

WHY FIRMS AVOID CUTTING WAGES: SURVEY EVIDENCE FROM EUROPEAN FIRMS

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Firms very rarely cut nominal wages, even in the face of considerable negative economic shocks. The authors of this article use a unique survey of 14 European countries to ask firms directly about the incidence of wage cuts and to assess the relevance of a range of potential reasons for why the firms avoid cutting wages. They examine how firm characteristics and collective bargaining institutions affect the relevance of each of the common explanations for the infrequency of wage cuts. Concerns about the retention of productive staff and a lowering of morale and effort were reported as key reasons for downward wage rigidity across all countries and firm types. Restrictions created by collective bargaining were found to be an important consideration for firms in Western European (EU-15) countries but were one of the lowest-ranked obstacles in the new EU member-states in Central and Eastern Europe.

The difficulty inherent in reducing nominal wages has recently moved into the spotlight as a result of efforts by a number of European countries, especially within the euro area, to adjust to serious negative economic shocks through internal devaluation. Even with the severity of the economic downturn experienced across Europe in recent years, cuts in nominal wages appear to be a last resort for firms, and a series of papers have established

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that wages tend to be sticky downward.¹ Evidence from interviews with business owners and firm managers have even suggested that selective layoffs are usually preferred to across-the-board wage reductions (Bewley 1999). Bertola et al. (2012), using data from the same survey of European firms that we analyze in this article, found that only 2% of firms would use base wage cuts as the main channel of labor cost reduction if faced with a significant cost shock. A considerably higher percentage reported that they would rely on reducing staff numbers or hours worked as their main strategy.²

So, why is cutting nominal wages so difficult? In this article, we use evidence from a firm survey conducted in a number of EU countries to investigate a range of different theories as to why firms appear reluctant to lower wages. The sample covers 14,975 firms in 14 European countries, representing around 47.3 million employees. Although the data collection predates the onset of the European crisis, the survey provides unique and valuable information on the extent and rationale for wage rigidity and enables us to evaluate the importance of different explanations for avoiding wage cuts.

An advantage that this study has over earlier work in this area is the use of cross-country data gathered as part of a harmonized survey designed specifically to examine wage-setting practices across firms. Other studies have typically been restricted to the analysis of single countries and, with few exceptions, to using relatively small samples that focused on very large firms. Given the large institutional heterogeneity of European labor markets, this unified survey for European countries allowed us to evaluate the association of different labor market institutions and policies with the rationales for avoiding wage cuts.

The list of possible reasons for avoiding wage cuts that the survey asked firms to assess was drawn from the extensive literature on wage setting and flexibility. In particular, the categorization used by Campbell and Kamlani (1997) was used as the main basis for the selection of questions put to the firms. These questions reflected a range of hypotheses that had been put forward in the literature concerning the influence of labor regulations and collective agreements, the existence of implicit contracts, efficiency wage explanations in terms of negative effects on worker morale or effort, whether firms have concerns about losing key staff or having difficulties in future recruitment if wages were cut, whether the costs of future recruitment and training would be higher, and whether firms felt employees would be concerned with how their wages compared to those of similar workers in other firms.³

¹See for example, Kahn (1997), Altonji and Devereux (2000), and Lebow and Saks (2003) for evidence on the United States, and Dickens et al. (2007, 2008) and Babecký et al. (2010) for Europe.

²Of the firms surveyed, 17.5% said they would reduce the number of temporary employees, 11% would reduce the number of permanent employees, and 7% would reduce hours. Regarding wages, 9.4% said they would reduce some flexible components of wages, such as bonuses. The use of changes in these flexible components of wages was also analyzed by Babecký et al. (2012).

³We analyzed the factors that might inhibit firms from cutting the wages of their existing employees. The ability of the firm to adjust its labor costs by changing the wages of newly hired workers is therefore beyond the scope of this study. Galuščák et al. (2012), using the same data set that we use in this study, provided an extensive analysis of the factors that determine the wages of newly hired employees as opposed to incumbents. They found that “fairness” considerations make firms reluctant to pay new workers on a basis that is different from the current staff.

In line with previous research, we found that very few firms (in total approximately 2%) reported having cut nominal base wages within a five-year period, although differences appeared from country to country in how common wage cuts were, particularly between countries that were among the original members of the European Union (EU-15) and the newer member-states of Central and Eastern Europe (CEE). The most relevant reasons given for avoiding base wage cuts were concerns about worker morale and the danger that the most productive workers would leave. In contrast to previous findings from the United States, a third prominent reason preventing wage cuts was institutional restrictions; this reason also showed the greatest variation across countries, and this can be linked to the institutional factors specific to each country, such as the prevalence and type of collective bargaining.

In relation to firm characteristics, we found that firms employing a higher proportion of blue-collar and low-skilled white-collar workers ranked labor regulations as an important inhibitor of wage cuts. Firms with a high percentage of temporary employees, and hence being more prone to labor turnover, appeared more concerned about the consequences that wage cuts might bring in their hiring and firing policies. Hence, they reported concerns about their reputation as an employer, that the best employees might leave, and possible difficulty hiring new workers as important reasons for avoiding wage cuts. Larger firms were less likely to assign a high relevance to the existence of implicit contracts as a rationale for avoiding wage cuts. Some of the highest-ranked reasons for avoiding wage cuts, such as fear of workers' reducing their effort or a possible negative impact on workers' morale, appear to apply across the board with little variation across firms of different sizes or employing workers with different characteristics. In this article, we offer a discussion of these findings and their relationship to prominent theories of how labor markets function.

The remainder of the article is organized as follows. We first discuss the different possible explanations for why firms might be reluctant to cut nominal wages and briefly review the results of existing studies. Next we describe the data and present summary statistics on the frequency of wage cuts and the ranking of the different explanations. Finally, we focus on the correlates of the various reasons preventing wage cuts.

Reasons for Avoiding Wage Cuts: Literature Overview

The lack of downward flexibility of wages has generated a wide range of explanations in the literature on labor economics. Among the most prominent of these explanations are efficiency wage models based on the assumption that the effort of workers may be stimulated by paying high or at least "fair" wages (see Akerlof 1982; Akerlof and Yellen 1990). Related to this, the turnover model assumes that persistently high wages might actually increase firm profitability by reducing the quit rate and, hence, lowering expenditures on hiring and training (Stiglitz 1974; Hashimoto and Yu 1980). Higher wages may also raise the quality of the firm's applicant pool, reducing

adverse selection issues (Weiss 1980). Other theories, such as insider–outsider bargaining models, assume that bargaining also generates real wage rigidity, especially among core workers (Lindbeck and Snower 1988).

Individual worker characteristics, such as age, tenure, education, job type or wage level, on-the-job experience and replacement costs, and the value of their outside options, and firm characteristics, such as monitoring costs and fluctuations in product demand, are likely to be associated with different degrees of downward wage rigidity. Unfortunately, data limitations make these aspects difficult to explore in a systematic way. Using a limited sample of countries, Du Caju, Fuss, and Wintr (2012a, 2012b) and Messina et al. (2010) exploited differences in workforce composition to assess the consistency of the observed patterns with labor market theories of downward wage rigidity indirectly, using administrative data. They found support for efficiency wage theories and for a clear impact of wage-bargaining institutions in shaping different forms of downward wage rigidity.

