

Fairness and the employment contract: North American regions versus Germany

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Substantial evidence shows that North Americans are generally more accepting of the market than Europeans and attribute market outcomes to a larger degree to effort or skill. Thus, North Americans might be more accepting of layoffs and pay cuts than Germans, and Germans might be more sensitive to the procedures and conditions under which pay cuts and layoffs occur. The empirical results from our quasi-experiment are largely in line with these hypotheses. The results may help to explain and be explained by the different labour market institutions in the different regions.

Key words: Fairness, Employment contract, Comparative labour markets

JEL classifications: M52, J63, J31, P52

1. Introduction

The paper addresses the question: do common standards of fairness in the employment relationship differ between countries? The finding that countries with different institutional arrangements exhibit differences in the importance of fairness norms is valuable in various respects. First, a country's institutional framework can strongly affect its economic performance (Nickell *et al.*, 2005). Social norms such as standards of fairness and justice, in turn, affect a nation's institutions and, thus, economic outcomes. At the same time, both a society's institutions and its economic outcomes can affect its social norms.

Section 2 discusses transatlantic communalities and differences in fairness norms. Although fairness perceptions are important for employment relations in both regions, past studies have found that North Americans are generally more accepting of the market and attribute more market outcomes to effort or skill (rather than birth or luck) than do most Europeans. The main contribution of the paper is the empirical comparison of fairness perceptions for several layoff and wage-cut scenarios in Germany with the results of Charness and Levine (2000, 2002) for North America, using a quasi-experimental survey design. Section 3 describes data and methods.

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Section 4 develops a set of testable hypotheses. In particular, in view of the comparatively stronger market orientation in North America and the more encompassing regulation and institutional protection of the German labour market and German employees, we expect notions of fairness to be much stronger in Germany than in North America. Section 5 presents the results of the comparison, which are mainly in line with our hypotheses.

Finally, Section 6 draws some conclusions. While we hypothesise that Germany's lower acceptance of layoffs and pay cuts may be partly due to institutional differences, the lower acceptance can (in turn) help explain and sustain some of the institutional differences. Thus, our results shed light on the persistent differences in labour market policies and employer behaviour in the two regions.

2. Fairness matters: transatlantic communalities and differences

In both North America and Germany psychological contracts are one important source of fairness perceptions in the employment relationship (Anderson and Schalk, 1998; Herriot *et al.*, 1997; Hiltrop, 1995; Millward and Brewerton, 2000; Rousseau, 1995; Rousseau and Schalk, 2000). These psychological contracts are often implicit agreements between employers and employees. Trust in these implicit obligations relies on the assumption that both parties will fulfill their obligations (reciprocity). A one-sided violation of the contract implies erosion of trust and induces changes in behaviour.

Accordingly, psychologists (e.g., Rousseau, 1995), sociologists (e.g., Barnard, 1938; Blau, 1964) and, more recently, economists (e.g., Baker *et al.*, 1988; Milgrom and Roberts, 1992; Simon, 1991; Williamson *et al.*, 1975) have hypothesised that an employee's productivity depends on her or his perception of the underlying social contract with the employer, as well as on narrow economic concerns. A worker who is dissatisfied may deliberately restrict output or even resort to sabotage. Conversely, an employee who feels fairly treated is more likely to perform above any minimum requirements (Farh *et al.*, 1990; Konovsky and Douglas, 1994; Moorman, 1991).

Recent evidence supports the view that non-pecuniary considerations affect productivity. Levine (1993) shows that compensation executives make simulated compensation decisions as if they believe fairness matters. Rabin (1993) surveyed the literature more broadly and suggested that reciprocity was an important norm in determining fairness: people do not usually believe it is fair when a person responds to gentle actions with harsh actions. Experimental evidence also supports the hypothesis that—even in an environment where reputation does not matter—high pay and pay exceeding the market level often leads to greater effort (e.g., Charness, 1998; Fehr *et al.*, 1993, 1998).

However, the strength of fairness norms differs across countries. Schlicht (1998) argues that country-specific laws and institutions establish explicit and implicit rights, which manifest themselves in social norms and habits. Similarly, psychological contracts may vary in content and extension in different countries.

Recent research has shown that US citizens are much more accepting of the market and market results than continental Europeans, including Germans (Alesina and Angeletos, 2005; Alesina *et al.*, 2005; Corneo, 2000). This acceptance of the market, in turn, is presumably related to the fact that North Americans typically give more emphasis to individual effort and skill when explaining income inequality. Corneo (2000) uses data from the International Social Survey Programme (1992 Social Inequality II Module) to show that a substantially higher percentage of Americans (88.1%) respond 'essential or

very important' to the question, 'How important is hard work for getting ahead in life?' than western Germans (52.3%) or eastern Germans (71.2%) in the reunited Germany. Likewise, only 38.3% of Americans agree or strongly agree with the statement, 'It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes', whereas 65.5% of western Germans and 89.2% of eastern Germans concur. In addition, 31.4% of eastern Germans and 40.2% of western Germans believe that life achievements are determined by luck (Alesina and Fuchs-Schündeln, 2005). Concerning differences between eastern and western Germany, on the one hand East Germans are more in favour of redistribution, but on the other hand they believe more in the effect of hard work and effort and less in luck for life achievement.

Alesina and Angeletos (2005, p. 960) argue that differences in support for redistribution can be explained in part by 'a difference in social perceptions regarding the fairness of market outcomes and the underlying sources of income inequality'. Americans seem to believe that poverty is the result of bad choices or lack of effort, while for Europeans poverty is mainly due to bad luck or social injustice. Interestingly, Alesina and Angeletos (2005) attribute these transatlantic differences to historical antecedents. In Europe, class differences shaped opportunities for economic success for long periods more pervasively than ability and effort. In America, without a legacy of rigid class divisions, the social perception prevailed that success in the labour market and the economy was due to effort and ability.

In addition, comparing the roots of labour market institutions in the USA and Sweden, Agell (2002) argues that unions, collective bargaining, job protection and egalitarian pay structures originally emerged primarily as defensive reactions to the uninsurable risks of unemployment and shocks to market earnings (as opposed to rent-seeking by insiders). The development of labour market institutions was, however, very different in the USA compared to the development in Sweden and many other European countries. To explain why institutions evolved differently, Agell (2002), citing Keyssar (1986), suggests that massive foreign immigration to the USA played a role. In an environment with multiple ethnic groups it was much more difficult to establish durable and encompassing labour market institutions than in the more homogeneous European labour markets. As reviewed in Charness and Levine (2000, 2002), most of these transatlantic differences are strongest when considering the USA versus northern Europe, while Canada has an intermediate history and an intermediate set of institutions.

