoffs where no measures are taken to soften the blow of job loss.
- Opt-out clauses (“tarifvertragliche Öffnungsklauseln”) to undercut collective bargaining agreements are perceived to be fairer than outsourcing, especially when women are outsourced.
- There is a negative impact of layoffs on workers’ motivation and on the cooperation between co-workers as well as between the workforce and management.
- Union-members perceive layoffs as less fair and survivors’ sanctions as more fair than non-union members.

JEL classification: D63, J63, M12, M51

Keywords: distributive justice, downsizing, fairness, layoffs, procedural justice

## 1. Introduction

The discussion of employment relationship stability and the shift of business uncertainties from employers to employees has increased in recent years. Bergemann and Mertens (2004) find empirical evidence that the number of layoffs for German men is positively related to the time trend, even if the estimations control for demand shocks and other variables. One reason, which accounts for much of that trend, is the downsizing activities of large companies. The regulation of layoffs in Germany is quite strong (OECD 2004). The most important institutional settlements are the employment protection law (“Kündigungsschutzgesetz”) and the workers co-determination law (“Betriebsverfassungsgesetz”). In addition to these regulations and their economic consequences (Jahn 2002), aspects of fairness (justice) should be considered. The perceived fairness of layoffs has tremendous consequences on the behaviour of the survivors and other stakeholders, like customers, politicians, and trade unions. All of them could react with sanctions if they consider the layoffs as unfair (Kahneman/ Knetsch/ Thaler 1986; Rabin 1993). Employees could work with less effort or ask for a compensating wage differential if the company behaves unfairly. Customers could have a lower willingness to pay for products produced unfairly. Politicians and trade unions could be less inclined to cooperate with an unfair company. Classic economic theory often ignores these factors (Rabin 1998; Rabin 2002; Frey/ Benz 2001). The aim of this paper is to show that fairness does matter in economic decision making, in this case layoffs.

Based on the research of Kahneman, Knetsch and Thaler (1986), Charness and Levine (2000; 2002) analysed the perceived fairness of layoffs and wage cuts in a telephone survey for Canada and the United States. They found that layoffs were perceived as more fair if they were justified by an external shock, the CEO refused his bonus, the laid off employees were compensated, and had general skills. They used a between-subject approach, in which they asked different respondents to evaluate layoff scenarios. In the same way, Pfeifer (2004) conducted a written survey among German students. The findings were nearly the same as in the North American survey.

The research question of this paper is, to what extent and under what conditions layoffs are perceived as fair by the German population, i.e., by impartial spectators. For this, a telephone survey was conducted among East and West Germans in 2004. To get a better understanding of fair layoffs, the following subquestions will be answered: Do bonus payments for the top management influence the fairness judgement of layoffs? Are wage cuts to avoid layoffs accepted and perceived as being fairer than layoffs? Is the acceptance of wage cuts larger if they are legitimized by opt-out clauses (“tarifvertragliche Öffnungsklauseln”), i.e., if they are accepted by trade unions? Do survivors react in a negative way to layoffs? Are sanctions accepted by the population? Do trade union members have a different judgement of layoffs and sanctions?

The paper is structured as follows: In section two the theoretical framework is presented, which consists of principles of distributive justice, rules of procedural justice, attribution theory, and psychological contract theory. In the third section the data and research method is explained. After that, hypotheses are generated and tested empirically. The paper concludes with a short summary.

## **2. Theory**

The analytic framework of this paper mainly consists of theories of organizational (social) justice (Greenberg 1996; Konow 2003a), i.e., principles of distributive justice and rules of procedural justice. The perceived fairness of layoffs also depends on accountability and attribution. Due to layoffs the trust relationship between employer and employee is harmed. Therefore, psychological contract theory is considered.

Distributive justice is related to the outcome of a decision and the allocation of that outcome. A deviation of accepted distribution principles ignores the legitimacy expectations of stakeholders and will be judged as unfair (Leventhal 1980). For the analysis of layoffs several principles are relevant:

- Adams' (1965) equity theory concentrates on a fair proportion between individual outcome and individual contributions.