Following Agell and Lundborg (1995, 2003), Campbell and Kamlani (1997), Franz and Pfeiffer (2006), and Rõõm and Uusküla (2009), we have taken a different route to assess the relevance of various theories of wage rigidity; we asked firms directly why they would not cut wages. The questions our survey posed to the firms were based to a large extent on the classification of the potential reasons by Campbell and Kamlani (1997). In addition, we collected information on the workforce and other firm characteristics, which allowed us to examine whether these affect the importance attached to each reason by survey respondents.

Next, we discuss the options that firms were asked to evaluate and explain the motivation behind each of the potential reasons proposed in the context of existing theories of downward wage rigidity. Firm managers were asked to assess the relevance of the following eight reasons for preventing base wage cuts:

1. Labor regulations or collective agreements prevent wages from being cut.
2. Cutting nominal wages would reduce employees' effort or have a negative impact on employees' morale, resulting in lower output or poorer service.⁴
3. Cutting nominal wages would damage the firm's reputation as an employer, making hiring workers in the future more difficult.
4. Following a nominal wage cut, the most productive employees might leave the firm.
5. Cutting nominal wages would increase the number of employees leaving, raising the cost of hiring and training new workers.
6. Cutting nominal wages would create difficulties in attracting new workers.

⁴The importance of reduced effort and reduced morale were asked as separate options in the questionnaire. Because they are conceptually very similar, we grouped these two options into one in the analysis.

7. Workers dislike unpredictable reductions in income. Therefore, workers and firms reach an implicit understanding that wages will neither fall in recessions nor rise in expansions. Hence, in bad times nominal wages are not cut.
8. Workers compare their wages to those of similarly qualified workers in other firms in the same market. Cutting wages would break that comparison and would be disruptive.

Regulations or Explicit Contracts (Reason 1)

The first potential source of downward wage rigidity is the existence of explicit contracts, stemming either from individual negotiations with the workers themselves through multiyear contracts or from collective bargaining agreements. From various theoretical models, we can infer that the bargaining power of labor unions will be positively related with the tendency to avoid wage cuts (e.g., Shishter 1943; Dunlop 1944; Oswald 1986). More explicitly, Holden (1994) showed that unions and collective agreements provide protection against individual wage cuts within a theoretical framework that allows for individual and collective bargaining. We complemented the information obtained by asking managers further questions on the extent of union coverage and the types of collective bargaining engaged in by the firm (e.g., if these were firm-, sectoral-, or national-level arrangements) to determine directly the importance of labor regulations and collective agreements in preventing wage cuts.

Efficiency Wage Theories (Reasons 2 to 6)

The second, and probably most detailed, set of explanations for downward wage rigidity can be found in the efficiency wage literature, which motivated several of the survey questions. These models are based on the assumption that wages directly affect worker productivity, with the implication that reducing the wage will have a negative impact on employees' effort and morale, resulting in lower output for the firm. Further explanations in the efficiency wage literature relate to how the firm's actions in cutting wages could impact on its staff composition and worker turnover. A reduction in wages could give existing staff an incentive to leave the firm, and the quitters are likely to be the most productive workers, who would have the best outside options (the adverse selection model; Weiss 1980, 1990). This implies that the firm will have to spend more on training future hires. The adverse selection model may also apply to hiring. Employers who often cut the wages of their workforce may acquire a bad reputation, reducing the quality of future applicants.

In the shirking model of Shapiro and Stiglitz (1984), firms monitor workers randomly, firing those who perform below a certain standard. Paying a higher wage makes the threat more effective and therefore raises productivity while also generating unemployment. Note that this theory does not

necessarily imply downward wage rigidity. Higher unemployment increases the cost of dismissal for workers and, thus, would make reducing wages during recessions possible. Nevertheless, the room for these wage cuts may be small, especially among the most productive workers, whose outside options are likely to be less affected by rising unemployment.

Of direct relevance for downward wage rigidity is the morale theory proposed by Solow (1979) and further elaborated by Akerlof (1982) and Akerlof and Yellen (1990). Higher pay rates are perceived to be fair and to have a positive effect on productivity through their impact on workers' morale. In these models, morale can depend on wage changes as well as on the wage level. In the former case, the theories imply downward wage rigidity at any level of pay and are of direct relevance to our study.

The importance of the different versions of the efficiency wage theory in explaining wage rigidity has been analyzed using surveys based on interviews with company managers. The shirking model of Shapiro and Stiglitz (1984) found little support in the United States and Sweden (Campbell and Kamlani 1997; Agell and Lundborg 1999). Most existing surveys attributed a prominent role instead to the negative effects of wage cuts on morale and labor productivity (Bewley 1995, 1999, 2004; Campbell and Kamlani 1997; Agell and Lundborg 2003).

Some surveys also indicated that, if a given firm needed to reduce its labor costs, company managers preferred laying some people off to lowering the wage level. Bewley (1998, 1999) argued that this is because layoffs can be carried out selectively, whereas when all workers' wages are cut the consequences for morale are negative. Workers care about a fair treatment, and in some instances, they were ready to accept pay cuts if this avoided a large number of layoffs. But the cost-savings associated with small wage cuts may not be large enough to prevent firms in distress from laying off some workers, and firms therefore tended to avoid cutting pay at all (Bewley 2004).

Another strand of this literature focuses on the impact on employment turnover when a firm reduces wages. Better workers will be the most likely to leave the firm as a reaction to wage cuts, and the studies by Bewley (1999) and Campbell and Kamlani (1997) found strong support for this adverse selection hypothesis as a reason for avoiding wage cuts. According to Campbell and Kamlani (1997), the best workers are valuable because pay in general does not increase in proportion to workers' productivity and the adverse selection hypothesis as applied to quits becomes all the more relevant when workers have accumulated substantial firm-specific human capital. Notably, surveys based on U.S. managers found little support for the adverse selection hypothesis as applied to hiring (Bewley 2004).

Analysis based on behavioral experiments also confirmed the importance of fairness considerations in wage-related decisions. Lab and field experiments showed that higher wages lead to an increase in effort. Interestingly, the response to a wage cut, which is considered an unfair act, was shown to be stronger than the response to a wage increase of the same size that is seen as a fair act (Fehr, Goette, and Zehnder 2008). The analysis also showed

that the impact of fairness considerations on performance is higher in long-term employment relationships.

Insider–Outsider Theory (Reasons 5 and 6)

The effect of wage cuts on employee turnover and composition (as indicated in the efficiency wage discussion) is framed in a different way in the insider–outsider theory. In this theory, laying off part of the existing workforce to hire others at a lower wage is not in the firm’s interest. This is partly attributable to the associated costs of recruitment and training, as in the efficiency wage theory; however, it adds a further dimension by suggesting that in this scenario the retained original workers will withhold their cooperation from the new recruits and hold up the production process (Lindbeck and Snower 1988).

Insurance and Implicit Contracts (Reason 7)

Another source of rigidity arises from the possible existence of implicit contracts between the firm and workers. The implicit contracts framework assumes that workers are more risk averse than firms and that the two groups will therefore negotiate a type of insurance arrangement whereby the workers’ real wages will be kept relatively stable even if the firm faces ups and downs in its performance (Azariadis 1975). The firm gains if this stable wage can be kept below what the average wage would be over the business cycle, and the workers benefit by not having to deal with unpredictable changes in income.

