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# Two-Tier Bargaining

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# ABSTRACT

# Two-Tier Bargaining[1]

Two-tier bargaining structures, in which plant-level wage negotiations supplement industry-level wage setting, are present in a number of EU countries, as unions resist pressures for greater decentralization in wage determination. In principle, these two-tier structures could reconcile macroeconomic stability with a closer link between productivity and pay. Evidence from an ECB firm-level survey suggests, however, that two-tier regimes may end up getting the worst of either fully centralized and fully decentralized systems, as they do not allow incentive schemes to operate downwards, reduce the participation of firms to collective bargaining, and do not seem to improve either microeconomic and macroeconomic adjustment to shocks.

JEL Classification: J31, J33, J51

Keywords: wage drift, favourability principle, productivity-related pay

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## Introduction

The last two decades witnessed the development of two-tier bargaining structures in several countries, in which multi-employer wage agreements (at the national, industry or regional levels) coexist with plant or firm-level, single-employer, negotiations over a wide array of issues, including pay levels. Notwithstanding the heterogeneity in the evolution of collective bargaining institutions in the different countries, a driving force behind these developments was the reaction of unions to pressures, coming mainly from multinational and export-oriented firms, for a greater decentralization in wage setting. Resistance of unions to go to a fully decentralized system induced this sort of "controlled decentralization", in which the national unions retain substantial control over wage setting at the local level, by imposing wage floors according to the so-called "favourability" principle.

The creation of the European monetary union also played a role in the development of two-tier bargaining as it de facto decentralized even the most centralized bargaining structures, preventing commitments at the national level as to the targeted inflation rate. Although Social Pacts and other forms of income policy were important in the convergence to the Maastricht inflation criteria, they subsequently lost relevance in all EMU countries, with the partial exception of Ireland.

While much work has been done in analyzing the effects on wages, employment and earning differentials of centralized vs. decentralized bargaining structures, much less is known about the properties of these two-tier structures. This paper contributes to filling this gap. Its purpose is twofold. First, it aims at taking stock of developments in bargaining structures in Europe, notably on the scope, coverage and, above all, overlaps of the different bargaining levels, drawing on a cross-country survey coordinated by the European Central Bank. Second, it speculates as to the pros and cons of these two-tier structures with respect to either fully centralized or fully decentralized systems, acknowledging the heterogeneity of bargaining regimes of the different countries.

The structure of the paper is as follows. Section 1 reviews trends in collective bargaining, focusing on the driving forces behind the development of two-tier bargaining. Section 2 evaluates the microeconomic properties of the different bargaining structures, notably the allocation of tasks across different bargaining levels, on the basis of the ECB survey. Section 3 dwells on the macroeconomic properties of two-tier bargaining regimes. Finally, Section 4 concludes and suggests directions for further research.

## 1. The emergence of two-tier bargaining

Two-tier bargaining is a structure of collective bargaining in which multi-employer agreements determining minimum (and sometimes maximum) pay levels are supplemented by single-employer bargaining involving, inter alia, pay levels. Clearly multi-level bargaining does not necessarily mean two-tier bargaining. For instance, there can be structures in which the multi-employer level only defines a very broad framework for "lower-level" negotiations, as in the so-called Kurzarbeit systems. Such

structures are multi-level, but do not involve a two-tier wage setting mechanism. In countries like Belgium, Finland and Ireland, the intersectoral agreements may also include provisions for maximum wage increases as well as guidelines for companies that want to pay above the norm. However, typically higher (than plant-level) bargaining levels put constraints to decentralized wage setting only in terms of wage floors rather than ceilings to pay. Indeed two-tier structures take the higher level pay agreement as a floor and negotiate only "in meius", that is, allowing only for higher wages than those established at the multi-employer level.

In some exceptional circumstances of firms facing particularly severe difficulties, it is possible that single-employer bargaining agrees on wages lower than those established at the higher level, but these cases are limited and confined to "opening clauses" which often require approval of the higher level agreement. Such "opening", "hardship" or '"inability to pay" clauses established at the multi-employer level, enable individual companies, under certain conditions, to pay workers below the levels agreed at the national or sectoral levels. Reference is made in these clauses to exceptional circumstances that can be called into play only after a severe macroeconomic or idiosyncratic shock has hit the firm making some downsizing unavoidable. These provisions do not generally operate well before a firm is in severe distress. They also do not operate ex-ante, as they should in properly designed incentive schemes. When these clauses apply, the two-tier structure is clearly weaker and involves only a rather lose form of co-ordination across the different levels of bargaining. Hence, in the empirical analysis below we will concentrate only on firms where such "opening clauses" are not present.

The intersectoral agreements may also include provisions for maximum wage increases as well as guidelines for companies that want to pay above the norm. This is, for instance, the case of Belgium, Finland and Ireland, and countries where two-tier structures were created within Social Pacts enforcing income policies. But typically higher (than plant-level) bargaining levels put constraints to decentralized wage setting only in terms of wage floors rather than ceilings to pay.

As discussed above, the general structure of two-tier bargaining is one where it is the higher level of bargaining to dominate, enabling plant-level bargaining only to generate a "wage drift" with respect to the national levels. Sometimes the "favourability principle" extends beyond pay and encompasses all sorts of standards concluded at higher level (e.g., hours, annual leave, etc.), which can only be improved upon (for employees) but not worsened at the lower level.