- Equality theory follows the principles of equal distribution and equal opportunities (Gilliland 1993).
- The accountability principle “roughly speaking, requires that a person’s fair allocation (e.g., of income) vary in proportion to the relevant variables which he can influence (e.g., work effort), but not according to those which he cannot reasonably influence (e.g., a physical handicap)” (Konow 1996: 13). Hence, it is related to attribution theory (Heider 1967; Weiner 1994). The less control someone has over the process, the less responsible he is for the outcome. This leads to more sympathy if he is affected by a negative outcome.
- The need principle states that a fair allocation should at least account for the basic living needs (Engelstad 1997; Konow 2001).
- The efficiency principle focuses on the general maximization of a positive outcome (e.g., income) or the general minimisation of a negative outcome (e.g., layoffs), even if individual group members are worse off (Elster 1991; Konow 2001).

Procedural justice acknowledges the importance of the decision process itself. Particularly negative outcomes are more likely to be accepted if the process is judged as fair (Stock 2001). According to Leventhal (1980) there are six procedural justice rules:

- consistency rule: “allocative procedures should be consistent across persons and over time” (Leventhal 1980: 40)
- bias-suppression rule: “personal self-interest and blind allegiance to narrow preconceptions should be prevented at all points in the allocative process” (Leventhal 1980: 40)
- accuracy rule: “it is necessary to base the allocative process on as much good information and informed opinion as possible” (Leventhal 1980: 41)
- correctability rule: “opportunities must exist to modify and reverse decisions made at various points in the allocative process” (Leventhal 1980: 43)

- representativeness rule: “all phases of the allocative process must reflect the basic concerns, values, and outlook of important subgroups in the population of individuals affected by the allocative process” (Leventhal 1980: 43)
- ethicality rule: “allocative procedures must be compatible with the fundamental moral and ethical values” (Leventhal 1980: 45)

Norms of fairness and reciprocity play an extraordinary role in the labour market (Akerlof 1982; Fehr et al. 1998). The use of the production factor labour depends on the will to cooperate. Because of costly and imperfect monitoring, there are implicit contracts between employer and employee, which can be alternatively interpreted as psychological contracts (Rousseau 1995). Psychological contracts describe the trust relationship between employer and employee. They are built on explicit and implicit obligations since the start of the employment relationship.

### **3. Data and method**

The underlying data set was conducted in the research project “Labour and Fairness – The Acceptance of Employment and Wage Adjustment in Germany” (“Arbeit und Gerechtigkeit – Die Akzeptanz von Lohn- und Beschäftigungsanpassungen in Germany”) by the Institute of Empirical Economic Research, University of Hannover, and the Institute of Sociology, Friedrich Schiller University of Jena, and was financed by the Hans Böckler Stiftung (Gerlach et al. 2005). In a representative telephone survey 3039 persons between the age of twenty and sixty were asked several scenarios and questions about fairness perceptions of layoffs and wage cuts in summer 2004. To control for individual factors, we also gathered sociodemographic and occupational information. Because our research team was interested in an East-West German comparison, approximately half of the respondents were located in East Germany and the other half in West Germany.

The empirical analysis of this paper is based on the judgement of hypothetical scenarios, which closely follows Charness and Levine (2000). The scenarios could be judged with very unfair (0), rather unfair (1), rather fair (2), and very fair (3). The first sentence in every scenario describes why the layoff is occurring (demand shock, new technology). The second sentence mentions the type of skills (general, specific) and the occupational group (production workers, engineers) of the laid off

employees. The third sentence explains the company's response to the shock (gentle layoff, harsh layoff, wage cut). Some scenarios also mention if the top management receives or refuses a bonus. For the analysis of the acceptance of survivors' reactions, two scenarios were followed by another scenario, in which the survivors reduced their work effort. The scenarios used in this paper are presented in appendix 1. An example of a typical scenario is the following one (SZG83):

*“A company faced lower product demand due to shifts in the market; the viability of the employer was threatened. Thus, the company is laying off some engineers, who have ten years of tenure. The affected engineers are specialists in this company's unusual technology, which is not used in other companies. They get generous severance pay and outplacement service to find a new job. Do you think the layoffs are very unfair, rather unfair, rather fair, or very fair?”*

Because of the length of the scenarios, we used a between-subject approach. This approach has also the advantage that respondents do not see the contrast between the scenarios we want to compare. Furthermore, the respondents are impartial spectators so that the answers should be quite objective (Charness/ Levine 2000; Konow 2003b). The method used in the empirical analysis is a comparison of means for single and pooled scenarios. The compared scenarios always differ in just one aspect, or in the case of pooled scenarios, we compare matched pairs. To test for significance, a Wilcoxon-Mann-Whitney rank-sum test is used. In addition, questions in a within-subject design are analyzed, where a paired t-test is used. We also did ordered probit estimates, but they only confirm the results of the differences in mean analysis. Hence, only an example for bonus payments, gentle layoffs, and job alliance is presented in appendix 2.