The commonalities and differences summarised above lead us to expect that fairness perceptions are important in the employment relationship in North America and in Germany—though to a lesser degree in Canada and to the strongest degree in eastern Germany. We will return to this point in Section 4.

3. Data and methods

The main contribution of the paper is an empirical comparison of fairness perceptions of layoff and wage-cut scenarios in North America and Germany. The North American survey (Charness and Levine, 2000, 2002) was carried out in Vancouver and Toronto between March and September 1997, and in Silicon Valley between October 1997 and March 1998. There were approximately 1,000 Canadian and 1,000 Silicon Valley respondents. The reason for choosing Silicon Valley was to analyse the strength of fairness norms in a US area in which respondents could be supposed to show a particular high acceptance of market norms. The German survey was a representative sample of the

population between the ages of 20 and 60. It covered approximately 3,000 respondents and was conducted in the summer of 2004. The sample was equally divided between western and eastern Germany. In translating the scenarios from English to German and designing the questionnaires we maximised comparability with the North American survey.

Each respondent was asked about the fairness of layoffs and pay cuts in different scenarios (between four and five scenarios per respondent in North America, three scenarios in Germany). Comparison questions (i.e., questions that matched in all but one aspect) were posed to different respondents. This between-subjects design minimises respondents' inclination and ability to answer based on their attempts to guess the researchers' hypotheses. For each scenario, approximately 130 ratings are available for the USA and for Canada and about 300 observations for Germany.

The questions concerning layoffs examined variations of a model case (first variant for each dimension in Table 1):

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 high-technology engineers. These workers are specialists in this company's unusual technology, with an average of 10 years tenure at this

Table 1. Overview of layoff scenario dimensions

Dimension	Variants
Shock	<p><i>Product market shock.</i> A company faced lower product demand due to shifts in the market; the viability of the employer was threatened.</p> <p><i>New technology.</i> A company has higher productivity due to the introduction of some new technology.</p> <p><i>Employees' suggestions.</i> A company has higher productivity due to the employees' suggestions.</p>
Occupation	<p><i>Engineers.</i> Thus, the company is laying off some high-technology engineers.</p> <p><i>Production workers.</i> Thus, the company is laying off some production workers with 10 years' company tenure.</p>
Skill specificity	<p><i>Employees with firm-specific skills.</i> These workers are specialists in this company's unusual technology, with an average of 10 years tenure at this employer.</p> <p><i>Employees with general skills.</i> The affected engineers (production workers) have an average of 10 years' tenure with this employer and specialise in widely used hardware, so that their skills would be useful in another job.</p>
Implementation	<p><i>Harsh layoff.</i> The company is laying off the employees with 2 weeks' notice. These are the first layoffs in the company's history.</p> <p><i>Gentle layoff.</i> Before the layoff, the employer gave each employee four paid weeks to find another job elsewhere in the company. Those who cannot find a new position received severance pay based on age and years of service. The company provided out-placement assistance, including counselling and résumé-writing workshops. Employees knew layoffs were likely in this circumstance.</p>
CEO bonus	<p>There is no mention of a CEO bonus.</p> <p><i>A record CEO bonus.</i> The CEO received a record bonus for his success in cutting costs.</p> <p><i>CEO refused bonus.</i> The CEO turned down his bonus this year because of the unexpected need for layoffs.</p>

CEO, Chief Executive Officer.

Source: Charness and Levine (2000).

employer. The company is laying off the employees with 2 weeks' notice. These are the first layoffs in the company's history.

Respondents were then asked if the layoff was completely fair, somewhat fair, unfair or very unfair (coded as 3 = completely fair, 2 = somewhat fair, 1 = unfair, 0 = very unfair). This model case was varied along several dimensions to analyse how the respondents' perceptions of fairness varied with changes in the sources of the shocks to the employer, the reactions of the employer, and the skills and occupations of the affected employees.

The questions on pay cuts replicated scenarios introduced by Kahneman *et al.* (1986) and are summarised in Table 2. Following Kahneman *et al.* (1986), only the categories fair (completely fair or somewhat fair) and unfair (unfair or very unfair) were distinguished (coded as 1 = fair, 0 = unfair).

Some data restrictions have to be taken into account. While a set of demographic variables is available for the German survey (see Struck *et al.*, 2006), no additional information for the North American respondents is available. The regions we surveyed in the USA and Canada are not necessarily representative for the entire countries. However, we show in Appendix A—using data from the International Social Survey Programme—that individualistic attitudes of Californians (the state we sample from) are not significantly

Table 2. Overview of wage-cut scenario dimensions

Dimension	Variants
Company performance	<p>A small company employs several workers and has been paying them average wages. There is severe unemployment in the area and the company could easily replace its current employees with good workers at a lower wage.</p> <p><i>Makes money.</i> The company has been making money. The owners reduce the current workers' wage by 5%.</p> <p><i>Loses money.</i> The company has been losing money. The owners reduce the current workers' wage by 5%.</p>
Seniority	<p>A small photocopying shop has one employee who has worked in the shop and earns \$9 per hour. Business continues to be satisfactory but a factory in the area has closed and unemployment has risen. Other small shops have now hired reliable workers at \$7 per hour to perform jobs similar to those done by the photocopying employee.</p> <p><i>Current employee.</i> The owner of the photocopying shop reduces the wage to \$7 per hour.</p> <p><i>New hire.</i> The current employee leaves and the owner decides to pay a replacement \$7 per hour.</p>
Framing	<p>A small company employs several people. The workers' incomes have been about average for the community. In recent months business for the company has not increased as it had before.</p> <p><i>Wages reduced.</i> The owners reduce wages by 10% for the next year.</p> <p><i>Bonus eliminated.</i> The workers have been receiving a 10% annual bonus, which the company eliminates.</p>

Source: Kahneman *et al.* (1986), Charness and Levine (2002).

different from a random sample of US employees.¹ Furthermore, the attitudes in British Columbia and Ontario (the Canadian provinces we sample from) are not significantly different from the rest of anglophone Canada—although results in Quebec show somewhat less acceptance of the market outcome as ‘fair’. An additional limitation is that the surveys for North America and Germany are available for different years. Still, the data at hand should present some valuable hints about differences and similarities in fairness perceptions.

The comparison across countries is conducted by means of a regression analysis. We present effects of treatments for a baseline scenario and for different variations. We take the USA as the reference country and include Canadian and German interactions for all variables. For instance, in the layoff scenarios our baseline scenario uses the first variant of each dimension in Table 1:

- The test statistic on the German interaction with the constant reveals whether perceptions of the baseline scenario differ between the USA and Germany.
- The variable ‘gentle layoff’ shows for the reference country if fairness perceptions vary with the mode of implementation in the USA.
- The coefficient of the German interaction with ‘gentle layoff’ is the ‘double difference’, indicating whether the mode of implementation matters more or less in Germany than in the USA.