A large number of countries adopted in the 1990s two-tier bargaining structures or extended the scope of the existing ones. Although the history and design of these structures differ considerably from country to country, a common factor behind these developments was the search for an "organized" or controlled decentralization of collective bargaining, in which the so-called social partners, rather than moving from fully centralized to fully decentralized structures, opted for operating somewhere in the middle of the river. The momentum for two-tier bargaining was strong up to the mid-1990s. For instance, in Denmark between 1989 to 1995 the proportion of firms carrying out two-tier bargaining (with industry-level agreements fixing minimum pay and plant-level negotiations doing "pay-sum bargaining" above these levels) more than doubled (Traxler et al., 2001; Andersen, 2003). Similar is the case of Belgium where such structures were present already in the 1970s, but rather limited in scope.

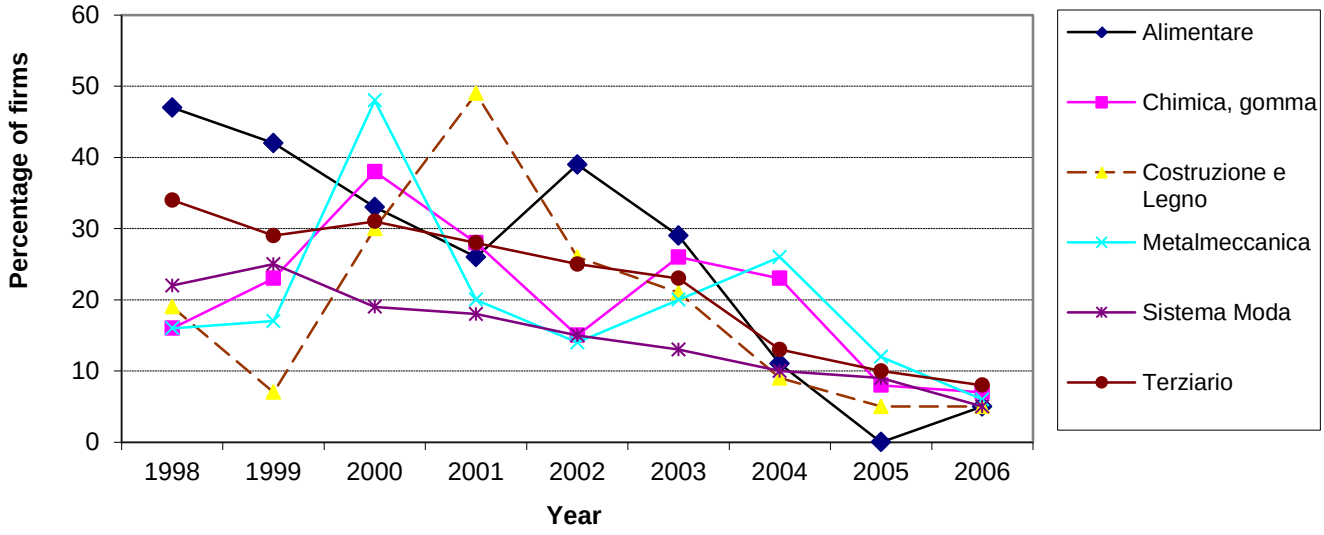
The number of firms involved in both, industry and plant-level, agreements in Belgium increased tenfold from 1980 and the mid 1990s (Van Ruysseveldt and Visser, 1996). At the beginning of the New Millenium, two-tier bargaining structures were present also in Austria, Finland, Italy, the Netherlands, Norway and Sweden (Boeri et al., 2001).

Three forces played an important role in inducing greater decentralization in pay, and the emergence of two-tier structures. The first is product market competition related to import-penetration from low-cost of labor countries. This eroded rents to be split at the bargaining table, and increased the employment bias of centralized wage setting, which cannot negotiate over firm-level employment levels. The second factor was the so-called *great unbundling* of production along the value chain with large firms optimizing production in each individual plant, something that requires negotiating over everything, or relocating elsewhere entire phases of the production process. The third factor is relevant only for the Euro area countries: the common currency de facto decentralized even the most centralized wage structures by leaving national agreements void of an agent who can make commitments as to a targeted inflation rate. This feature of EMU is well illustrated by the evolution of collective bargaining in Italy.

Developments in Italy are particularly revealing as to the forces at play in the development of two-tier bargaining. In 1992 the automatic and nation-wide wage-indexation mechanism (Scala Mobile) was abolished and in 1993, the Italian government, national trade unions and employers' associations signed an income policy agreement aimed at reducing inflation in line with the Maastricht targets. National tripartite agreements were supposed to define wage increases preserving the purchasing power of workers assuming a targeted inflation rate (*tasso di inflazione programmata* or TIP). The 1993 agreement also allowed for local-level agreements, which should have linked more closely productivity and pay, as also requested by IMF conditionality during the 1992 external payments crisis. This second-level took off only among large firms. According to the results of an ad-hoc survey carried out by the national statistical office (Istat, 1999) on a representative sample of around 8,000 firms with at least 10 employees in both the manufacturing and service sectors, in 1995-96 firm-level bargaining involved around 10% of the firms surveyed and 40% of total workers. The majority of the workers covered by company-level collective bargaining was employed in manufacturing firms (73.4%), rather than in services (26.6%). Wage issues occupied the first place among bargaining topics in most of the agreements signed. Incentive pay schemes were bargained in 40% of total bargaining firms, with almost 60% of the total workforce involved. In the metal engineering industry, in particular, local-level bargaining took place in one out of five metal engineering firms and covered around 55% of total workers. Almost all of these firms bargained over wages and almost two out of three introduced some form of performance-related pay scheme. Evidence shows that the actual share of incentive pay in total wage has averaged 5-6% of the total gross wage (Casadio, 2003; 2009; Brandolini et al., 2007).