External Relative Wages (Reason 8)

The final explanation for wage rigidity is that employees are concerned about how their wage compares to that of similar workers in other firms in the same market and that their effort levels are based on a comparison with what they believe to be a “fair” wage for their job level. Keynes (1936) suggested that firms care about paying their workers a wage that is in line with what other workers performing similar jobs in competing firms are paid. If the relativity with the external pay comparator is breached, the workers will feel unfairly treated, with negative consequences on morale and the workers’ attachment to the firms’ objectives. Thus, firms facing negative idiosyncratic shocks may be reluctant to cut nominal wages in an attempt to maintain constant relative wages to the same jobs in other firms.

Whether employers take the external wage level into account depends to a large extent on the availability of information about the wages of similar jobs in that sector or region. In the United States, external wages appear to be of little relevance for downward nominal wage rigidity, perhaps because unionization is low and information about external pay is scarce (Bewley 2004). In contrast, Agell and Lundborg (2003) found substantial support to the external pay-grade hypothesis in highly unionized Sweden.

Survey Design and Data Description

Survey Overview

The analysis in the current article is based on a survey of firms that was conducted between the second half of 2007 and the first quarter of 2008 in 16 EU countries; in 14 of these countries, the survey included the questions analyzed here on the reasons for avoiding wage cuts. These 14 countries are Austria, Belgium, the Czech Republic, Estonia, France, Hungary, Ireland, Italy, the Netherlands, Lithuania, Poland, Portugal, Slovenia, and Spain.⁵ The survey was carried out by the national central bank of each country, and all countries based the survey on a harmonized questionnaire, which was developed in the context of the Eurosystem Wage Dynamics Network, a research network analyzing wage and labor cost dynamics. The harmonized questionnaire contained a core set of questions on the firms' wage-setting strategies, which was asked in all the countries and thus gives us a detailed and comparable picture of these issues across all countries. The harmonized questionnaire was further adapted by some countries to account for specific country characteristics and differences in the institutional frameworks. As a result, some countries opted for shorter versions of this questionnaire, whereas others extended it in several dimensions.

The sampling frame in each country was based on firms with at least five employees. The sectors covered were manufacturing, energy, construction, market services, nonmarket services, trade, and financial intermediation.⁶ The sample covers 14,975 firms, representing around 47.3 million employees.⁷ To make the results representative of the total population, the cross-country statistics presented in the following sections used employment-adjusted weights. For each firm or observation, these weights indicate the number of employees each observation represents in the population.⁸ The weights were calculated as employment in the population divided by the number of firms (in each stratum) in the final sample.⁹ A detailed description of the distribution of the sample by country, sector, and size, along with a description of the construction of employment-based weights, can be found in the online appendix to Babecký et al. (2012).

⁵The survey was conducted either by traditional mail, phone, and face-to-face interviews or over the Internet. The survey was addressed to the company's chief executive officer (CEO) or senior-level human resources manager(s). The survey was also conducted in Germany and Greece but with different questions on wage cuts, and so they are not included in this article.

⁶Some differences in the sectoral coverage of individual countries did exist, however; see the online appendix to Babecký et al. (2012) for full details.

⁷The response rate varied across countries, ranging from 12% in Lithuania to 73% in Poland (for more details see Babecký et al. 2009: App. 1). On average, the response rates were comparable to those of similar surveys, such as Campbell and Kamlani (1997), Agell and Lundborg (2003), and Franz and Pfeiffer (2006).

⁸The employment-adjusted weights account for the unequal probabilities of firms receiving and responding to the questionnaire across strata and also for the average firm size (measured as the number of employees) in the population in each stratum.

⁹For most of the cases, the stratification was based on sector and firm size; some countries also used region as an additional stratum.

Institutional Background of Participating Countries

As discussed in detail in Du Caju, Gautier, Momferatou, and Ward-Warmedinger (2009), the EU-15 member-states in our sample belong to a group of countries with relatively strictly regulated systems of wage bargaining, characterized by the existence of extension procedures, a high level of collective agreement coverage, and a dominance of sectoral (and, to a lesser extent, firm-level) collective agreements. In contrast, in most of the CEE countries the importance of unions in wage-bargaining systems is quite limited. The CEE group includes countries that tend to have very low trade union densities, low levels of collective agreement coverage, and decentralized wage-bargaining frameworks.¹⁰ Because differences in the organization of labor market institutions may affect wage-setting practices, we differentiate between the EU-15 and CEE countries throughout the article.

The survey included three questions related to the collective bargaining of wages. Managers were asked whether a collective wage agreement applied to their firm, and if they answered yes, they were further asked whether it was a firm-level agreement or a binding agreement that had been negotiated at a level outside the firm, such as the national or sectoral level. In addition, the survey obtained data on the proportion of workers in the firm covered by any kind of collective wage agreement, internal or external. The information is summarized in Table 1. Our findings are qualitatively consistent with those of Du Caju et al. (2009) and point to the sharp difference between the EU-15 and CEE countries in collective bargaining coverage and the pervasiveness of sectoral agreements over firm agreements (see Table 1; *ibid.*: Fig. 3). In Austria, Belgium, Spain, France, and Italy, the coverage of collective agreements is almost universal within the sectors included in the survey. The same is true of Slovenia, making it somewhat of an outlier in the CEE group.

Differences across countries in the share of firms covered by firm-level or higher-level agreements are substantial. A non-negligible number of firms negotiate wages with local unions at the firm level in all countries, affecting a share of the workforce that ranges from 59% in France to 10% in Estonia and Portugal. In France, however, all firms are subject to collective agreements signed at the sectoral or national level, regardless of whether a firm-level agreement exists. In most of the CEE countries, in contrast, firms that sign firm-level agreements with unions are usually not subject to national or sectoral negotiations. Different elements of wage determination and employment relationships may be covered in the context of firm-level agreements in different countries. The richness of our survey allowed us to examine these institutional differences in detail and to assess their influence on the rationale for not cutting wages.

¹⁰The EU-15 countries surveyed are Austria, Belgium, Spain, France, Ireland, Italy, the Netherlands, and Portugal. The CEE countries are the Czech Republic, Estonia, Hungary, Lithuania, Slovenia, and Poland.

Table 1. Collective Bargaining across Countries

Country	Covered employees (%)	Firms subject to union agreements (any level, %)	Firms having firm-level agreements (%)	Firms subject to higher-level agreements (%)
Austria	95	98	23	96
Belgium	89	99	35	98
Czech Republic	50	54	51	18
Estonia	9	12	10	3
Spain	97	100	17	83
France	67	100	59	99
Hungary	18	19	19	0
Ireland	42	72	31	68
Italy	97	100	43	100
Lithuania	16	24	24	1
Netherlands	68	76	30	45
Poland	19	23	21	5
Portugal	56	62	10	59
Slovenia	N/A	100	26	74
All countries	67	76	33	65
EU-15 countries	84	94	36	88
CEE countries	24	31	26	9

Notes: Responses are weighted, using employment in each cell as weights. CEE, Central and Eastern Europe; N/A, not available.