Tables 3–6 show the results of ordinary least squares (OLS) estimates (which are easy to interpret) as well as of ordered probit estimates (which are statistically more appropriate due to the categorical nature of the dependent variable). Because we are not interested in the thresholds themselves, the estimated cutpoints from the ordered probit estimates are not documented in Tables 3–6. Additionally, these tables display F-tests of the joint significance of the Canadian and the German interactions, which indicate whether there is a significant joint difference from US responses.

4. Hypotheses

We first discuss hypotheses relating to differences in fairness perceptions among countries and then discuss differences in fairness perceptions within countries. While the differences among countries are related to differences in country-specific institutions, the differences across scenarios within a country are related to differences in the reasons behind layoffs and wage cuts, in workers’ entitlements, in the perceived procedural and distributive justice of the measures and in their framing.

A nation’s norms and values and specific historical paths influence its labour market institutions and laws. At the same time, historically evolved institutions will also shape fairness norms of a country’s citizens; in many cases people become accustomed to what they experience and consider it to be fair. Thus, differences in the legal framework may affect workers’ fairness perceptions.

Appendix B presents a short overview on differences in institutions (protection against dismissal, size and duration of unemployment benefits, wage-setting) and labour-market conditions in the countries under consideration and how they might be related to fairness norms. In particular, German laws impeding layoffs in many cases suggest that Germans

¹ We thank an anonymous referee for this suggestion.

place more value on employment security and fairness at work. Due to less protection against dismissals as well as higher probability of re-employment and labour-market mobility in the USA (and to some degree in Canada) we expect dismissals and wage cuts in these countries to be perceived as fairer than in Germany. At first blush it might appear that the less generous unemployment compensation in North America would make layoffs less fair. At the same time, the lower levels of insurance themselves probably result from more favourable perceptions of the fairness of layoffs.

Furthermore, collective wage contracts are much more important in Germany than in North America and constitute reference wages which might be perceived as fair by many citizens. Holden (1994) stresses the complementarity of the legal status of the previous nominal wage and the fairness of a wage cut: In Germany, the more extended legal protection of the nominal wage negotiated in a collective contract might invigorate workers' sense of entitlement. The ubiquity of collective contracts implies that wage cuts can also be supposed to be less acceptable in Germany than in North America. Thus, we formulate the main hypothesis:

The general acceptance of dismissals and wage cuts is lower in Germany than in North America.

In comparing Silicon Valley with Canada, Charness and Levine (2000, 2002) suggested that layoffs and wage cuts should be perceived as more fair in Silicon Valley, because Canada is characterised by a stronger welfare state and lower acceptance of market forces than the USA. However, only small country-specific differences in the perception of dismissals and wage cuts were detected empirically.

Comparing eastern and western Germany it is rather difficult to formulate a hypothesis on differences of fairness perceptions of layoffs and wage cuts. Before the unification of western and eastern Germany in 1990, East Germany was led by a communist government. Thus, we expect the norms and beliefs of former citizens of the German Democratic Republic to have been shaped by communist ideologies. On the one hand these citizens can be expected to be less accepting of the market. On the other hand, many East Germans detested their government and they may have adapted rapidly and strongly to the new regime.

Empirical evidence by Ockenfels (1999) suggests that there may even have been an over-reaction relative to West German norms: comparing the results of solidarity games (in which each participant has to declare how much of a possible gain he would share with other losing players) at two universities in eastern and western Germany shortly after the unification, the results showed that students at the East German university behaved significantly more selfishly than students at the West German university. As shown above, differences between eastern and western Germans concerning redistribution, luck and hard work diverge, with eastern Germans being more in favour of redistribution and having more confidence in hard work, and less in luck, for life achievement.

The remainder of this Section discusses possible reasons for differences across scenarios in fairness perceptions. These views, in turn, may also vary among countries. Several hypotheses concerning the source of shocks, the characteristics of employees, company responses and their impact on perceptions of fairness have been discussed in detail for the layoff scenarios by Charness and Levine (2000) and for the wage-cut scenarios by Kahnemann *et al.* (1986). In the following a brief review of the basic arguments is presented.

First, the reason of the measures should play a role. In general, previous research suggests that people consider it fairer to react to an exogenous shock than to take the initiative and cause harm (Rabin, 1993). Along these lines, both Kahneman *et al.* (1986) and Brockner (1992) found that external circumstances threatening the existence of the firm led many people to consider pay cuts and layoffs as more fair. Kahneman and his co-authors concluded that a firm is allowed to protect itself against losses at an employee's expense; acting at someone else's expense, however, is not accepted by respondents when a company has positive profits. Concerning our layoff scenarios, the introduction of a new technology is less exogenous to the employer and thus less acceptable as a source of dismissals than lower product demand. Furthermore, perceptions of fairness might hinge also on the sharing of rents and quasi-rents. Layoffs following the introduction of a new technology or employees' suggestions should thus be perceived as less fair than layoffs due to lower product demand; the same is valid for wage cuts in a firm that makes profits. Layoffs due to employees' suggestions can be perceived as unfair for another reason: they violate the norm of reciprocity. The norm of reciprocity suggests that employers should respond to employee suggestions with bonuses, not with layoffs. For respondents who share this view, layoffs for this reason should be perceived as even less fair than those due to new technology.

Second, workers' perceived entitlements to jobs or wages might vary with their characteristics. Production employees are still more likely to be laid off than professional employees (see Farber, 1996 for the US; Reinberg and Hummel, 2005 for Germany); in societies in which individual achievements justify differences in status, we would expect this difference to be evaluated as fair. Moreover, professionals typically have an intensive trust relationship with the employer, stronger commitment to the employer, and work with less supervision than production workers—all of which is conducive to long-term employment relationships. Hence, layoffs are perceived as more fair when they affect production workers as opposed to professional employees. Also, employees' costs of layoffs are higher when employees have employer-specific skills than when they have skills that are widely useful (Becker, 1975). Consequently, a further hypothesis is that layoffs are fairer when the employees' skills are useful in another job than when they are specialists in the company's unusual technology. Turning to the wage-cut scenarios, Kahneman *et al.* (1986) highlight the role of tenure in employment relationships, they argue and find that wage reductions for current employees due to slack labour markets are considered unfair much more frequently than equally large wage reductions for new employees. They interpret this result to mean that an entitlement to a reference wage does not carry over to a new transaction.

Third, Brockner (1992) notes that layoffs are perceived as more fair when the employer provides tangible support services to soften the blow. Moreover, the gentle layoffs scenario includes advance notice; a form of respect that Brockner *et al.* (1994) argue predicts high perceptions of procedural justice. The 'gentle' layoffs scenario is thus substantially more generous than the harsh layoff scenario. Unlike harsh layoffs, respondents will not consider these gentler layoffs as violating norms of reciprocity, even when employees have submitted productivity-enhancing ideas. For example, the severance pay may be interpreted as indicating that the employer is sharing some gains of higher productivity. This reasoning leads to a complementary hypothesis, that the type of shock causes little difference in how fair respondents are likely to rate gentle layoffs.