As shown by Figure 1, the percentage of firms doing two-tier bargaining in Italy is, however, steadily declining over time as more and more employers prefer to stick to the industry agreements without further bargaining at the plant-level.

**Figure 1. Coverage of two-tier bargaining: Italy 1998-2006**




**Source: CNEL, 2007.**

## 2. The scope of two-tier bargaining

Due to its add-up properties, two-tier bargaining is not randomly allocated across firms. Only a fraction of firms adhere to the double structure and these firms are unlikely to be representative of the overall population of business units. In particular, participation of employers of firms operating at relatively low productivity levels is likely to be limited insofar as these firms cannot afford to pay workers above the national contractual minima. Unionisation is also important in selecting firms involved in two-tier structures as it is ultimately workers' organizations that have an interest in bargaining above national and sectoral minima while employers, in principle, can only lose out, at least in terms of wage costs.

Unfortunately most studies on collective bargaining confine themselves to analysing aggregate figures of coverage at different bargaining levels, overlooking the nature of participants in these bargaining structures. Some information as to the scope and nature of two-tier bargaining can be obtained from the ECB Wage Dynamics Network (WDN) Survey. This is an ad-hoc survey on wage and pricing policies at the firm level, covering 13 Countries (Austria, Czech Republic, Estonia, France, Greece, Hungary, Italy, Ireland, Lithuania, the Netherlands, Portugal, Slovenia and Spain). It is confined to middle-sized and large firms, as there is a minimum threshold scale for inclusion in the sample. Data were collected from the national Central Banks of the EU, under the coordination of the European Central Bank. Only data for the period from 2007 to 2009 are available to researchers and are provided as a cross-section. Table A1 in the Annex provides descriptive statistics on the main variables used in this study.

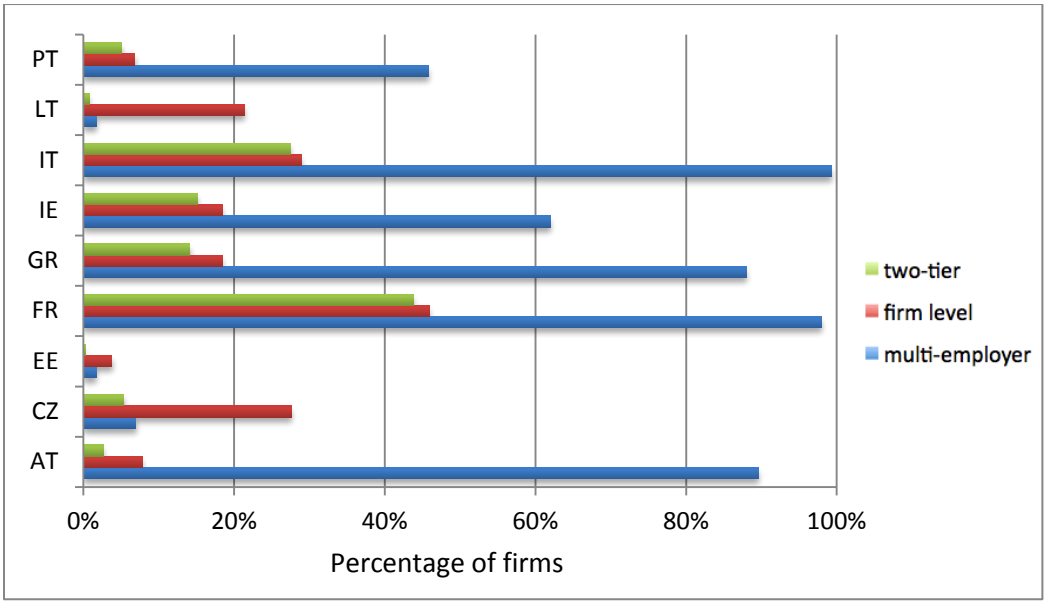
Figure 2 provides information as to the distribution of firms among collective bargaining levels in different countries. In particular, respondents were requested to state whether their firm "applies a collective pay agreement bargained and signed outside the firm (at the national, regional, sectoral or

occupational level)", and whether they also applied "a collective pay agreement signed at the firm level". Notice that emphasis is placed in the questionnaire on pay agreements rather than working conditions, hours, etc.. Thus, undoubtedly we are dealing with wage setting regimes.

Using this battery of questions, we classified firms according to whether they reported i) not to subscribe to any collective bargaining, ii) to be subject to agreements from multi-employer bargaining, iii) to carry out plant-level bargaining and iv) to be subject to both, centralized (national or industry-level) and plant-level bargaining. Clearly, iv) is a subset of either ii) and iii) and the four groups do not add up to 100%. Notice that firms stating to have opted out from multi-employer bargaining[2] are classified as either type i) or iii).

As Figure 2 shows, two-tier bargaining is significant in 7 countries out of 13 (France, Italy, Ireland, Greece, Czech Republic, Portugal and Austria, listed in terms of decreasing coverage of two-tier structures). Firms with two-tier bargaining are larger than the average, hence the share of employees under this bargaining regime is even higher ranging between 10 (in Portugal) and 70 per cent (in France) of total dependent employment. Importantly, the share of firms doing two-tier bargaining in several countries is very close to the share of firms doing plant-level agreements, suggesting that decentralized bargaining is generally allowed therein only insofar as it is complementary to national or sectoral bargaining within a two-tier structure.