Incidence of Wage Cuts

Before moving on to examine the reasons for avoiding wage cuts, we must establish that they are indeed rare among the firms being examined. The survey provides quantitative information on the proportion of firms that have cut wages and also on the proportion of workers affected by wage cuts in these firms. Specifically, firms were asked if they had ever cut base wages during the past five years.¹¹ If they responded “yes” to this question, they were further asked what percentage of their workforce this cut had been applied to. Firms were instructed to answer the wage-setting questions with reference to their main occupational group, which had been defined earlier in the survey. As Table 2 verifies, wage cuts were extremely rare. Around 2.4% of the firms had cut wages during the five years that preceded the survey, and this strategy affected only 0.8% of the workers in the entire sample and 34.8% of the workers in the firms that had cut wages. Thus, firms very seldom cut wages in normal times, and when they engaged in wage cutting, they did so selectively.

The rarity of wage cuts has been much commented on across a range of individual-country studies. For example, Agell and Lundborg (2003) and Agell and Benmarker (2007) reported that, even during the relatively

¹¹In this question, firms were asked about a cut in base wages only. Other questions in the survey inquired about other margins of adjustment of their wage bill (e.g., a reduction in bonuses or hours worked). See Babecký et al. (2012) for a discussion of these other adjustment margins.

Table 2. Incidence of Wage Cuts across Countries

<i>Country</i>	<i>Firms having cut wages (%)</i>	<i>Employees affected in the sample (%)</i>	<i>Employees affected in firms that had cut wages (%)</i>
Austria	2.99	0.36	12.2
Belgium	3.10	0.23	7.4
Czech Republic	8.37	1.55	18.6
Estonia	3.05	0.21	6.9
Spain	0.06	0.01	20.4
France	2.46	1.10	44.8
Hungary	2.64	0.27	10.3
Ireland	1.00	0.37	37.1
Italy	0.71	0.15	21.9
Lithuania	8.33	0.93	11.1
Netherlands	1.43	0.19	13.2
Poland	4.38	2.83	64.6
Portugal	1.01	0.16	16.2
Slovenia	2.45	1.19	48.6
All countries	2.37	0.83	34.8
EU-15 countries	1.29	0.32	24.8
CEE countries	4.98	2.05	41.1

Notes: Responses are weighted, using employment in each cell as weights. CEE, Central and Eastern Europe.

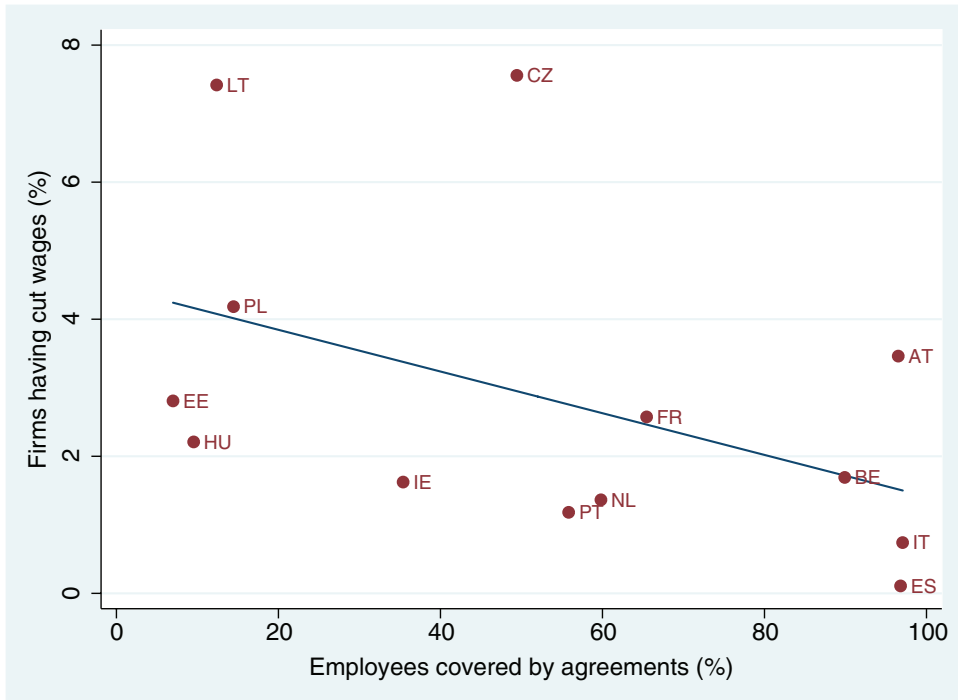
severe Swedish recession of the 1990s, Swedish firms did not extensively cut wages. For the United States, Bewley (1998) noted that the resistance to pay cuts came primarily from employers and was driven mainly by the anticipation of negative employee reactions.

Despite the low number of wage cuts, some differences are apparent between the EU-15 and CEE countries. The percentage of firms that have cut wages was close to four times higher in CEE countries than in the EU-15 countries, and the percentage of employees affected was also quite considerably higher. The more flexible labor market institutions in CEE countries may lie behind the stronger tendency to cut wages in these countries. Indeed, our data show a negative correlation between wage cuts across countries and the percentage of workers covered by collective agreements (see also Figure 1). This is in line with results on the frequency of wage cuts in industry data across countries reported by Holden and Wulfsberg (2009).

Reasons for Avoiding Wage Cuts

Having established the rarity of wage cuts in our data, we now move on to evaluate the main reasons put forward by managers for this downward nominal wage rigidity. Firm managers were asked to assess the relevance of the eight possible reasons for avoiding wage cuts using a four-point scale: “not relevant,” “of little relevance,” “relevant,” and “very relevant.” Table 3 presents the percentages of firms in each country that ranked each reason as “very relevant” or “relevant,” and Table 4 shows the overall ranking of the eight reasons.

Figure 1. Wage Cuts and Coverage of Union Wage Agreements



Notes: AT, Austria; BE, Belgium; CZ, Czech Republic; EE, Estonia; ES, Spain; FR, France; HU, Hungary; IE, Ireland; IT, Italy; LT, Lithuania; NL, Netherlands; PL, Poland; PT, Portugal.

Looking first at the averages across all countries, we find that the two reasons for avoiding base wage cuts considered most important are the belief that wage cuts would result in a reduction in workers' morale or effort and the risk that cuts would cause the most productive workers to leave. Both reasons were reported as "relevant" or "very relevant" by 86% of firms. The impact of wage cuts on employees' morale was an explanation often found in the earlier literature (e.g., Kaufman 1984; Campbell and Kamlani 1997; Bewley 1998; Franz and Pfeiffer 2006). The danger of the best employees' leaving the firm has been subject to less scrutiny, although Campbell and Kamlani (1997) found strong support for the adverse selection model as applied to quits in their U.S. survey.