Fourth, theories of distributive justice often imply that the willingness of lower-paid employees to accept layoffs and pay cuts may decrease with employment security and the

Table 3. *Fairness perceptions of layoffs*

	Ordinary least squares			Ordered probit [#]		
	Canadian		German	Canadian		German
	Interactions			Interactions		
Constant	1.036** (0.00)	-0.027 (0.73)	0.094 (0.12)	-	-0.028 (0.79)	0.108 (0.17)
New technology	0.087 (0.09)	-0.231** (0.01)	-0.306** (0.00)	0.114 (0.09)	-0.331** (0.01)	-0.399** (0.00)
Employees' suggestions	-0.180** (0.01)	-0.180 (0.07)	-0.054 (0.50)	-0.260** (0.00)	-0.252 (0.06)	-0.039 (0.71)
Production worker	0.091 (0.17)	-0.033 (0.78)	-0.067 (0.41)	0.113 (0.20)	-0.053 (0.73)	-0.084 (0.42)
General skills	0.077 (0.25)	-	0.206* (0.01)	0.090 (0.30)	-	0.260* (0.01)
Gentle layoff	1.074** (0.00)	0.373** (0.00)	-0.503** (0.00)	1.384** (0.00)	0.524** (0.00)	-0.667** (0.00)
CEO refused bonus	0.397** (0.00)	-	-0.223** (0.01)	0.489** (0.00)	-	-0.265** (0.01)
CEO record bonus	-0.176** (0.01)	-	-0.096 (0.23)	-0.256** (0.00)	-	-0.113 (0.29)
Adjusted R ² / Pseudo R ²	0.211			0.091		
F-Test on joint significance (probability value)		0.000	0.000		0.000	0.000
Observations	1,715	853	3,918	1,715	853	3,918
Sum of observations	6,486			6,486		

Reference scenario: US respondents, product market shock, engineers, 10 years' tenure, firm-specific skills, harsh layoff.

Probability values from two-sided *t*-tests in parentheses. 0 = very unfair, 1 = unfair, 2 = somewhat fair, 3 = fair.

* $P_t < 0.05$; ** $P_t < 0.01$; #estimated thresholds are not displayed. CEO, Chief Executive Officer.

level of wages of higher-paid employees and managers. Executive pay may be particularly salient during downsizing (Brockner, 1992, Cowherd and Levine, 1992). Theories of procedural justice reinforce distributive concerns about relative outcomes (Bies *et al.*, 1993). People are more likely to consider a decision fair, even if it harms them, if the decision-maker did not benefit from it. Conversely, if a decision-maker benefits from a decision that harms employees, employees have reason to doubt the objective basis for the decision (Leventhal, 1976). Thus, the decision of the Chief Executive Officer (CEO) to accept (reject) a bonus for cost-cutting should reduce (increase) the perceived fairness of a layoff.

Fifth, the framing of a scenario will have an impact on the results. Kahneman *et al.* (1986) showed that it is perceived as much fairer if an employee's bonus is eliminated than if the wage is reduced by an equal amount.

5. Empirical results

This section presents the empirical results for the layoff and wage-cut scenarios. Summary statistics are presented in Appendix C. In the estimates we do distinguish between US and Canadian citizens, because we find some significant differences between the two groups of

North Americans. However, we do not find significant differences between western and eastern Germany. This is surprising because the regions of Germany were separated for more than 40 years. Eastern Germany had a communist economic system for several decades until East–West reunification in 1990. Alesina and Fuchs-Schündeln (2005) find strong differences between eastern and western Germany concerning redistribution. Evidently, this result cannot be extended to our more narrow perspective focusing on layoffs and pay cuts where the stronger work inclination of eastern Germans might exert a more dominant impact. To test whether the respondents in the two regions were similar because younger workers were not influenced by the former regime, we replicated the comparison for workers born before 1970. Again the analysis revealed no significant differences. Therefore, the following empirical analysis does not distinguish between the regions of Germany.

5.1 Layoff scenarios

Table 3 presents a regression analysis of impact of factors on fairness perceptions of layoffs. We do not find a significant difference in fairness ratings for the reference scenario across countries. At first glance this might contradict our basic hypotheses that layoffs are perceived as more fair in North America than in Germany. However, it will turn out that we find significant differences if we vary the reference scenario.

First, how important is the kind of shock that causes the layoffs? The empirical results show that layoffs following employees' suggestions are in fact considered the most unfair scenario in the USA, while no significant difference was found between the two other types of shock. Significantly different perceptions by Canadians or Germans are detected only for layoffs due to the introduction of a new technology; specifically, US respondents perceived such layoffs as significantly less unfair (an additional test on this difference has been conducted). This result is consistent with the general perception that the ongoing process of technological change is more acceptable in the USA, particularly in Silicon Valley, the host of much technological change.

Second, do the occupation and skill-specificity characteristics of the laid-off workers make a difference? Concerning occupation, fairness ratings do not differ significantly between professional and production workers for all three countries. Turning to skill specificity (which was not considered in the Canadian survey), in the USA fairness ratings do not vary much between laid-off workers with general or specific skills. Conversely, in Germany layoffs of workers with specific skills are rated as more unfair, by about 0.2 points, than dismissals of workers with general skills. An explanation might be that internal labour markets are connected with reduced chances of re-employment in other firms and with risks of long-term unemployment for workers with firm-specific human capital, and that these risks are comparatively higher in Germany.

Third, the response of the company to the shock seems to be crucial for the fairness perception of layoffs. Harsh layoffs are assessed as rather unfair for all kinds of shocks and in all three countries under consideration. Generally, gentle layoffs are found to be significantly fairer (by about 1.1 points on a 0 to 3 scale in the USA, by 1.4 points in Canada, but only by about 0.6 points in Germany). Higher unemployment benefits as well as stronger protection against dismissal in Germany might explain the reduced importance of employer response in Germany.

Fourth, the role of CEO bonuses is compared for the USA and Germany (these scenarios were not presented in the Canadian survey). In both countries dismissals are perceived as more fair when the CEO refused to accept a bonus for successful cost-cutting.

However, the refusal of the bonus payment improves fairness ratings twice as much in the USA (0.4 points) as in Germany (less than 0.2 points). Furthermore, the reference scenario is evaluated as significantly fairer than a situation where the CEO obtains an extra bonus for cost-cutting; the size of the effect does not differ significantly between the USA and Germany.