## **4. Hypotheses and empirical results**

### **4.1. Bonus for the top management**

Individuals perceive a negative outcome as being less fair if decision makers profit from their decision. In such a case the bias-suppression rule is ignored because the objectivity is questionable. According to the accountability principle, the negative outcome should affect responsible individuals. Attribution theory suggests that

individuals, who have the power over the decision process, bear the responsibility. Following these thoughts, the respondents should place the blame on the top management. On the other hand, the renouncement of a bonus payment is a signal for sharing the pain and for bearing part of the responsibility. Therefore, this behaviour should increase the perceived fairness of layoffs.

*Hypothesis 1: Layoffs are perceived as less fair if the top management receives a bonus, and as more fair if the bonus is refused.*

The empirical results in table 1 strongly support hypothesis 1. The differences in means have the expected signs and are significant. The hypothesis holds for single and pooled scenarios as well as for acceptance and downturn of the bonus. Thus, the top management can increase the perceived fairness if it refuses its bonus.

**Table 1: Bonus for the top management**

Reason	Single scenarios				pooled scenarios	
	Lower product demand		New technology			
Bonus accepted	SZG32	0.84	SZG52	0.65	SZG3252	0.74
Bonus refused	SZG12	1.24	SZG03	1.15	SZG1203	1.20
Bonus not mentioned	SZG23	1.14	SZG43	0.83	SZG2343	0.98
Bonus refused – Bonus accepted		<b>0.40***</b>		<b>0.49***</b>		<b>0.45***</b>
Bonus refused – not mentioned		0.10		<b>0.32***</b>		<b>0.22***</b>
Bonus accepted – not mentioned		<b>-0.30***</b>		<b>-0.18***</b>		<b>-0.24***</b>

Note: The scenarios could be rated with (0) very unfair, (1) rather unfair, (2) rather fair, and (3) very fair. Differences of means are significant according to a Wilcoxon-Mann-Whitney rank-sum test at the \* 10% level, \*\* 5% level, and \*\*\* 1% level.

## 4.2. Compensation and strategies to avoid layoffs

Gentle layoffs imply that the firm compensates the laid off employees with severance pay and outplacement (Leana/ Feldman 1992). Severance pay lessens the financial costs of losing the job and is often interpreted by employees as a reward for past contributions. With outplacement the psychological and social costs should be lowered by helping the laid off person to cope with the new situation and to find a new job. Harsh layoffs do not have any measures to soften the blow of job loss.



Both, severance pay and outplacement, lead to a better outcome for the affected individuals, which is in line with equity theory and the needs principle. Brockner et al. (1987) discovered that survivors would perceive layoffs of their colleagues fairer if these were compensated. In a study of Rousseau and Anton (1988), severance pay is positively correlated to the acceptance of layoffs.

*Hypothesis 2(a): Layoffs are perceived as more fair if the laid off employees are compensated for their job loss.*

Layoffs do not only cause costs for affected individuals and society, but also for the firm. Adjustment costs are for example severance pay and lowered motivation of survivors. Consequently, employer and employees should try to find strategies to avoid layoffs (Krogh/ Kameny 2002). The consequences of a crisis for the firm and its employees can be smoothed away by a firm-level job alliance (“betriebliches Bündnis für Arbeit”). Job alliances are collective contracts between the management and the employees, which include, following efficient bargaining models, agreements about wages and working time as well as about the level of employment. Layoffs can be avoided through a reduction in labour costs, which can be achieved indirectly with working time adjustment (Berthold/ Brischke/ Stetes 2003). Because such strategies increase the outcome for the affected individuals and have advantages for the firm (Massa-Wirth/ Seifert 2004), the efficiency principle is favoured.