A third prominent reason preventing nominal wage cuts in Europe was institutional restrictions, imposed either in the form of labor regulations or collective agreements. Institutional restrictions were considered important by 74% of firms. Unions and collective bargaining have generally been found to be of relatively little importance in U.S. studies of wage cuts, if they were examined at all. Campbell and Kamlani (1997) found the average effect of union coverage on preventing wage reductions to be of "minor" importance. In contrast, the analysis of German firms by Franz and Pfeiffer (2006) suggested that unions had a considerably larger influence in

Table 3. The Relevance of Reasons for Avoiding Base Wage Cuts across Countries

Country	Regulations/ agreements	Reduced effort/ morale	Reputation	Best staff leave	Hiring/training costs	Hiring difficulty	Implicit contracts	Employees compare wages
Austria	0.80	0.93	0.66	0.86	0.78	0.50	0.47	0.73
Belgium	0.89	0.92	0.58	0.84	0.69	0.75	0.84	0.72
Czech Republic	0.58	0.91	0.71	0.97	0.89	0.84	0.49	0.79
Estonia	0.62	0.97	0.89	0.98	0.96	0.92	0.67	0.90
Spain	0.93	0.75	0.46	0.73	0.57	0.62	0.76	0.53
France	0.82	0.95	0.53	0.82	0.43	0.72	0.26	0.53
Hungary	0.44	0.85	0.56	0.72	0.48	0.46	0.81	0.75
Ireland	0.39	0.87	0.69	0.83	0.59	0.72	0.77	0.78
Italy	0.91	0.88	0.60	0.92	0.88	0.73	0.35	0.79
Lithuania	0.51	0.91	0.73	0.98	0.95	0.87	0.70	0.90
Netherlands	0.68	0.80	0.66	0.79	0.64	0.81	0.80	0.71
Poland	0.36	0.76	0.62	0.91	0.69	0.79	0.74	0.54
Portugal	0.82	0.91	0.61	0.88	0.59	0.60	0.88	0.69
Slovenia	0.75	0.93	0.79	0.92	0.76	0.81	0.80	0.81
All countries	0.74	0.86	0.60	0.86	0.70	0.72	0.59	0.67
EU-15 countries	0.85	0.87	0.58	0.84	0.69	0.70	0.54	0.68
CEE countries	0.45	0.82	0.65	0.90	0.73	0.76	0.71	0.66

Notes: Proportion of firms that replied "relevant" or "very relevant." Responses are weighted, using employment in each cell as weights. CEE, Central and Eastern Europe.

Table 4. Reasons for Avoiding Base Wage Cuts—Ranking of Responses

	<i>All countries</i>		<i>EU-15</i>		<i>CEE</i>	
	<i>Share</i>	<i>Rank</i>	<i>Share</i>	<i>Rank</i>	<i>Share</i>	<i>Rank</i>
Most productive workers leave	0.86	1	0.84	3	0.90	1
Lower worker morale/less effort	0.86	2	0.87	1	0.82	2
Labor regulations/collective bargaining	0.74	3	0.85	2	0.45	8
Difficulty attracting new workers	0.72	4	0.70	4	0.76	3
Labor turnover costs increase	0.70	5	0.69	5	0.73	4
External wages matter	0.67	6	0.68	6	0.66	6
Reputation suffers	0.60	7	0.58	7	0.65	7
Implicit contract	0.59	8	0.54	8	0.71	5

Notes: Share of firms that replied “very relevant” or “relevant” and the corresponding rank. CEE, Central and Eastern Europe.

preventing wage cuts, indicating that this reason for not cutting wages was potentially significant in explaining cross-country variation.

At the opposite end of the scale, concerns that the firm’s reputation as an employer could be harmed if wage cuts were applied, and that this could translate into more difficulties in hiring good workers in the future, was one of the least commonly mentioned rationales (60% of firms). This is consistent with evidence for the United States discussed in Bewley (2004). The implicit contracts model proposed by Azariadis (1975) similarly received little support in our survey.

The remaining three reasons—future difficulty in recruitment, increased costs associated with employee turnover, and employees making negative comparisons of their wages with outside wages—were all rated as “relevant” by between 67% and 72% of firms. In this survey, employees’ making comparisons of their wages with those paid for similar jobs by other firms was rated highly, in contrast to previous results for the United States (Bewley 2004) but consistent with previous evidence for Sweden (Agell and Lundborg 2003). This is perhaps attributable to the widespread presence of unions in the majority of countries in our survey, a point to which we return later.

The most relevant reasons were supported by the vast majority of managers in all countries. As such, in no country in the survey were the reasons relating to morale and loss of productive staff supported by interviewees representing less than 70% of the labor force. Nevertheless, some dispersion was evident for a few of the reasons examined. For example, the impact on firm reputation, difficulty in future hiring, and the existence of implicit contracts appear to be slightly more relevant for firms in CEE than in EU-15 countries. The higher relevance of the first two reasons for CEE firms may be related to the higher proportion of temporary contracts and the higher levels of worker turnover. Temporary contracts account for 16% of employment in CEE countries, compared to 9% in EU-15 countries, and employee turnover is 5 pp higher in CEE countries (see the next section for more on this measure).

This hypothesis is supported by the within-country analysis, which found stronger support for those two reasons among firms that had a higher share of temporary workers and those displaying a larger worker turnover rate.

The greatest cross-country variation was found in the importance attached to labor regulations and collective bargaining, which ranged from 36% of firms in Poland to 93% of firms in Spain. Labor regulation was the reason ranked lowest by firms in CEE countries but was ranked second by firms in EU-15 countries (see Table 4). The percentage of firms suggesting that regulation was behind the absence of wage cuts in the EU-15 countries was almost twice the percentage in the CEE countries (85% and 45%, respectively). This is likely to be related to the substantial differences in the institutional structures of the wage-setting process across the EU member-states. As was indicated in the subsection on the Institutional Background of Participating Countries, the percentage of workers covered by collective agreements tends to be much higher in EU-15 than in CEE countries. The difference stems mostly from the reach of collective agreements negotiated outside the firm at the sectoral or regional level (see Table 1). (See the next section for a more detailed examination of the effects of the type and intensity of collective bargaining agreements on firms' perceptions of this reason.)

A tabulation of the importance of each of these factors across sectors shows that workers' effort and firm reputation are again consistently among the major inhibitors of wage reductions (see Table 5). Regulations and collective agreements vary less in their relevance across sectors than they do across countries, although construction stands out as having a particularly low percentage of firms classifying this reason as relevant, perhaps indicating the importance of informal labor relations in this sector and the high share of workers with temporary contracts. Interestingly, the trade sector (covering wholesale and retail trade) and market services (covering administrative and professional services as well as personal services) do not seem to value the various reasons differently. We may have expected that, in the sectors in which jobs are more routine (e.g., sales clerk) and temporary workers are more common, firms would not assign a high relevance to the possibility that their best employees might leave; but we find little variation.¹² Overall concerns about losing the best staff are particularly marked in firms in the financial sector and least relevant in nonmarket services.¹³

Firm size is associated with a higher probability of a firm reporting many of the reasons as "relevant" or "very relevant" (Table 5). In particular, larger

¹²Note, however, that we did not ask firms to assess directly the relevance of the various reasons for employees belonging to different occupational groups. We cannot therefore provide an in-depth analysis of the issue here. In our empirical analysis, however, we will try to infer how firms with different types of workers assess the relevance of the various reasons.

¹³The nonmarket services sector in the current survey includes firms belonging to the Statistical Classification of Economic Activities in the European Community (NACE) categories N, P, and R: administrative and support services; education; and arts, entertainment, and recreation activities. Note, however, that nonmarket services are included in the surveys of only three countries (Ireland, Portugal, and France). This explains the observed differences with respect to the other sectors. When we control for country fixed effects in a multivariate framework, the observed differences become not statistically significant.