**Figure 2. Bargaining levels by country (2007-9)**

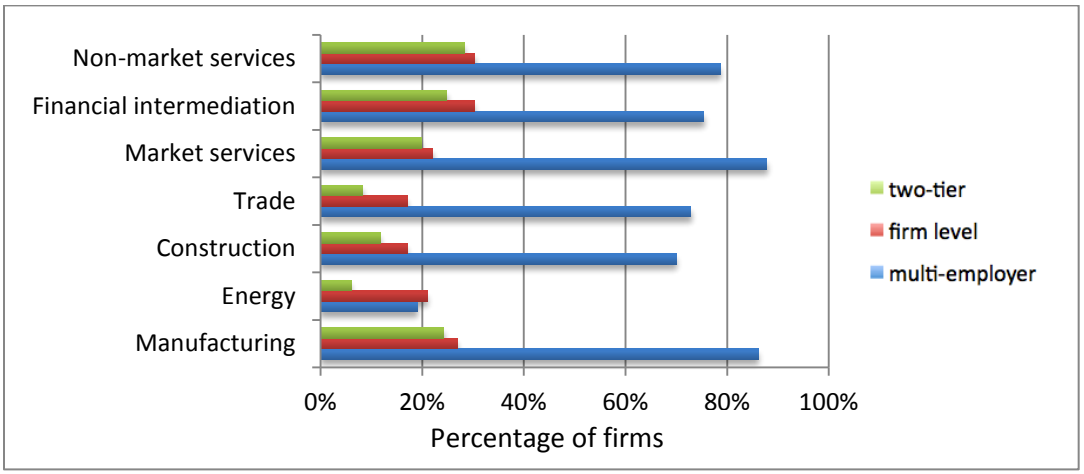



Source: WDN database

[2] We only know the number of firms opting-out in the different countries. No information about their characteristics is available. Opting-out is significant in the Czech Republic (involving 5% of firms) and Ireland (36%).

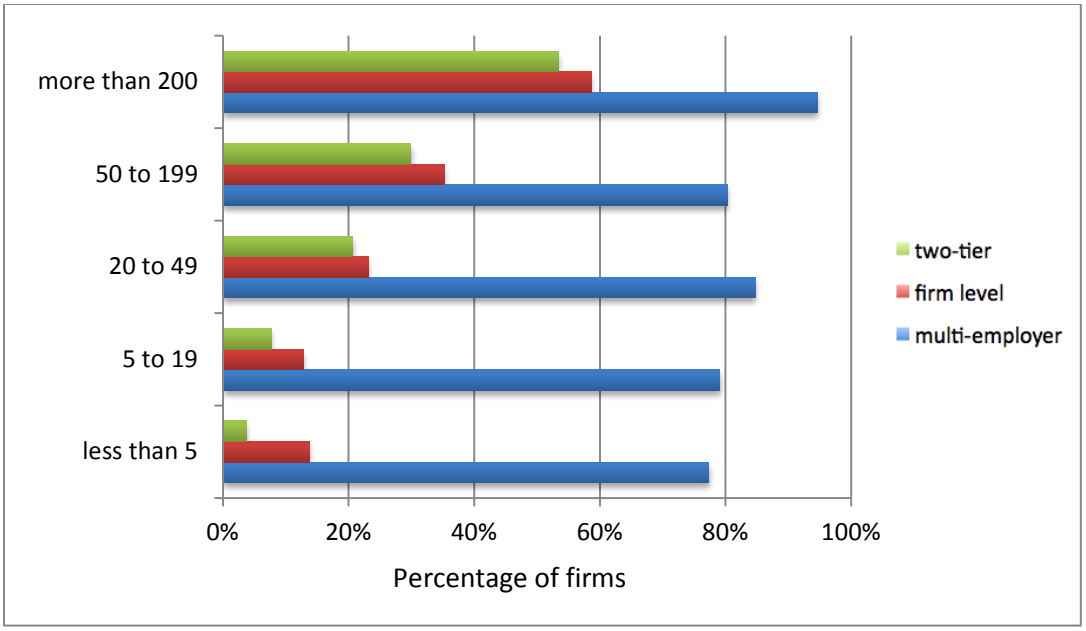
Limited to the 7 countries with two-tier bargaining, it is also possible to characterize which firms cumulate centralized and decentralized wage setting. Two-tier bargaining seems to be particularly relevant in manufacturing (Fig. 3), which is consistent with it being a reaction to competitive pressures for a greater decentralization in wage setting. However, two-tier structures are relevant also in non-market and financial services perhaps because of the higher union densities observed in these sectors.

**Figure 3. Bargaining levels by sector (countries with two-tier bargaining)**




Source: WDN database

**Figure 4. Levels of Bargaining by size of firms (countries with two-tier bargaining)**




Source: WDN database

Two-tier bargaining is concentrated in large firms (Figure 4). This can be explained by the fact that small firms are not unionized or, in any event, unions are not sufficiently strong to impose a second level of bargaining in addition to the national agreements, and employers have no incentives to sit at a decentralized bargaining table when it can only add to the wage scale imposed by higher levels of bargaining.