From a legal point of view, job alliances are dismissals with the option of altered conditions of employment (“Änderungskündigung”), which disregard the benefit-of-the-doubt principle (“Günstigkeitsprinzip”), i.e., a divergence from collective bargaining agreements is not allowed if the employees are worse off (e.g., lower wages) (Mauer/ Seifert 2001). Because of that, opt-out clauses (“tarifvertragliche Öffnungsklauseln”) are needed. They were first used in 1993 at the Volkswagen AG and the mining sector. Most of the employees were quite happy with these agreements (Promberger et al. 1996). According to a study of Kahneman, Knetsch and Thaler (1986), two thirds of the respondents perceived a wage cut as fair if the firm is in a bad economic state. Franz and Pfeiffer (2003) found empirical evidence that job alliances are widely accepted, except by low qualified workers.

*Hypothesis 2(b): Strategies to avoid layoffs, i.e., job alliances, are perceived as more fair than layoffs.*

In addition to the scenarios, the respondents in our study were asked to answer another question, which was concerned with several measures the firm could use to correspond to a negative demand shock threatening the firm's existence. One measure is the layoff of low productivity workers, while the other three measures are strategies to avoid layoffs. From an equity point of view, wage cuts for all employees are the most unfair measure. It leads to the worst outcome, because it lowers the hourly wage and the monthly income. A reduction in working time without financial compensation is only the second best alternative, because the monthly income decreases. The employees should be best off with unpaid overtime, because the monthly income stays constant, even though hourly wages decrease. Reasons are the opportunity cost effect and the endowment effect, since direct monetary costs (e.g., lower income) are judged higher and forgone profits (e.g., unpaid overtime) are judged lower (Frey/ Benz 2001).

*Hypothesis 2(c): Unpaid overtime is perceived as more fair than working time reduction without a compensatory wage increase. Both measures should be preferred to a general wage cut.*

As explained earlier, job alliances need opt-out clauses. An alternative is outsourcing of a firm's division. So we asked the respondents scenarios, in which the new wage is about ten percent below the collective wage agreement. Opt-out clauses should be perceived as fairer, because the trade union agrees, which produces certain legitimacy. Outsourcing on the other hand, reduces the outcome for the affected individuals in the long run, since, besides the wage cut, they could lose fringe benefits and employment stability.

*Hypothesis 2(d): Opt-out clauses are perceived as more fair than outsourcing.*

The results in table 2 support hypothesis 2(a), that gentle layoffs are perceived as fairer than harsh layoffs. Hypothesis 2(b) cannot be supported. Job alliances are judged unfairer than gentle layoffs and are not even preferred to harsh layoffs. This quite surprising result was already found by Pfeifer (2004). Impartial specta-

tors have a stronger preference for generous compensation than for employment security. To control for this result, judgements of measures to save the firm's existence have been analyzed. The results in table 3 and 4 again show no support for hypothesis 2(b), since the layoff of low productivity workers is perceived as the fairest measure.

**Table 2: Compensation and job alliance**

Occupational group	Single scenarios				Pooled scenarios	
	Engineers		Workers			
Wage cut (job alliance)	SZG62	1.21	SZG91	1.12	SZG6291	1.17
Harsh layoff	SZG23	1.14	SZG02	1.21	SZG2302	1.18
Gentle layoff	SZG83	1.72				
Gentle layoff – harsh layoff	<b>0.58***</b>					
Job alliance – harsh layoff	0.07		-0.09		-0.01	
Job alliance – gentle layoff	<b>-0.51***</b>					

Note: See table 1.

A wage cut for all employees is perceived as the fairest strategy to avoid the layoff (see table 3 and 4). Moreover, a working time reduction without financial compensation is perceived fairer than unpaid overtime. Because the empirical evidence is in the opposite order to the expected one, hypothesis 2(c) has to be neglected. A possible explanation is that the judgement is strongly influenced by long run effects of the different strategies. The competitiveness of the firm increases the most if there is a general wage cut. In this case the unit labour costs decrease without any negative substitution effect from employment to working time. Furthermore, unpaid overtime could be interpreted as “work for nothing”.