Table 5. Reasons for Avoiding Wage Cuts by Sector, Firm Size, Bargaining Coverage, and Bargaining Level

Sector	Regulations / agreements	Reduced effort / morale	Reputation	Best staff leave	Hiring / training costs	Hiring difficulty	Implicit contracts	Employees compare wages
Manufacturing	0.75	0.87	0.61	0.86	0.70	0.73	0.59	0.65
Energy	0.83	0.89	0.54	0.81	0.58	0.68	0.77	0.50
Construction	0.55	0.86	0.67	0.90	0.73	0.76	0.71	0.72
Trade	0.72	0.83	0.57	0.85	0.70	0.66	0.61	0.67
Market services	0.76	0.86	0.60	0.86	0.69	0.73	0.55	0.70
Financial	0.66	0.85	0.66	0.91	0.77	0.82	0.63	0.73
Nonmarket services	0.82	0.88	0.44	0.59	0.40	0.64	0.56	0.44
Firm size								
5–19	0.55	0.83	0.52	0.82	0.63	0.64	0.70	0.62
20–49	0.73	0.87	0.57	0.88	0.75	0.69	0.58	0.71
50–199	0.71	0.86	0.61	0.87	0.71	0.71	0.65	0.68
200+	0.83	0.86	0.64	0.85	0.69	0.77	0.52	0.67
Bargaining coverage								
Low (< 25%)	0.41	0.84	0.61	0.88	0.67	0.75	0.67	0.64
Medium-low (25–49%)	0.75	0.65	0.65	0.86	0.81	0.71	0.55	0.72
Medium-high (50–75%)	0.87	0.85	0.55	0.84	0.73	0.69	0.59	0.68
High (> 75%)	0.88	0.86	0.59	0.85	0.71	0.70	0.54	0.68
Bargaining level								
Firm bargaining only	0.78	0.79	0.65	0.83	0.68	0.77	0.71	0.64
Outside bargaining only	0.87	0.87	0.58	0.84	0.71	0.68	0.60	0.68
Firm and outside agreements	0.87	0.89	0.57	0.86	0.68	0.74	0.35	0.68
No agreement	0.33	0.83	0.64	0.90	0.71	0.75	0.74	0.67

Notes: Proportion of firms that replied “relevant” or “very relevant.” Responses are weighted using employment in each cell as weights. CEE, Central and Eastern Europe.

firms seem to assign more relevance to regulation, their reputation as an employer, hiring difficulty, and hiring and training costs. The sole exception is the perceived importance of implicit contracts. We return to these issues in the next section.

Unsurprisingly, Table 5 shows that firms with higher bargaining coverage attach high relevance to labor regulations and institutions as an obstacle to wage cuts. Interestingly, however, the bargaining level (internal, external, or both) does not seem to make a large difference in the relevance of labor regulations. This suggests that the aspect of bargaining that matters for the institutionally induced downward wage rigidity is union coverage and not the precise institutional structure of the bargaining system. The level at which bargaining takes place, however, seems to matter for the relevance of some of the other reasons for avoiding wage cuts. For instance, firms covered by agreements signed outside the firm tend to assign a slightly higher relevance to employees' effort and morale.

The survey also contains information for 10 of the participating countries on the principal method of payment for the main occupational group. Monthly base wages (65% of firms) and hourly base wages (26%) dominate. Piece-work rate is almost nonexistent in the EU-15 countries, with just 1% of firms using this as their dominant pay method; in contrast, it is quite common in the CEE countries, used by 13% of firms. We looked at whether the reasons for avoiding wage cuts differed by remuneration method. Firms using piece-work rate were significantly less likely to regard regulations or collective bargaining as an obstacle to reducing the wages of their workers. This appears to be driven mainly by the absence of collective agreements in workplaces where piece-work rate is the dominant form of remuneration; 63% of piece-work-rate firms had no collective agreement, compared to 32% of other firms. For the other seven reasons, the method of payment does not seem to make a difference.

Unfortunately, the information relating to the method of payment refers to the main occupational group (as defined by each firm using its own responses to the survey about the shares of low-skill blue-collar, high-skill blue-collar, low-skill white-collar, and high-skill white-collar workers). Thus, we cannot disentangle the reasons provided by managers across workers paid through different methods within firms. The reasons to avoid wage cuts may differ across occupational groups and remuneration methods in interesting manners. Our results should be read as the main reasons that a firm avoids wage cuts for the most common worker in that firm. In the next section, we relate the differences across firms' responses to differences in the composition of their labor force.

Firm Characteristics and Reasons for Avoiding Wage Cuts

We now look at how firm and worker characteristics are related to the relevance of each of the potential reasons for avoiding wage cuts. In contrast to our summary statistics, we now exploit the full information in the data using

a multivariate analysis. Because the dependent variable for each reason is measured on a four-point relevance scale, we estimate ordered probit models for each of the questions separately. All the specifications control for country and sector effects, which limits the impact of potential cross-country differences in the survey design.

Looking first at the effects of worker-skill composition, we find that the regression results presented in Table 6 indicate that firms employing a higher proportion of blue-collar and low-skilled white-collar workers rank labor regulations highly. Franz and Pfeiffer (2006) also reported that this reason appeared to be more important for less skilled workers in Germany. This is probably because these workers are more likely to be covered by collective agreements than are high-skilled white-collar workers. Of importance, such differences were not related to the sectoral composition of employment, a feature that is controlled for by the sector effects.

The greater the proportion of low-skilled blue-collar workers in a firm, the less likely is that the firm rated concerns about losing skilled employees or the potential costs of later recruitment highly. This suggests that reasons relating to turnover (costs of hiring and training new workers) received stronger support among firms that employed more high-skilled workers. In a similar vein, Campbell and Kamlani (1997) also reported that turnover-related reasons were important for white-collar workers.

The adverse selection model (Weiss 1980, 1990) suggests that firms employing a higher share of high-skilled workers will be more concerned about their employees leaving. Our results lend partial support to this hypothesis. Hiring difficulty is reported as having a significantly higher relevance among firms that employ a larger share of high-skilled workers, but the differences are particularly marked for firms that employ more high-skilled blue-collar workers. This is perhaps attributable to a higher degree of firm-specific skills in this group. Nevertheless, firms did not assign a higher relevance to training costs as a reason for avoiding wage cuts for this group (Table 6, column 5). Our results suggest that training costs are a more important reason for avoiding wage cuts for high-skilled workers in general, with no statistically significant distinction between blue- and white-collar workers.