Thus, the main result of this section is that layoffs are perceived as less fair in Germany than in the North American regions investigated—although not generally and strongly dependent on the specific conditions of the layoff:

- The reason for a layoff is important for fairness perceptions, but the impact varies by country. Most interestingly, layoffs due to the introduction of a new technology are perceived as less unfair by US respondents than by Canadian or German respondents.
- Fairness ratings do not vary with the occupation of the laid-off persons. However, laying-off workers with general skills is perceived as more fair than dismissing workers with specific skills in Germany, but not in North America.
- Harsh layoffs are perceived as rather unfair in Germany as well as in North America. Gentle layoffs, however, exert a much stronger impact on fairness perceptions in North America than in Germany.
- In all regions, fairness ratings of layoffs are very low when the CEO receives a bonus for cost-cutting. Acceptance, however, increases, when the bonus is refused, and this effect is even stronger in the USA than in Germany.

5.2 Pay-cut scenarios

Table 4 compares scenarios describing wage cuts in a situation with high regional unemployment. The results reinforce the finding from the literature that the cause of a wage cut is important for its assessment. In the reference scenario, where the company

Table 4. Wage cuts for companies making versus losing money

	Ordinary least squares			Probit		
	Canadian German		Interactions	Canadian German		Interactions
Constant	0.368** (0.00)	-0.125* (0.03)	-0.055 (0.26)	-0.338** (0.00)	-0.358* (0.02)	-0.150 (0.26)
Loses money (not makes profit)	0.359** (0.00)	0.062 (0.45)	-0.121 (0.08)	0.941** (0.00)	0.179 (0.43)	-0.326 (0.09)
Adjusted R ² / Pseudo R ²	0.108			0.083		
F-Test on joint significance (probability value)		0.049	0.001		0.042	0.001
Observations	280	209	619	280	209	619
Sum of observations	1,155			1,155		

Reference scenario: US respondents, small company, substantial unemployment, company makes profit, wages reduced by 5%.

Probability values from two-sided *t*-tests in parentheses. 0 = unfair, 1 = fair.

P*₁ < 0.05; *P*₁ < 0.01.

makes a profit, fairness ratings are rather low (less than 37% rated the action as 'fair' in all nations). No significant difference between fairness perceptions in the USA and Germany is detected; Canadians, however, rate wage cuts as significantly more unfair in this situation.

In all three countries pay cuts are perceived as fairer if the company loses money than if the company makes money (replicating Kahneman *et al.*, 1986), with twice as many US respondents finding pay cuts fair when the company is losing money than when it is profitable. However, the 'excuse' of losing money is not as important in shifting German views (increasing the percentage finding this option fair by 23% in Germany, not by 36% as in the USA, differences significant at the 10% level). This result could be due to the more widespread market scepticism in Germany, and also because collective contracts set wages that are generally rated as fair and that, therefore, generate both nominal and real wage rigidity (Pfeiffer, 2003).

Table 5 compares pay cuts for current workers with the payment of lower starting wages to newly hired workers. Wage cuts are generally not perceived as fair when wages are cut for a current worker; and they are rated as significantly more unfair in Germany than in North America. Furthermore, the payment of lower wages to a newly hired (replacement) worker is generally much more acceptable than wage cuts for incumbents. Entitlements for new hires, however, seem to be much less pronounced in North America than in Germany. The finding implies that the employment relationship constitutes stronger entitlements and psychological contracts in Germany. This might again be a hint that institutional wage-setting arrangements in Germany have an impact on fairness perceptions.

Finally, the framing of the wage cut is investigated in Table 6. The reference scenario, where wages are reduced, is rated as rather unfair in all three countries, with no significant differences between them. However, in North America, as well as in Germany, it is perceived as much fairer if an employee's bonus is eliminated than if the wage is reduced by an equal amount (as in Kahneman *et al.*, 1986). In Germany the framing as cutting a bonus

Table 5. Wage cuts for current employees versus new hires

	Ordinary least squares			Probit		
	Canadian German		Interactions	Canadian German		Interactions
Constant	0.333** (0.00)	0.036 (0.50)	-0.177** (0.00)	-0.431** (0.00)	0.098 (0.54)	-0.579** (0.00)
New hire (not current employee)	0.338** (0.00)	0.054 (0.49)	-0.206** (0.00)	0.874** (0.00)	0.171 (0.47)	-0.423* (0.03)
Adjusted R ² / Pseudo R ²	0.175			0.138		
F-Test on joint significance (probability value)		0.218	0.000		0.247	0.000
Observations	284	224	588	284	224	588
Sum of observations	1,096			1,096		

Reference scenario: US respondents, small company, business satisfactory, unemployment increased, wages reduced for current worker.

Probability values from two-sided *t*-tests in parentheses. 0 = unfair, 1 = fair.

P*₁ < 0.05; *P*₁ < 0.01.

Table 6. *Cutting base pay versus cutting a bonus*

	Ordinary least squares			Probit		
	Canadian		German	Canadian		German
	Interactions			Interactions		
Constant	0.392** (0.00)	-0.108 (0.07)	-0.071 (0.14)	-0.274** (0.01)	-0.296 (0.07)	-0.190 (0.14)
Bonus eliminated	0.198** (0.00)	0.077 (0.38)	0.138* (0.05)	0.503** (0.00)	0.218 (0.35)	0.368* (0.05)
Adjusted R ² / Pseudo R ²	0.087			0.067		
F-Test on joint significance (probability value)		0.177	0.136		0.175	0.137
Observations	275	266	614	275	266	614
Sum of observations	1,108			1,108		

Reference scenario: US respondents, small company, business has not increased as before, wages reduced by 10%.

Probability values from two-sided *t*-tests in parentheses. 0 = unfair, 1 = fair.

* $P_t < 0.05$; ** $P_t < 0.01$.

seems to be even more decisive for fairness ratings than in North America. The reason might be that bonus payments are less widespread in Germany than in North America and apparently are not covered by the norms of the German wage-setting system.

Summing up, the wage-cutting scenarios show that wage cuts tend to be perceived as less unfair in North America than in Germany—but again not generally and dependent on the specific conditions of the wage cut. We would like to highlight the following results:

- In all three countries respondents view wage cuts as fairer when the company incurs losses and is not profitable.
- In all three countries respondents find it more acceptable for a firm to pay newly hired workers a lower wage than to cut wages of incumbents. However, both procedures appear to be less accepted in Germany than in North America.
- Finally, in all three countries the elimination of an employee's bonus is perceived as fairer than an equal wage cut, but cancelling a bonus is more acceptable in Germany.

6. Discussion

Our results show a number of significant differences in fairness ratings among the USA, Canada and Germany. A main finding of our comparisons is that dismissals and wage cuts are perceived as less fair in the majority of scenarios in Germany than in the investigated regions in the USA and Canada. Rather surprisingly, no significant differences between western and eastern Germany exist.