**Table 3: Measures to save the existence of the firm**

According to economic survival ...	Number of observations	Frequency of answers				Mean (standard deviation)
		(0)	(1)	(2)	(3)	
... the company is demanding unpaid overtime. (G41)	3019	388 12.85%	896 29.68%	1558 51.61%	177 5.86%	1.50 (0.79)
... the company is reducing working time without financial compensation. (G42)	2990	300 10.03%	965 32.27%	1557 52.07%	168 5.62%	1.53 (0.75)
... the company is reducing wages of all employees. (G43)	3009	249 8.28%	737 24.49%	1705 56.66%	318 10.57%	1.70 (0.77)
... the company is laying off some employees with low productivity. (G44)	2991	191 6.39%	794 26.55%	1647 55.07%	359 12.00%	1.73 (0.75)

Note: The measures could be rated with (0) very unfair, (1) rather unfair, (2) rather fair, and (3) very fair.

**Table 4: Differences in means of measures**

	Number of observations	Differences in means
Unpaid overtime – layoffs	2982	<b>-0.22***</b>
Working time reduction – layoffs	2951	<b>-0.19***</b>
Wage reduction – layoffs	2970	<b>-0.03*</b>
Working time reduction – wage reduction	2972	<b>-0.16***</b>
Unpaid overtime – wage reduction	2999	<b>-0.19***</b>
Unpaid overtime – working time reduction	2983	<b>-0.03**</b>

Note: The measures could be rated with (0) very unfair, (1) rather unfair, (2) rather fair, and (3) very fair. Differences of means are significant according to a paired t-test at the \* 10%-level, \*\* 5%-level, and \*\*\* 1%-level.

Table 5 presents the results for opt-out clauses and outsourcing. In line with hypothesis 2(d), opt-out clauses are perceived to be fairer than outsourcing. So impartial spectators consider the less negative outcome and higher legitimacy through trade union allowance in their judgement. An interesting empirical finding is the relative high acceptance of outsourcing if men are affected, and the very low acceptance if women are affected. This finding holds for male and female respon-

dents. It is not in line with equality theory and because of its size it is quite surprising.

**Table 5: Opt-out clause and outsourcing**

		All obs.	Men only	Women only
Opt-out clause	SZG82	1.63	1.66	1.61
Outsourcing	SZG72	1.43	1.54	1.34
Outsourcing: men	SZG63	1.61	1.69	1.56
Outsourcing: women	SZG93	1.05	1.09	1.02
Outsourcing – opt-out clause		<b>-0.20***</b>	-0.12	<b>-0.27***</b>
Outsourcing: not mentioned – men		<b>-0.18**</b>	-0.15	<b>-0.22**</b>
Outsourcing: not mentioned – women		<b>0.38***</b>	<b>0.45***</b>	<b>0.31***</b>
Outsourcing: men – women		<b>0.56***</b>	<b>0.60***</b>	<b>0.53***</b>

Note: See table 1.

### 4.3. Survivors' reactions and acceptance

Brockner (1988) finds empirical evidence that survivors' working behaviour after layoffs is quite different. Some employees react with equal working moral, others with less or more. The working behaviour depends on personal factors as well as on the situation. Brockner et al. (1987) can confirm the hypotheses that the negative consequences for the firm are larger if the survivors identify with the laid off colleagues and the affected are inadequately compensated. According to Brockner (1990), a good cause for the layoffs and 'just' election principles can smooth the negative consequences. Brockner et al. (1994) show that instruments of procedural justice (e.g., early announcement) influence the reaction of survivors as well as the perceived fairness by laid off individuals and employees, who are going to be laid off.

Layoffs have a negative impact on the trust relationship between employer and employee (Rousseau 1995; Seifert/ Pawlowsky 1998; Stock 2001). In vertical direction the erosion of trust could increase the quantitative working intensity of survivors, but the impact on the quality of work is negative. The overall effect on working behaviour should be negative. If trust erodes in horizontal direction due to increased employment insecurity and job competition, the consequences are less

cooperation and sabotage. The consequences for the cooperation between employees and their supervisor should be larger than among co-workers.

*Hypothesis 3(a): Layoffs make cooperation and motivation among survivors worse.*

*Hypothesis 3(b): The negative effects on cooperation should be stronger for the relationship with supervisors than with co-workers.*

If an impartial spectator perceives the behaviour of a firm as unfair, he should be more likely to accept a sanction by the survivors (e.g., less working intensity). According to Kahneman, Knetsch and Thaler (1986), the society is willing to sanction unfair behaviour, even if it would bear some costs (Rabin 1993).