After skill composition, the type of contract of the worker may be an important consideration in the willingness of a firm to reduce wages. European countries engaged in substantial labor market reform during the last two decades. More than 200 reforms of employment protection were passed during this period, with more than half of them increasing labor market flexibility (Fondazione Rodolfo DeBenedetti 2014). Many of these reforms were partial labor market reforms, following the terminology put forward by Blanchard and Landier (2002). In an attempt to gain flexibility at the margin, countries deregulated the use of temporary contracts, giving rise in some countries to the existence of the so-called dual labor markets. In secondary markets, in which temporary contracts dominate, labor turnover became substantial. In contrast, primary markets, in which long-term contracts are the norm, remained relatively insulated from labor market

Table 6. Reasons for Avoiding Wage Cuts: The Role of Worker Characteristics and Firm Size

	(1) Regulations / agreements	(2) Reduced effort / morale	(3) Reputation	(4) Best employees leave	(5) Hiring / training costs	(6) Hiring difficulty	(7) Implicit contract	(8) Employees compare wages
Reference: High-skilled white collar								
Low-skill blue collar (%)	0.440*** (0.000)	-0.065 (0.171)	0.004 (0.937)	-0.221*** (0.000)	-0.196*** (0.000)	-0.003 (0.954)	0.035 (0.467)	-0.014 (0.768)
High-skill blue collar (%)	0.186*** (0.001)	-0.044 (0.422)	0.140*** (0.007)	0.016 (0.778)	0.042 (0.432)	0.113** (0.033)	0.027 (0.622)	0.039 (0.480)
Low-skill white collar (%)	0.241*** (0.000)	-0.039 (0.563)	-0.016 (0.804)	-0.079 (0.250)	-0.122* (0.062)	-0.114* (0.081)	0.065 (0.334)	-0.095 (0.160)
Temporary (%)	0.083 (0.187)	0.018 (0.766)	0.149*** (0.009)	0.143*** (0.021)	0.074 (0.193)	0.125** (0.028)	0.107* (0.069)	0.147*** (0.013)
Reference: Size = 5-19 employees								
Size = 20-49	0.134*** (0.000)	0.011 (0.708)	0.148*** (0.000)	0.128*** (0.000)	0.085*** (0.003)	0.076*** (0.008)	-0.023 (0.435)	0.023 (0.430)
Size = 50-199	0.323*** (0.000)	-0.001 (0.977)	0.183*** (0.000)	0.126*** (0.000)	0.107*** (0.000)	0.146*** (0.000)	-0.050* (0.076)	0.039 (0.165)
Size = 200+	0.474*** (0.000)	-0.018 (0.573)	0.278*** (0.000)	0.105*** (0.001)	0.101*** (0.001)	0.230*** (0.000)	-0.105*** (0.001)	0.031 (0.304)
Number of observations	13,335	13,685	13,402	13,529	13,255	13,431	12,869	13,002

Notes: Ordered probit regressions. Robust *p* values appear in parentheses. Country and sector effects are not reported. ****p* < 0.01; ** *p* < 0.05; * *p* < 0.1.

fluctuations. Some workers succeeded in moving from secondary to primary markets, but this became rarer as unemployment increased.¹⁴

Differences across firms with different shares of temporary and open-ended contracts are consistent with a dual interpretation of European labor markets (Table 6). In particular, firms employing a larger share of their workforce under temporary contracts were more likely to avoid wage cuts because they might earn the firm a bad reputation as an employer, the best employees might leave, and hiring new workers might be difficult. All these factors imply that firms hiring temporary workers are conscious of the need to recruit staff regularly. Similarly, firms that employ a higher proportion of workers on fixed-term contracts also rank highly the fact that employees might compare their wages to those of workers doing similar jobs in other firms.

Larger firms assign more relevance to several of the possible reasons for avoiding wage cuts. In particular, the relevance increases monotonically with firm size for labor regulations, concerns about the firm's reputation as an employer, and potential difficulties in hiring new workers. The positive relationship between firm size and the relevance of labor regulations is consistent with larger firms' being more likely to be covered by collective bargaining agreements. A possible interpretation of the importance attached to reputational issues by managers of larger firms is that they are aware that their wage-setting practices receive more publicity and thus may be concerned about how wage cuts will affect their relationship with labor market participants and their ability to hire high-quality employees in the future (cf. Campbell and Kamlani 1997).

In contrast, larger firms do not assign a higher relevance to the possible negative effects of wage cuts on employees' effort. We could argue that bigger firms would worry more about the impact of wage cuts on effort because of higher monitoring difficulties. Indeed, Agell and Benmarker (2007) reported that managers in bigger firms in Sweden noted that they found difficulties in appraising work performance and were thus more likely to pay efficiency wages.

An exception to the pattern noted previously is that smaller firms assign higher relevance to avoiding wage cuts because of implicit contracts that provide wage insurance to workers. Managers and employees in smaller firms interact more closely and have personal relationships. This may provide a useful ground for the establishment of implicit contracts.

Another interesting relationship that our data allow us to investigate and that has not been identified in previous studies is between the intensity of product market competition and the various explanations for avoiding wage cuts. Firms were asked to report whether they face severe, strong, weak, or no competition. We added this measure of competition as an additional control variable to the set of variables included in the regression specification in Table 6.¹⁵ Table 7, panel A, shows a significant positive association

¹⁴See Bentolila et al. (2012) for a contrast of France and Spain during the Great Recession.

¹⁵This control variable was not included in the first set of regressions because its inclusion reduces the number of observations substantially. The question about the degree of competition was not included in the surveys of Austria, Belgium, Spain, and Italy.

between the intensity of perceived competition and the relevance of all the possible reasons to avoid wage cuts. In most cases, the association monotonically increases with the perceived intensity of competition. Firms facing weak or no competition are significantly less likely to report that the various reasons prevented them from reducing wages than were firms facing severe competition.

This relationship between competitive intensity and the importance attached to the different explanations for avoiding wage cuts could come from two opposing forces. Firms facing weak competition in their product market could also be operating in a labor market in which they have considerable bargaining power and therefore are able to reduce wages because their employees have limited protection or outside options. Alternatively, firms with little competition might be in such a strong product market position that they are under less pressure to reduce costs than firms in more competitive markets; therefore, the need to cut wages does not arise.¹⁶ To examine which of these explanations has the most support from the data, we ran a regression of the extent of wage cuts on the level of competition, with controls for country, sector, employee characteristics, and firm size. We found that firms in more competitive markets were more likely to have cut wages in the past than firms facing less competition (see the Appendix). The most likely interpretation of the patterns in Table 7 therefore appears to be that the firms in less competitive environments are under less pressure to cut wages and thus attach less weight to the potential barriers or concerns that such a course might entail. This interpretation is also consistent with the findings of Babecký et al. (2012), who showed that firms facing fiercer competition were more likely to adjust other elements of compensation, such as bonuses and benefits.

Not surprisingly, Table 7, panel B, shows a strong positive association between union coverage and the relevance of labor regulations as a reason for avoiding wage cuts. More interestingly, collective bargaining is positively associated with long-term relationships between workers and firms through implicit contracts that insulate wages from outside conditions. As noted by Hogan (2001), unions were likely to provide an efficient mechanism for enforcing implicit agreements between firms and workers when markets were incomplete. Our results suggest that managers of strongly unionized firms are more aware of, or perhaps more ready to honor, worker demands for insulating wages from shocks.

Finally, it is also worth noting the strong positive association between the coverage of union contracts and the importance of reputation as a reason for avoiding wage cuts. As we discussed earlier, unions may be an effective mechanism for transmitting information about the amenities of jobs in other firms. Thus, in highly unionized markets, firms are more careful about their reputation as employers and the possible consequences this may have for future hiring.

¹⁶We thank a referee for highlighting the different possible interpretations of these results.