Our evidence is correlations rather than a causal analysis. However, there is a nexus between fairness norms and institutions where norms influence institutions and institutions strengthen norms. For the topic investigated in this paper an important question is whether certain institutions are correlated with norms in favour of rigid pay and stable

employment. Our argument is that the observed differences can be traced to fundamental and differing social perceptions concerning the acceptability of the market and market outcomes, and go hand in hand with differences in institutional labour market arrangements that affect the evolution of social norms and psychological contracts within countries. The results are important for understanding the evolution of labour-market institutions and outcomes across economies.

Soskice (1993) has posited that German labour market institutions such as apprenticeships were important factors in explaining Germany's rapid growth prior to 1973. Blanchard and Wolfers (2000) argue that German labour-market institutions such as widespread coverage by collective bargaining were important factors in explaining Germany's relative slow job growth after 1973. To the extent that both labour-market outcomes and institutions shape citizens' beliefs in the fairness of certain employment contracts, this history can affect the ability of the economic system to adopt new employment institutions (Alesina and Angeletos, 2005). For example, Germans' lower average acceptance of pay cuts during slack labour markets for new hires as well as for incumbents (Table 5) may partly be the result of collective bargaining. At the same time, once such norms are established they can reduce the effects of legal or bargaining changes that might increase wage flexibility in other settings. Therefore, our results may shed light on why German labour-market policies have persistently relied less on market forces and why German employers are more accepting of regulations that limit pay cuts and layoffs.

A single cross-sectional study cannot determine the complex interplay of institutions, laws, beliefs and labour-market outcomes. Future studies could extend this line of investigation by examining the interplay of these forces in more nations over longer periods of time.

Bibliography

- Addison, J. T., Bellmann, L., Schnabel, C. and Wagner, J. 2003. German works councils old and new. Incidence, coverage and determinants, *Schmollers Jahrbuch*, vol. 123, 339–58
- Agell, J. 2002. On the determinants of labour market institutions. Rent Seeking vs. social insurance, *German Economic Review*, vol. 3, 107–35
- Alesina, A. and Angeletos, G.-M. 2005. Fairness and redistribution, *American Economic Review*, vol. 95, 960–80
- Alesina, A. and Fuchs-Schündeln, N. 2005. 'Good Bye Lenin, or Not? The Effect of Communism on People's Preferences', NBER Working Paper, no. 11700, Cambridge, MA
- Alesina, A., Glaeser, E. L. and Sacerdote, B. 2005. 'Work and leisure in the U.S. and Europe. Why so different?', NBER Working Paper, no. 11278, Cambridge, MA
- Anderson, N. and Schalk, R. A. 1998. Editorial. The psychological contract in retrospect and prospect, *Journal of Organizational Behavior*, vol. 19, 637–47
- Baker, G. P., Jensen, M. C. and Murphy, K. J. 1988. Compensation and incentives. Theory versus practice, *Journal of Finance*, vol. 43, 593–616
- Barnard, C. I. 1938. *The Functions of the Executive*, Cambridge, MA, Harvard University Press
- Becker, G. S. 1975. *Human Capital*, Chicago, University of Chicago Press
- Bies, R. J., Tripp, T. M. and Neale, M. A. 1993. Procedural fairness and profit-seeking. The perceived legitimacy of market exploitation, *Journal of Behavioral Decision Making*, vol. 6, 243–56
- Blanchard, O. and Wolfers, J. 2000. The role of shocks and institutions in the rise of European unemployment. The aggregate evidence, *Economic Journal*, vol. 110, C1–33
- Blau, P. M. 1964. *Exchange and Power in Social Life*, New York, Wiley

- Brockner, J. 1992. Managing the effects of layoffs on survivors, *California Management Review*, vol. 34, 9–28
- Brockner, J., Konovsky, M., Cooper-Schneider, R., Folger, R., Martin, C. and Bies, R. 1994. Interactive effects of procedural justice and outcome negativity on victims and survivors of job loss, *Academy of Management Journal*, vol. 37, 397–409
- Charness, G. B. 1998. 'Attribution and reciprocity in a simulated labor market. An experimental investigation', Universitat Pompeu Fabra Working Paper, no. 283
- Charness, G. B. and Levine, D. I. 2000. When are layoffs acceptable? *Industrial and Labor Relations Review*, vol. 53, 381–400
- Charness, G. B. and Levine, D. I. 2002. Changes in the employment contract? Evidence from a quasi-experiment, *Journal of Economic Behavior & Organization*, vol. 47, 391–405
- Corneo, G. 2000. 'Inequality and the state. Comparing U.S. and German preferences', CESifo Working Paper, no. 398
- Cowherd, D. and Levine, D. I. 1992. Product quality and pay equity between low-level employees and top management. An investigation of distributive justice theory, *Administrative Science Quarterly*, vol. 37, 302–20
- Farber, H. S. 1996. 'The changing face of job loss in the United States 1981–1993', NBER Working Paper, no. 5596, Cambridge, MA
- Farh, J.-L., Podsakoff, P. M. and Organ, D. W. 1990. Accounting for organizational citizenship behavior: leader fairness and task scope versus satisfaction, *Journal of Management*, vol. 16, 705–21
- Fehr, E., Kirchler, E., Weichbold, A. and Gächter, S. 1998. When social forces overpower competition: gift-exchange in experimental labor markets, *Journal of Labor Economics*, vol. 16, 437–59
- Fehr, E., Kirchsteiger, G. and Riedl, A. 1993. Does fairness prevent market clearing? An experimental investigation, *Quarterly Journal of Economics*, vol. 108, 437–59
- Hall, R. B. 1982. The importance of lifetime jobs in the U.S. economy, *American Economic Review*, vol. 72, 716–24
- Herriot, P., Manning, W. E. G. and Kidd, J. M. 1997. The content of the psychological contract, *British Journal of Management*, vol. 8, 151–62
- Hiltrop, J.-M. 1995. The changing psychological contract, the human resource challenge of the 1990s, *European Management Journal*, vol. 13, 286–94
- Holden, S. 1994. Wage bargaining and nominal rigidities, *European Economic Review*, vol. 38, 1021–39
- Kahneman, D., Knetsch, J. L. and Thaler, R. 1986. Fairness as a constraint on profit-seeking. Entitlements in the market, *American Economic Review*, vol. 76, 728–41
- Keyssar, A. 1986. *Out of Work, The First Century of Unemployment in Massachusetts*, Cambridge, Cambridge University Press
- Konovsky, M. A. and Douglas, D. S. 1994. Citizenship Behavior and Social Exchange, *Academy of Management Journal*, vol. 37, 656–69
- Leventhal, G. S. 1976. The distribution of rewards and resources in groups and organizations, pp. 91–131 in Berkowitz, L. and Walster, E. (eds), *Advances in Experimental Social Psychology* Vol IX, New York, Academic Press
- Levine, D. I. 1993. Fairness, markets and ability to pay, *American Economic Review*, vol. 83, 1241–59
- Malcomson, J. M. 1997. Contracts, hold-up, and labor markets, *Journal of Economic Literature*, vol. 35, 1916–57
- Milgrom, P. and Roberts, J. 1992. *Economics, Organization and Management*, Englewood Cliffs, Prentice-Hall
- Millward, L. J. and Brewerton, P. M. 2000. Psychological contracts, employee relations for the twentyfirst century? *International Review of Industrial and Organisational Psychology*, vol. 15, 1–62
- Moorman, R. H. 1991. Relationship between organizational justice and organizational citizenship behaviors. Do fairness perceptions influence employee citizenship? *Journal of Applied Psychology*, vol. 76, 845–55
- Nickell, S., Nunziata, L. and Ochel, W. 2005. Unemployment in the OECD since the 1960s. What do we know? *The Economic Journal*, vol. 115, 1–27