*Hypothesis 3(c): A lower working effort of survivors should be perceived as more fair if the behaviour of the firm was perceived as less fair.*

Table 6 presents the consequences of layoffs on the firm level. The statistical evaluation shows that mainly negative effects arise and the mean differs statistically significant from no effects. The largest negative impact is on the cooperation between employees and their supervisors, followed by reduced cooperation among employees and decreased motivation. As a result, hypotheses 3(a) and 3(b) can be confirmed.

**Table 6: Firm-level consequences of layoffs**

	Number of obs.	Frequency of answers					Mean
		(1)	(2)	(3)	(4)	(5)	
Cooperation between employees and supervisors (K81)	697	20 2.87%	47 6.74%	399 57.25%	179 25.68%	52 7.46%	3.28***
Cooperation among co-workers (K82)	701	31 4.42%	70 9.99%	367 52.35%	187 26.68%	46 6.56%	3.21***
Employees' motivation (K83)	701	40 5.71%	120 17.12%	333 47.50%	165 23.54%	43 6.13%	3.07**

Note: Consequences could be rated with (1) improved considerably, (2) changed for the better, (3) been retained unchanged, (4) worsened, and (5) worsened considerably. A t-test for mean equal to no consequence (3) is denied significantly at the \* 10% level, \*\* 5% level, and \*\*\* 1% level.

The results in table 7 support hypothesis 3(c), because sanctions are perceived as fairer if the layoffs have been perceived as unfairer. A lower working effort is more accepted in the case of harsh layoffs than of gentle layoffs. The correlation between the layoff scenarios and the sanction scenarios are significantly negative.

**Table 7: Acceptance of sanctions**

	Mean				Differences in mean
	Gentle layoff		Harsh layoff		
Company's action: layoff	SZG83	1.72	SZG23	1.14	<b>0.58***</b>
Survivors' reaction: less effort	SZG8A	1.20	SZG2A	1.39	<b>-0.20***</b>
Correlation		<b>-0.2034***</b>		<b>-0.2381***</b>	

Note: See table 1.

#### 4.4. Union membership of respondents

Trade unions and their members are in general more critical about the behaviour of employers. Furthermore, they have strong preferences for social justice and solidarity (Valkenburg/ Zoll 1995). Lengfeld and Liebig (2003: 473) claim that the improvement of industrial organized labour and income situations through trade unions has always been a fight for social justice.

*Hypothesis 4: In general, trade union members perceive layoffs as less fair and sanctions as more fair than non-union members do.*

The proportion of union members in the sample is 16.5%. A simple comparison of the means between union members and non-union members gives some support for hypothesis 4 (see appendix 1). The layoff scenarios are generally perceived as less fair and the survivors' sanctions as fairer. Two exceptions are the layoff scenario, in which the top management refuses its bonuses, and the opt-out clause scenario. Both differences are not significant. Nevertheless, the positive deviation makes sense because in the first case the management is negatively affected and in the second case the union itself legitimizes the wage cut. At this place, it has to be admitted that only a few differences are significant at all. These are at the 10%-level scenarios 91 and 02, and at the 5%-level scenarios 32 and 93. Scenario 91 includes a job alliance for workers, scenario 02 harsh layoffs of production workers, scenario 32 a bonus for the top management, and scenario 93 outsourcing

activities, which affect women. In the ordered probit estimations the impact of union membership is also negative (see appendix 2), but only for all observations it is statistically significant. Besides, union members perceive all measures undertaken by the firm to secure its existence as less fair than non-union members do (G41-G44). Moreover, they have a lower preference for layoffs of employees with a low productivity.

## **5. Conclusion**

The perceived fairness of layoffs depends on several factors. Some of them cannot be controlled by the players on the firm level (e.g., demand shock). In this paper empirical evidence was presented which indicates how fairness perceptions of impartial spectators can actively be influenced. Layoffs are more accepted if the top management relinquish their own bonus payments. Furthermore, the German population favours generous compensation for the laid off instead of strategies to avoid layoffs. Surprisingly strategies of avoidance, which consist of general wage and income cuts, are more accepted than working time flexibility. If the wages have to be cut, a legitimization through trade unions increases the acceptance. Layoffs have a negative impact on the motivation and cooperation of survivors. Such sanctions are perceived as fairer by impartial spectators if the layoffs were judged unfairly. The empirical evidence also gives some support that trade union members judge layoffs unfairer and sanctions by the survivors fairer than non-union-members. The descriptive results in this paper are also valid if we control for several variables in multivariate estimations (see appendix 2). Although we varied some moderating factors, we could not control for everything possible. This could cause the problem that some of the hypotheses, which are supported in the empirical analysis, are not valid under special circumstances.