Table 7. Reasons for Avoiding Wage Cuts: The Importance of Product Market Competition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Regulations/ agreement	Reduced effort/ morale	Reputation	Best employees leave	Hiring/training cost	Hiring difficulty	Implicit contract	Employees compare wages
Panel A. Competition								
<i>Reference category: Severe competition</i>								
Strong competition	-0.063** (0.017)	-0.051* (0.054)	-0.040 (0.110)	-0.042 (0.110)	-0.061** (0.016)	-0.055** (0.028)	-0.082*** (0.002)	-0.085*** (0.001)
Weak competition	-0.126*** (0.007)	-0.102** (0.029)	-0.118*** (0.009)	-0.149*** (0.001)	-0.148*** (0.001)	-0.139*** (0.002)	-0.091* (0.054)	-0.119** (0.012)
No competition	-0.041 (0.614)	-0.361*** (0.000)	-0.293*** (0.000)	-0.433*** (0.000)	-0.346*** (0.000)	-0.414*** (0.000)	-0.252*** (0.001)	-0.504*** (0.000)
Number of observations	8,720	9,018	8,834	8,907	8,677	8,821	8,524	8,597
Panel B. Union coverage								
Coverage (% of labor force)	0.675*** (0.000)	0.028 (0.389)	0.064** (0.035)	-0.070** (0.030)	-0.042 (0.178)	0.021 (0.492)	0.077** (0.019)	0.018 (0.562)
Number of observations	7,636	7,882	7,719	7,782	7,574	7,711	7,405	7,489
Panel C. Labor turnover^a								
Turnover (%)	0.167*** (0.000)	0.083* (0.073)	0.136*** (0.002)	0.197*** (0.000)	0.071 (0.103)	0.172*** (0.000)	0.060 (0.182)	0.144*** (0.001)
Number of observations	8,068	8,348	8,181	8,238	8,029	8,163	7,880	7,953

Notes: Ordered probit regressions. Each panel includes a different set of regressions. All specifications include country and sector effects, three size dummies, the share of workers with temporary contracts, and three indicators of skills: the share of low-skilled blue collars, the share of high-skilled blue collars and the share of low-skilled white collars.

^aLabor turnover is defined as the sum of the workers joining and leaving the firm during the reference year as a percentage of total employment. Robust *p* values in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In separate regressions (not shown), we examine the level of collective bargaining that applies to the firm. In particular, we differentiate among answers from managers in firms that are not subject to collective bargaining, those that negotiate directly with unions at the firm level, those that are subject to wage agreements negotiated outside the firm (at the sector or national level), and those that apply both firm-level and outside agreements. The results corroborate the findings using bargaining coverage. Perhaps as expected, we do not find substantial differences among firms that are subject to firm-level collective bargaining and those that are subject to collective bargaining at more aggregate levels. A notable exception to this pattern is that managers of firms covered by union contracts signed outside the firm gave a higher rank to reputation issues. In contrast, the responses of managers in firms that negotiated with unions at the firm level were not statistically different from the responses of managers in firms that negotiated with workers individually. This could be interpreted as providing further evidence of the role of unions in spreading information. In this interpretation, centralized forms of bargaining appear crucial in facilitating the spread of information about working conditions in different firms.

We also look at the relationship between the firms' worker turnover and the views of their managers about the reasons to avoid wage cuts. Firms were asked to report the percentage of employees joining and leaving the firm during the previous year. Using this information and the total number of employees reported by the firm, we calculate worker turnover as the sum of the workers joining and leaving the firm during the reference year as a percentage of total employment.¹⁷ The results for the effect of employee turnover on the reported answers are presented in Table 7, panel C. Firms that had higher turnover rates show more support for practically all the reasons for avoiding wage cuts. The estimated effects are of particular significance for fears about the best employees leaving the firm, reputational hazards, and the difficulty of hiring employees in the future. Hence, firms operating in more unstable environments appear to be more conscious of the negative consequences of cutting wages on maintaining a high-quality workforce.

Our results are based on data collected prior to the economic downturn experienced by European countries in recent years. Nevertheless, research using data from periods of recessions also showed that wages are very rarely cut (Agell and Lundborg 2003). Fabiani, Lamo, Messina, and Røöm (2015) used data from a survey that covered the recent downturn for a subsample of the firms surveyed here and showed that wage cuts remained rare. They found that broadly the same ranking of possible reasons for wage rigidity continued to hold, which suggests that the managers' views of the reasons for avoiding wage cuts are not strongly affected by the business cycle.

¹⁷For the entire sample, we find an average turnover rate of 33%. The variation across countries covers a range from 25% in the Netherlands to 42% in the Czech Republic, with an overall higher average worker turnover in the CEE countries (36%) than in the EU-15 countries (31%). The correlation between labor turnover across firms and the percentage of temporary workers is 0.27.

Conclusion

In light of the rarity of wage cuts, even in the face of quite severe economic shocks, we have examined managers' ranking of the relevance of eight possible reasons, put forward in the labor economics literature, for why wage cuts tend to be avoided. To do this, we use a large, specially commissioned survey of firms across 14 European countries that asked managers directly about their experiences with wage cuts.

Just a bit more than 2% of the firms surveyed had cut wages during the five years prior to the time of the survey. We document the relative importance of eight possible reasons for avoiding wage cuts: labor regulations and collective agreements, the existence of implicit contracts, efficiency wage considerations in terms of negative effects on workers' morale or effort, concerns about losing key staff or having difficulties in future recruitment, concerns that the costs of future recruitment and training would be higher, and concerns about employees' comparing their wages with those of similar workers in other firms.

Across all countries and sectors, the two most important causes for avoiding base wage cuts are the belief that this would result in a reduction in employees' morale or effort and the danger that the most productive workers would leave as a consequence. The greatest variation across survey respondents from different countries was in the importance attached to labor regulations and collective bargaining, which we found to be almost twice as high in the EU-15 countries as in the CEE countries. This difference can be attributed to the difference in coverage of collective bargaining agreements, which tends to be much higher in the EU-15 countries than in most of the CEE countries.

We find certain worker and firm characteristics to be strongly related to the relevance of different reasons for not cutting wages. For example, firms that employ higher proportions of blue-collar and low-skilled white-collar workers rank labor regulations highly but are less likely to consider important concerns about losing their best employees or the potential costs of later recruitment and training. Larger firms are more likely to be aware of the potential complications associated with reductions in nominal pay and to assign higher relevance to most of the possible reasons for avoiding wage cuts. Fears about lower worker effort and lower morale are systematically identified as highly relevant reasons for avoiding wage cuts across firms of any type.

The survey also shed new light on the role of unions on downward wage rigidities. Managers who were subject to collective bargaining are more likely to avoid wage cuts because they feared the cuts might harm the firm's reputation as an employer (and consequently complicate future recruitment) and because of implicit insurance contracts with the workers. These results suggest a role for unions in enforcing implicit employment agreements and in spreading information about job amenities in different firms among the labor force.

Appendix

Table A.1. Propensity to Cut Wages and the Incidence of Wage Cuts: Regressions, Including a Measure of Perceived Competition

<i>Dependent variable</i>	<i>Binary indicator of wage cuts, probit</i>	<i>Employees affected by wage cuts (%), OLS</i>
Level of competition		
Reference: Severe competition		
Strong competition	-0.171*** (0.005)	-0.343 (0.108)
Weak competition	-0.266** (0.021)	-0.723** (0.011)
No competition	-0.148 (0.387)	-0.646** (0.029)
Number of observations	9,206	9,206

Notes: Regressions also include country and sector effects, three size dummies, the share of workers with temporary contracts and three indicators of skills: share of low-skilled blue collars, share of high-skilled blue collars, and share of low-skilled white collars. Robust p values appear in parentheses. OLS, ordinary least squares.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

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