- Ockenfels, A. 1999. *Fairness, Reziprozität und Eigennutz—Ökonomische Theorie und Experimentelle Evidenz*, Tübingen, Mohr Siebeck
- Organisation for Economic Cooperation and Development 2004. *Employment Outlook*, Paris, OECD
- Pfeiffer, F. 2003. *Lohnrigiditäten im gemischten Lohnbildungssystem*, Baden-Baden, Nomos
- Rabin, M. 1993. Incorporating fairness into game theory and economics, *American Economic Review*, vol. 83, 1281–1302
- Reinberg, A. and Hummel, M. 2005. *Vertrauter Befund, Höhere Bildung schützt auch in der Krise vor Arbeitslosigkeit*, Nürnberg, IAB-Kurzbericht 09/2005
- Rousseau, D. M. 1995. *Psychological Contracts in Organizations. Understanding Written and Unwritten Agreements*, London/New Delhi, Thousand Oaks
- Rousseau, D. M. and Schalk, R. 2000. *Psychological Contracts in Employment. Cross National Perspectives*, London/New Delhi, Thousand Oaks
- Schlicht, E. 1998. *On Custom in the Economy*, Oxford, Clarendon Press
- Simon, H. A. 1991. Organizations and markets, *Journal of Economic Perspectives*, vol. 5, 25–44
- Soskice, D. 1993. The German training system: reconciling markets and institutions, pp. 25–60 in Lynch, L. M. (ed.), *International Comparisons of Private Sector Training*, Chicago, University of Chicago Press
- Struck, O., Stephan, G., Köhler, C., Krause, A., Pfeiffer C. and Sohr, T. (eds) 2006. *Arbeit und Gerechtigkeit. Entlassungen und Lohnkürzungen im Urteil der Bevölkerung*, vs-Verlag
- Williamson, O. E., Wachter, M. L. and Harris, J. E. 1975. Understanding the employment relation. Analysis of idiosyncratic exchange, *Bell Journal of Economics*, vol. 6, 250–80
- Winkelmann, R. 1994. 'Training, earnings, and mobility in Germany', CEPR Discussion Paper, no. 982

Appendix A. Representativeness of analysed regions

To examine if the regions we surveyed were approximately representative of the USA or Canada in terms of fairness perceptions we utilised data from the International Social Survey Programme 1999 Social Inequality II Module (ISSP). This module asked questions related to ours to a representative sample from the USA. In the USA we can disaggregate the ISSP into nine census regions, with Silicon Valley being part of the Pacific region (in 1999 California had 75% of the population of the Pacific region). In Canada we can identify specific provinces, with Vancouver belonging to British Columbia and Toronto belonging to Ontario. We investigate two questions that indicate the strength of individualistic attitudes (Table A.1).

Consider the question 'It is the responsibility of government to reduce the differences in income between people with high and those with low incomes' (question 7b, 1 = strongly disagree; 5 = strongly agree).¹ In Germany the mean response is 3.5, while in the USA it is 2.9 and in Canada 3.1 (both statistically significantly different from Germany and also from each other). In the Pacific region only of the USA, the mean is not statistically significantly different from the other eight US regions. Within Canada, the provinces with Vancouver and Ontario (i.e., British Columbia and Ontario) had statistically significantly lower agreement (2.9) than in the rest of Canada (3.3), driven largely by stronger agreement in Quebec (3.6).

The results within nations are similar, but not the rankings across nations, when we examine agreement that 'Large differences in income are necessary for [America's] prosperity' (question 3c). As before, the Pacific region is not very different from the rest of the USA. Again, British Columbia and Ontario are more like the USA than the rest of Canada, in large part due to the low levels of agreement in Quebec (2.1). What is distinctive about this question is that Germany shows more agreement than the Canadian average—a reversal of the general pattern that Canada resembles the USA more than Germany.

In short, our results emphasise that there are important differences within Canada. Thus, our results should be thought of as holding true more in anglophone Canada than in Quebec. At the same time, the results from the ISSP are reassuring that our US results are not driven by

¹ For the ease of interpretation we have reversed the numbering provided by the original questionnaire.

a distinctively ethical view of the market that holds most strongly on the 'left coast' of the continent.

Table A.1. *Individualistic attitudes*

	USA			Canada			Germany	
	All	Pacific	Other	All	BC+O	Other		P-value
It is the responsibility of government to reduce the differences in income between people with high and those with low incomes	2.9	—	—	3.1	—	—	—	0.00**
	2.9	—	—	—	—	—	3.5	0.00**
	—	—	—	3.1	—	—	3.5	0.00**
	—	2.8	2.9	—	—	—	—	0.30
	—	—	—	—	2.9	3.3	—	0.00**
Large differences in income are necessary for [America's] prosperity	2.8	—	—	2.4	—	—	—	0.00**
	2.8	—	—	—	—	—	2.7	0.01**
	—	—	—	2.4	—	—	2.7	0.00**
	—	2.7	2.8	—	—	—	—	0.09
	—	—	—	—	2.5	2.3	—	0.00**
Observations	1177	175	1002	943	517	426	1329	

Results from two-sided *t*-tests on equal means across and within countries. 1 = strongly disagree, 5 = strongly agree. BC+O, British Columbia plus Ontario.

* $P_t < 0.05$; ** $P_t < 0.01$.

Data: International Social Survey Programme 1999 Social Inequality II Module (ISSP).

Appendix B. Institutional differences between North America and Germany and fairness perceptions

A comparison of relevant Organisation for Economic Cooperation and Development (2004) indicators shows that the US labour market is less regulated than the Canadian one, which in turn is subject to less regulation than the German labour market. We briefly describe the main features of protection against dismissal in Germany, the USA and Canada, and then discuss the cost of job loss, institutions related to wage determination, and internal labour markets.