### 2.1 What does theory predict

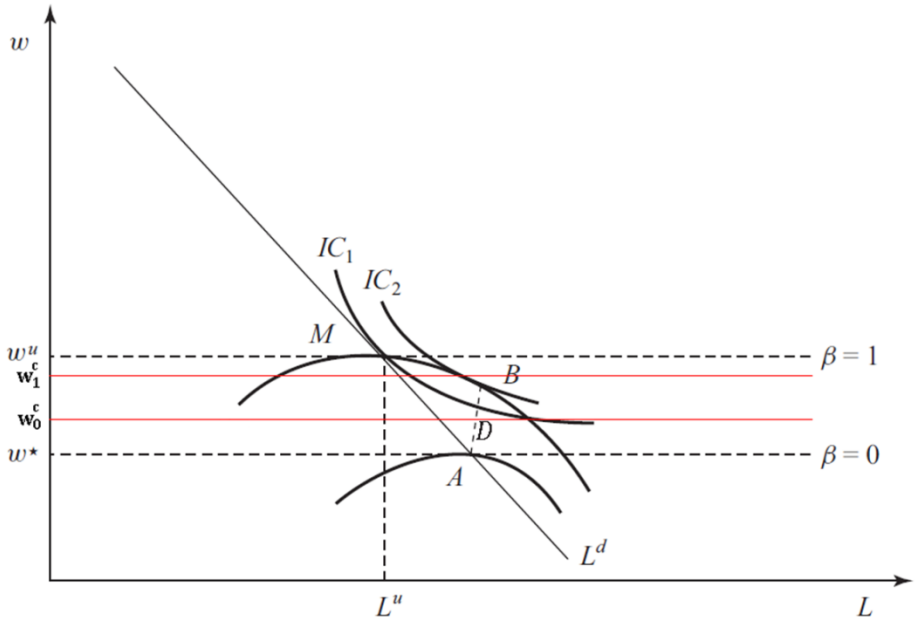
Before characterizing the distinctive features of two-tier with respect to either fully centralized or fully decentralized bargaining, it may be useful to consider the key predictions of economic theory as to the outcomes of different levels of collective bargaining.

At the multi-employer level only a *right-to-manage* (RTM) structure of collective bargaining can be operated which negotiates over wages leaving the task of choosing employment (and hours) levels to individual employers. This means that employment is not involved in the bargaining, and hence the employment level reads out by taking the quantity of labor in correspondence to any contractual wage along the demand curve of firms. Multi-employer bargaining rules out wage and employment outcomes that could improve the situation of at least one bargaining agent without reducing the welfare of the other agent. In other words, multi-employer bargaining is inefficient in Pareto terms because it prevents the trading of wages *and* employment outside the demand curve.

Graphically, the RTM equilibrium is described in Figure 5 as being along the segment AM, depending on the relative bargaining power of unions and employers' organizations. When unions have a monopoly power over wage setting, the equilibrium is at point M. Conversely when all bargaining power is on firms, the equilibrium is at point A, where the wage equates the reservation wage of the representative worker.

**Figure 5.**

**Right-to-manage, efficient bargaining and two-tier bargaining**




Single-employer bargaining allows for *efficient contracts* (McDonald and Solow 1981; McCurdy and Pencavel 1986; Ashenfelter and Brown 1986), that is, outcomes of collective bargaining involving both wages and employment. These agreements can only be signed at the plant level. Considering that workers are risk-averse, these contracts will involve more employment and lower wages than outcomes of bargaining over wages only. The "contract curve" defining the range of potential outcomes of efficient bargaining is given by the dotted line AB. While the unions achieve higher levels of utility for their members by moving to the northeast of the figure, profits are increasing at lower wage levels. Hence the position along this contract curve depends on the relative bargaining strengths of the two parties. The stronger the bargaining power of workers, the closer will be the outcome to A. Conversely, the stronger the power of the employer, the closer to B will be the bargaining outcome.

Notice that in an efficient bargaining system, a higher bargaining power of unions no longer implies less employment. Quite the opposite, higher levels of employment are attained by single-employer bargaining than at any other outcome in a multi-employer, right-to-manage, regime. Only the lowest employment level of the contract curve can be attained under a right-to-manage structure at B, which corresponds to the competitive equilibrium outcome, attained when unions have no bargaining power at all. Finally, the length of the contract curve (the length of the segment BA) depends on the extent of the rents that can be split between employers and workers. The stronger the competition in product markets, the shorter is the contract curve.

Two-tier bargaining in this context can be represented as a wage floor imposed by multi-employer bargaining on single-employer bargaining, e.g., a constraint preventing to negotiate wages below the level established at the national, sectoral or regional level. This constraint clearly reduces the scope of

plant-level bargaining, as the relevant range of efficient outcomes that can be pursued at the plant-level is shrinked (e.g., when the wage floor is at $w_0^c$ , the relevant contract curve is no longer AB, but DB). If the floor is sufficiently high (say at $w_1^c$), no locus along the contract curve is attainable, which means that there are no Pareto improvements allowed by decentralized bargaining. The latter can only improve the situation of one bargaining party, the unions, making the employer worse-off. If the plant-level union is sufficiently strong, it may force the employer to increase employment without cutting wages, inducing a decline in profits. Otherwise plant-level negotiations will not depart from the outcomes of higher (multi-employer) bargaining levels.

### 2.2. Evidence on microeconomic wage and employment adjustment

The above theoretical framework can be useful in evaluating micro-level bargaining outcomes under different regimes. We expect pure plant-level bargaining to trade quantity (employment) and price (wage) concessions, and fully centralized bargaining to trade only over prices, according to a RTM structure. Thus, when a firm is hit by a negative shock, an employer who has to cut labor costs and operates in a centralized regime, will mostly react by reducing employment, while a firm operating in a fully decentralized regime has more options available, as it can also bargain over wage reductions that could preserve employment levels. Firms in two-tier structures may face the same constraints than under fully centralized systems if the wage floors are sufficiently high or have, in any event, smaller margins of adjustments than firms operating under fully decentralized regimes. Thus, we expect both the scope of bargaining and the way firms react to shocks to differ substantially across the three bargaining regimes.