## Appendix 1: Survey questions, descriptive statistics, and comparison of means between union members and non-union members

		All observations			Union member		Non-union-member		Difference of means
		N	M	STD	N	M	N	M	
	Trade union member (dummy)	3029	0.16	0.37	499	1.00	2530	0.00	
SZG12	Lower product demand, engineers, 10 years tenure, specific skills, harsh layoff, bonus refused	301	1.24	0.80	54	1.31	246	1.22	0.09
SZG23	Lower product demand, engineers, 10 years tenure, specific skills, harsh layoff	272	1.14	0.81	52	1.13	220	1.14	-0.01
SZG32	Lower product demand, engineers, 10 years tenure, specific skills, harsh layoff, bonus accepted	305	0.84	0.80	54	0.63	250	0.88	<b>-0.25</b> **
SZG43	New production technologies, engineers, 10 years tenure, specific skills, harsh layoff	301	0.83	0.76	51	0.75	249	0.85	-0.11
SZG52	New production technologies, engineers, 10 years tenure, specific skills, harsh layoff, bonus accepted	339	0.65	0.71	45	0.64	294	0.66	-0.01
SZG62	Lower product demand, engineers, 10 years tenure, specific skills, job alliance	295	1.21	0.79	44	1.09	249	1.22	-0.13
SZG63	Lower product demand, outsourcing, mainly men, wage reduction by 10%	301	1.61	0.82	44	1.50	255	1.63	-0.13
SZG72	Lower product demand, outsourcing, wage reduction by 10%	314	1.43	0.88	52	1.31	260	1.45	-0.15
SZG82	Lower product demand, opt-out clause, wage reduction by 10%	268	1.63	0.94	43	1.65	225	1.63	0.02
SZG83	Lower product demand, engineers, 10 years tenure, specific skills, gentle layoff	267	1.72	0.85	44	1.66	223	1.73	-0.07
SZG91	Lower product demand, production workers, 10 years tenure, specific skills, job alliance	285	1.12	0.75	40	0.93	244	1.16	<b>-0.23</b> *
SZG93	Lower product demand, Outsourcing, mainly women, wage reduction by 10%	284	1.05	0.89	41	0.83	242	1.10	<b>-0.27</b> **
SZG02	Lower product demand, production workers, 10 years tenure, specific skills, harsh layoff	295	1.21	0.80	55	1.04	238	1.25	<b>-0.21</b> *
SZG03	New production technologies, engineers, 10 years tenure, specific skills, harsh layoff, bonus refused	297	1.15	0.80	56	1.05	240	1.17	-0.11
SZG23a	Survivors' reaction to harsh layoff: less effort	276	1.39	0.91	50	1.42	226	1.39	0.03
SZG83a	Survivors' reaction to gentle layoff: less effort	263	1.20	0.90	42	1.31	221	1.18	0.13
G41	... the company is demanding unpaid overtime.	3019	1.50	0.79	494	1.41	2517	1.52	<b>-0.11</b> ***
G42	... the company is reducing working time without financial compensation.	2990	1.53	0.75	493	1.47	2488	1.55	<b>-0.08</b> **
G43	... the company is reducing wages of all employees.	3009	1.70	0.77	494	1.63	2506	1.71	<b>-0.08</b> *
G44	... the company is laying off some employees with low productivity.	2991	1.73	0.75	488	1.63	2494	1.75	<b>-0.12</b> ***

Note: N: number of observations. M: mean. STD: standard deviation. The scenarios and measures could be rated with (0) very unfair, (1) rather unfair, (2) rather fair, and (3) very fair. Differences of means are significant according to a Wilcoxon-Mann-Whitney rank-sum test at the \* 10% level, \*\* 5% level, and \*\*\* 1% level.