Protection against dismissal might give rise to informal entitlements of workers to jobs. In Germany the Protection against Dismissal Act applies to all employees in companies whose regular workforce exceeds 10 employees and who have been employed in a company for at least 6 months. If a works council exists, it has to be fully informed and consulted in all cases of dismissal. In 2000, 45.8% of Germans in the private sector worked in establishments with a works council (Addison *et al.*, 2003). During the first 6 months of employment the legal period of notice is only 2 weeks, but it rises to 7 months of notice for employees with 20 years of service. For large-scale layoffs a company has to consider social issues such as the duration of service in the company, the age of employees, and chances of re-employment. Employees sue their employers in labour court relatively often. In most cases, however, the dismissed are more concerned with the amount of their severance payment than with re-employment. In the USA, employment can be terminated by either party with or without cause at any time; co-determination rights do not exist. A certain protection against dismissal exists, however, for the relatively small proportion of employees who are members of trade unions because most collective agreements allow dismissals only for just cause. Furthermore, antidiscrimination legislation provides some protection against dismissal for selected groups of employees. As in Germany, evidence of deliberate discrimination can result in high compensatory payments or

finer. In Canada there has to be a good and sufficient cause for dismissals, and the required period of notice is 2 weeks for employees who have worked at least 3 months in the company. Severance pay is regulated by law: after one year's employment, dismissed employees receive 2 days' pay for every year of service, with a minimum compensation of 5 days' pay. In lawsuits, courts rarely rule that an employee should be rehired, but usually award compensatory payments.

The *fallback position* of laid-off workers is determined by factors such as the amount and duration of unemployment compensation, but also by the level and structure of unemployment. The *duration and size of unemployment benefits* differs strongly among the countries. In the USA benefits are lower and eligibility for benefits is for a shorter periods than in Germany (the protection of long-term unemployed workers in Germany declined in 2005, after our data were collected). At the time of our surveys the *unemployment rate* in the USA was significantly lower than in Canada and Germany; the unemployment rate in eastern Germany was twice as high as in western Germany. On the one hand, employees may perceive dismissals or wage cuts as less fair in times of high unemployment than during less precarious labour market periods: in other words, the higher the regional unemployment rate the more difficult it is to find a new job with similar employment conditions. On the other hand, individuals may consider dismissals and wage cuts to be normal when unemployment has remained at a high level for a long period of time. Moreover, the *structure of unemployment* can affect fairness considerations. At the time of our surveys about half of the unemployed in Germany had been unemployed for more than 1 year, compared to only 10% in the USA. This difference might imply that even in times of high unemployment the groups of employees that are predominantly affected by unemployment (mainly older and unskilled workers) consider layoffs and wage cuts as most unfair.

In addition to other factors, the evaluation of wage cuts can be influenced by *wage-setting institutions*. The system of industrial relations can implement explicit protections against wage cuts. In Germany, for example, about 85% of employees work in companies covered by collective wage agreements, while less than 15% of employees are covered by these contracts in the USA. However, there are noteworthy differences between the eastern and western parts of Germany: in eastern Germany many local contracts allow companies to reduce employees' wages below the collectively negotiated wage. Furthermore, note that after the termination of a collective wage contract, its norms retain their validity in Germany until a new collective or individual agreement has been concluded. The employers' leeway to modify terms of employment or to cut the nominal wage is restricted. Consent from the union or the employee is required. In the USA, however, continuing to work is interpreted as an acceptance of the modified terms of employment (Malcomson, 1997).¹ Accordingly, we presume that wage cuts are more likely to be accepted in the USA than in Germany, and that wage cuts within Germany might be more readily accepted in eastern Germany.

Finally, the *importance of internal labour markets* differs between the USA and Germany. Hall (1982) estimated that an American makes 10 job changes during his working career while male Germans hold an average of four jobs over a lifetime (Winkelmann, 1994). The US labour market rewards mobility and job matching, whereas in the German labour market human capital and relative job stability are rewarded. Therefore, we presume that the relatively low mobility and comparatively high internal employment stability in Germany will have the effect that dismissals, in particular of workers with firm-specific qualifications, are perceived as less fair in Germany than in the USA.

¹ We are grateful to Steinar Holden for pointing out this difference.

Appendix C. Scenario means

Table C.1. Scenario means for the layoff scenarios

	USA	Canada	Germany
Product market shock, engineers, 10 years tenure, firm-specific skills, harsh layoff	0.98	0.92	1.14
Product market shock, engineers, 10 years tenure, firm-specific skills, gentle layoff	2.12	2.55	1.72
Product market shock, engineers, 10 years tenure, general skills, harsh layoff	1.14	—	1.47
Product market shock, production worker, 10 years tenure, firm-specific skills, harsh layoff	1.15	1.07	1.21
Product market shock, production worker, 10 years tenure, general skills, harsh layoff	1.18	—	1.39
Product market shock, engineers, 10 years tenure, firm-specific skills, harsh layoff, CEO refused bonus	1.41	—	1.24
Product market shock, engineers, 10 years tenure, firm-specific skills, harsh layoff, CEO record bonus	0.90	—	0.84
New technology, engineers, 10 years tenure, firm-specific skills, harsh layoff	1.03	0.93	0.83
New technology, engineers, 10 years tenure, firm-specific skills, gentle layoff	2.30	2.25	1.48
New technology, engineers, 10 years tenure, firm-specific skills, harsh layoff, CEO refused bonus	1.54	—	1.15
New technology, engineers, 10 years tenure, firm-specific skills, harsh layoff, CEO record bonus	0.91	—	0.65
Employees' suggestions, engineers, 10 years tenure, firm-specific skills, harsh layoff	0.96	0.69	0.91
Employees' suggestions, engineers, 10 years tenure, firm-specific skills, gentle layoff	1.82	2.05	1.45

0 = very unfair, 1 = unfair, 2 = somewhat fair, 3 = fair. CEO, Chief Executive Officer.

Table C.2. Scenario means for the wage-cut scenarios

	USA	Canada	Germany
Small company, substantial unemployment, company makes profit, wages reduced by 5%	0.37	0.24	0.31
Small company, substantial unemployment, company loses money, wages reduced by 5%	0.73	0.66	0.55
Small photocopying shop, business satisfactory, unemployment increased, wages reduced for current worker	0.33	0.37	0.16
Small photocopying shop, business satisfactory, unemployment increased, wages reduced for replacement	0.67	0.76	0.29
Small company, business has not increased as before, wages reduced by 10%	0.39	0.28	0.32
Small company, business has not increased as before, usual 10% yearly bonus eliminated	0.59	0.56	0.66

0 = unfair, 1 = fair.