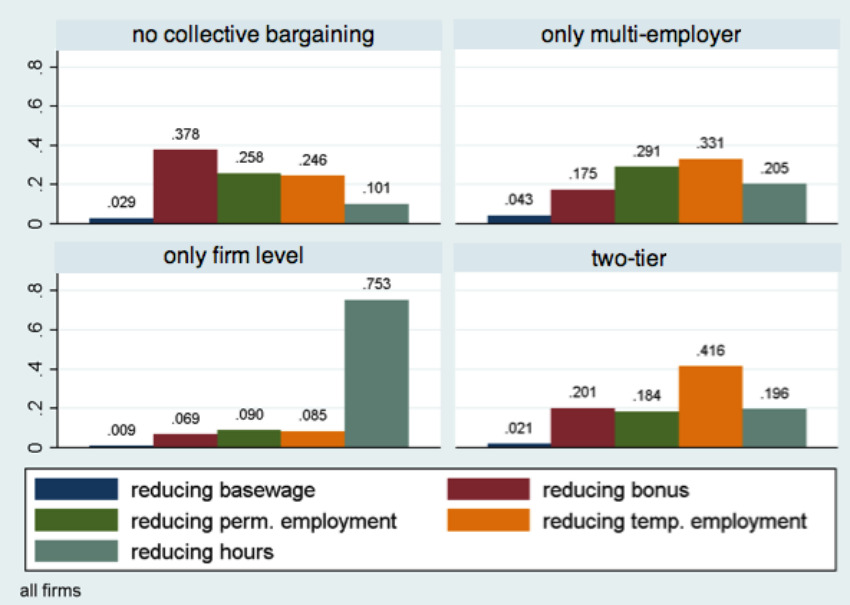
Unfortunately no detail is provided by the ECB survey as to the nature of bargaining at the different levels. In particular, there are no specific questions eliciting the scope of the contracts agreed upon at the national and at the plant level.

Some information, however, is available on firms' *potential* responses to adverse shocks. In particular, firms are asked about the main channel trough which labor cost reductions can be achieved. As the survey was carried out in the midst of the Great Recession, hypothetical bias is likely to be limited.

Before analyzing the answers to the ECB questionnaire, it is important to stress that, as documented in the previous section, firms are not randomly allocated across the different bargaining regimes. Hence, the correlations that we observe between firms' adjustment to shocks and bargaining regimes may simply capture a correlation between these characteristics and the way firms react to shocks. In order to gauge how serious is this problem of heterogeneity, in section 3 (and in the Annex) we provide some multivariate regressions controlling for the factors (country, sector, size) that are likely to play a key role in allocating firms across bargaining regimes. A more serious problem is one of causality. Firms may have some leverage in the choice of the bargaining level, hence endogenous sorting of firms in the different categories stands on the way of causal inferences. Given that we only have a cross-section, there is not an easy way-out to this problem, and the comments below are indeed in the spirit of correlation analyses.

With the above caveats in mind, Figure 6 displays the percentage of firms stating to have reduced hours, the base wage, bonuses or employment (notably workers with temporary contracts or permanent contracts), according to the bargaining regime they belong to. Three messages delivered by these distributions are particularly relevant. First, a very few firms reduce individual pay either by cutting the base wage or by reducing bonus payments. Unsurprisingly the proportion of firms following this route is higher among firms that do not carry out any collective bargaining, but even in this case the extent of pay cuts is fairly limited (probably because of the incentive and workers' morale reasons investigated by the extensive literature explaining why wages do not fall during recessions[3]). Second, it is mainly firms carrying out plant-level bargaining that reduce hours as opposed to employment or pay: three firms out of four bargaining at the plant level adjust mainly along the intensive margin, compared to less than 20 per cent in the other cases. Third, conditional on cutting employment, there does not seem to be a bias against temporary employment of plant-level with respect to two-tier bargaining. Actually, the proportion of firms declaring to have reduced the number of temporary workers is about twice as large as the proportion of firms stating that they have cut permanent contracts in two-tier bargaining firms, while this discrepancy is not present in firms bargaining only at the plant level. In other words, there does not seem to be a strong bias in favor of the "insiders" of plant-level vs. two-tier bargaining. If anything, the opposite is true.

**Figure 6. Strategies to cut costs depending on bargaining level**




Source: WDN database

[3] See Bewley (1998) for a survey of the earlier literature.

### 2.3 Evidence on the level and structure of pay

A large body of empirical literature on the relationship between levels of bargaining and wages suggests that single-employer bargaining induces higher level of pay than centralized bargaining (Cardoso and Portugal, 2006; Dell'Aringa and Lucifora, 1994; Hartog et al., 2002; Palenzuela and Jimeno, 1996; Rycx, 2003). This finding is rather puzzling as, in principle, bargaining over both wages and employment should trade lower wages with higher employment levels when workers are risk-averse (Boeri and vanOurs, 2013).

A possible explanation for this puzzle is that this empirical literature does not generally disentangle two-tier bargaining structures from fully decentralized systems, pooling together firms with only plant-level agreements and units bargaining at the plant level only above multi-employer wage floors. Thus, it is possible that these studies capture the wage drift of two-tier structures with respect to national agreements.