## **Appendix 2: Ordered probit estimations for bonus payments, gentle layoffs, and job alliances**

The dependent variable is an ordinal variable (0, 1, 2, 3) so that ordered probit estimations are adequate. Because of the between-subject approach, a new dependent variable had to be generated, which includes all judgements. Therefore, nine relevant scenarios were pooled (szg12, szg23, szg32, szg43, szg52, szg62, szg83, szg91, szg03), i.e., one scenario out of every questionnaire version. Besides the moderating factors on the perceived fairness we want to analyze, the estimations account for several control variables. Firstly, it has to be controlled for different reasons for the layoffs (demand shock, new production technology). For the estimations with all observations dummy variables for East Germany, women, age-groups, apprenticeship degree, college degree, trade union membership, employment, and unemployment have been generated. The estimations for employed respondents only include some additional occupational information. This is a set of dummy variables for self-employment, temporary employment, part-time employment, monthly net earned income, small establishment with less than 10 employees, large establishment with more than 200 employees, public service sector, and works council.

The results give strong support for hypothesis 1. A bonus for the top management reduces the perceived fairness of a layoff, while refusing the bonus increases the perceived fairness. Moreover, hypothesis 2(a) can be confirmed, because severance pay and outplacement have a strong positive influence on the perceived fairness. However, like in the descriptive analysis, job alliances are not even significantly preferred to harsh layoffs, so hypothesis 2(b) has to be neglected. The estimations indicate that union members, women, and older respondents perceive layoffs as less fair, whereas higher qualified and self-employed respondents perceive them to be fairer.

	All observations		Only employed	
Bonus accepted	<b>-0.347</b>	<i>0.064</i> ***	<b>-0.352</b>	<i>0.078</i> ***
Bonus refused	<b>0.287</b>	<i>0.064</i> ***	<b>0.225</b>	<i>0.078</i> ***
Severance and outplacement	<b>0.881</b>	<i>0.086</i> ***	<b>0.943</b>	<i>0.107</i> ***
Wage cut to avoid layoffs (job alliance)	0.111	<i>0.070</i>	0.066	<i>0.084</i>
New production technology	<b>-0.276</b>	<i>0.052</i> ***	<b>-0.308</b>	<i>0.063</i> ***
Trade union member	<b>-0.163</b>	<i>0.059</i> ***	-0.103	<i>0.069</i>
East Germany	0.021	<i>0.044</i>	0.035	<i>0.055</i>
Woman	<b>-0.241</b>	<i>0.045</i> ***	<b>-0.246</b>	<i>0.060</i> ***
Age 30-39	0.060	<i>0.070</i>	0.091	<i>0.089</i>
Age 40-49	-0.057	<i>0.068</i>	-0.072	<i>0.087</i>
Age 50-59	<b>-0.161</b>	<i>0.069</i> **	<b>-0.183</b>	<i>0.093</i> **
Apprenticeship degree	0.101	<i>0.084</i>	0.181	<i>0.128</i>
College degree	<b>0.344</b>	<i>0.092</i> ***	<b>0.379</b>	<i>0.136</i> ***
Employed	0.082	<i>0.061</i>		
Unemployed	-0.121	<i>0.080</i>		
Self-employed, freelance			<b>0.429</b>	<i>0.097</i> ***
Temporary employment			0.082	<i>0.089</i>
Part-time employment (<32h/week)			0.018	<i>0.073</i>
Net-income (€1000-€2000)			0.062	<i>0.073</i>
Net-income (>€2000)			0.122	<i>0.086</i>
Small establishment (<10 employees)			-0.121	<i>0.090</i>
Large establishment (>200 employees)			-0.127	<i>0.088</i>
Public service sector			0.074	<i>0.076</i>
Works council			-0.001	<i>0.088</i>
Cut point 1	-0.703	<i>0.100</i>	-0.683	<i>0.165</i>
Cut point 2	0.496	<i>0.100</i>	0.512	<i>0.165</i>
Cut point 3	1.912	<i>0.108</i>	1.979	<i>0.171</i>
Number of observations		2661		1802
LR $\chi^2$ (15 22)		427.540		320.680
Prob > $\chi^2$		0.000		0.000
Pseudo R <sup>2</sup>		0.067		0.074
Log likelihood		-2985.599		-2019.913

Note: Because of the between-subject approach, relevant scenarios were pooled to get one single dependent variable. Scenarios could be judged with very unfair (0), rather unfair (1), rather fair (2), and very fair (3). The coefficients of the ordered probit estimates are significant at the \*10% level, \*\*5% level, and \*\*\*1% level. The standard errors are in italic.

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