Unfortunately, our survey does not provide data on average wages at the firm-level. We only know the proportion of total costs associated to labor costs. Significantly, this proportion is higher in firms undergoing two-tier bargaining, with respect to firms with only plant-level or only national bargaining (Figure 7). Moreover, this result survives when we control for country, sector and size (Table 1). Tables A2 and A3 in the Annex provide details on the full set of regressors and display results also when the two-tier bargaining regime is interacted with the relevant country dummies. This shows that the effect is common to all countries with a two-tier bargaining structure.

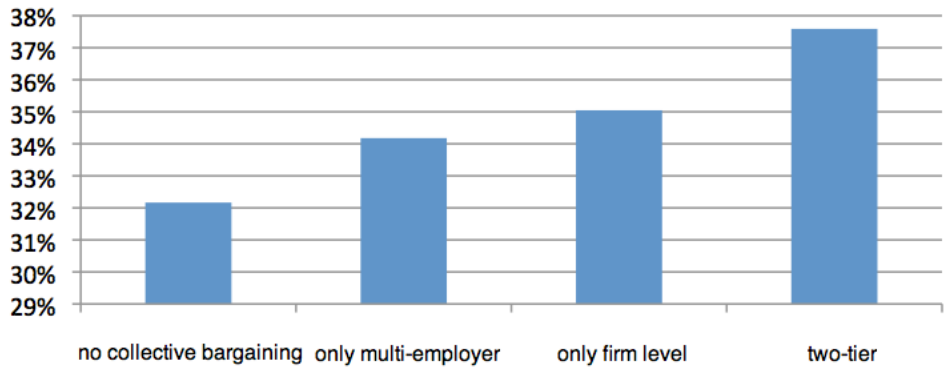
**Table 1. Incidence of labor cost on total costs**

| | Labor cost (%) |
|---|---|
| *multi-employer* | 0.021*** |
| | (0.020) |
| *firm level* | -0.021*** |
| | (0.015) |
| *two-tier* | 0.041*** |
| | (0.000) |
| Constant | 0.481*** |
| | (0.000) |
| Country dummies | *YES* |
| Sector dummies | *YES* |
| Size dummies | YES |
| Observations | 11,534 |
| Rsquared | 0.152 |

*pval in parentheses*
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Source: WDN database

**Figure 7. Incidence of labor cost on total costs by bargaining level**




Source: WDN database

Notice further that the "peace clauses" that are often imposed at the local level are not operating within two-tier structures. Thus, higher wages in these two-tier regimes cannot be explained by rules de facto strengthening the bargaining position of workers, who can use informal conflict measures, like sick leave, just while employers cannot take industrial action (Holden, 1990).

Another interpretation for the higher pay in decentralized bargaining structures is that higher wages are a result of the increase in productivity associated with incentive schemes that can only be activated at the decentralized level. Table 2 provides information on the extent of the wage bill which is related to components of the remuneration in "compensations different from the base wage and usually linked to individual's performance", by bargaining regime. A two-tier structure seems to provide less performance-related pay (PRP) than all the other regimes. This is quite striking as two-tier regimes were, at least in principle, introduced to link more strictly productivity and pay. As shown by the second and third rows of Table 2, this relatively low contribution of productivity related pay to the total wage bill in firms operating under two-tier regimes is not due to the fact that there are less firms using PRP in this regime. The issue is that, those firms where PRP is enacted, allow for a lower proportion of pay to be related to productivity than under the other bargaining regimes. This role of the "intensive margin" in reducing PRP may be associated to the role played by the wage floors imposed by multi-employer bargaining in the context of two-tier structures (the shorter segment of the contract curve characterized in Section 2.1).

**Table2. Performance related payment by bargaining level**

| | No collective agreement | Only firm level | Only multi-employer | Two-tier |
|---|---|---|---|---|
| **Av. share of the wage that is performance related (overall)** | **13,9%** | **12,6%** | **10,9%** | **10,5%** |
| Percentage of firms paying PRP | 72,2% | 76,6% | 60,0% | 74,4% |
| Av. share of the wage that is performance related (firms that pay PRP) | 19,30% | 16,50% | 18,20% | 14,10% |

Source: WDN database

Conditioning on some level of PRP being present (third row of Table 2), the proportion of performance-related pay in total compensation is higher among firms undergoing national bargaining than in units with only plant-level or two-tier bargaining. This is likely to be related to the fact that PRP is allowed in centralized bargaining structures limited to sectors (or countries) in which there is a longstanding tradition of PRP. When we control for sector and country (see Table 3 below and Table 2A in the Annex for the interactions), it is indeed firms carrying out only plant-level bargaining that allow for a greater share of the compensation to be related to performance.

**Table 3. Regression of performance related payment (PRP) on bargaining level**

| | *(I) PROBIT* **Firm pays PRP** | *(II) OLS* **Share of the wage that is PRP** |
|---|---|---|
| *multi-employer* | -0.157*** | 1.542** |
| | (0.002) | (0.020) |
| *firm level* | 0.340*** | 2.628*** |
| | (0.000) | (0.006) |
| *two-tier* | -0.0572 | -1.376 |
| | (0.445) | (0.212) |
| Constant | 0.709*** | 5.821 |
| | (0.000) | (0.224) |
| Country dummies | *YES* | *YES* |
| Sector dummies | *YES* | *YES* |
| Observations | 11,666 | 11,889 |
| Rsquared | (pseudo) 0.130 | 0.127 |

*pval in parentheses*
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Source: WDN database

## 3. Macroeconomic properties of two-tier regimes

Better data, notably panel data tracking developments before and after the take-off of the new bargaining structures, would be required to make causal inferences on the relationship between macroeconomic performance and bargaining structure, and possibly support informed evaluations of the stabilization properties of alternative collective bargaining regimes.

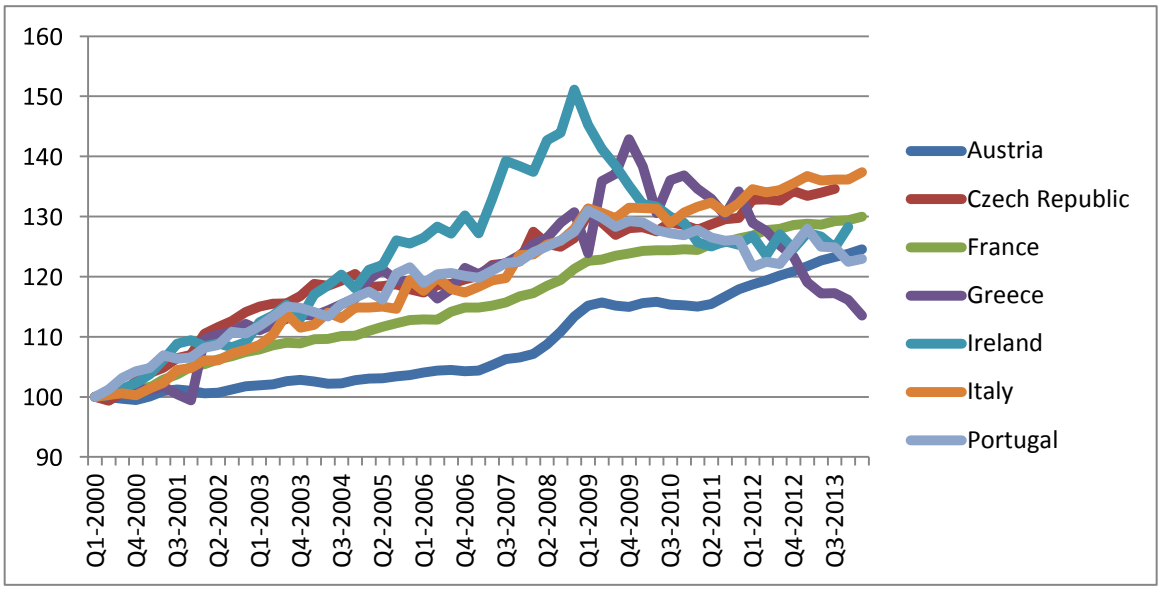
The literature on bargaining levels and macroeconomic performance, is regrettably based too often on cross-country regressions with a very few observations[4]. This literature, as argued at the outset, does not theoretically and empirically consider two-tier structures. The obvious question is then: can two-tier bargaining structures cheat the trade-off between internalization of macroeconomic constraints and flexibility embedded in the hump-shaped (Calmfors and Driffill, 1998) relationship between performance and bargaining decentralization posited by this literature? Do they get the best or the worst of the two extreme bargaining structures?

To the extent that two-tier agreements take industry level bargaining as a wage floor, they can hardly promote wage moderation, e.g., in the context of income policy agreements. The evidence produced above suggests that two-tier structures are generally associated with a higher incidence of wages in the cost structure of firms. While we cannot rule out reverse causality (unions can force two-tier bargaining only in the firms in which workers' organizations are stronger), it is the design of two-tier bargaining which is intrinsically ill-suited for macroeconomic stabilization. National or industry level bargaining in two-tier regimes can only operate by fixing wage floors rather than wage norms not to be exceeded.

Clearly wage moderation is not something good or bad in its own right. It could improve competitiveness and import growth via foreign demand in stagnating EMU countries losing competitive grounds with respect to Germany and emerging economies. Figure 8 displays unit labor costs of countries with two-tier structures with respect to Germany since the beginning of the New Millenium. Portugal and Greece appear to have had a serious problem of external competitiveness well before the Eurozone crisis. France has been experiencing a widening trade deficit vis-à-vis Germany. The loss of external competitiveness is one of the sides of the coin of the economic decline of Italy. The Czech Republic has been growing at a significantly lower pace than the other Central and Eastern European countries coming from central planning. In these countries some wage moderation was warranted before the Great Recession.

[4] See Boeri and vanOurs (2013) and Driffill (2006) for a critical review of this literature.

**Figure 8. Relative unit labour costs in Eurozone (Germany = 100)**




Source: OECD database

It is also questionable that two-tier bargaining can better cope with aggregate shocks to demand or productivity. A good property of bargaining in this case would be to allow for temporary cost reductions along the different margins, that is, hours, and wages, and not only employment. Our findings do not suggest that this happens in two-tier bargaining. In particular, hours and wage reductions are rarely associated with two-tier bargaining structures.

A standard argument in favor of decentralized vs. centralized bargaining structures is that plant-level agreements allow to link more closely productivity and pay. This should improve the allocation of labor by both providing better incentives within the firm and promoting reallocation of workers across firms. Productivity-related pay is also usually associated with a higher degree of worker satisfaction (Boeri, Lucifora and Murphy 2013). The evidence produced in this paper suggests, however, that PRP is likely to operate more in firms that carry out only plant-level agreements than in firms undergoing two-tier bargaining, as the latter is somewhat constrained by the wage floors adopted at higher bargaining levels. This contributes to explaining why PRP is not as widespread as one would think in light of its desirability for the employers and the degree of satisfaction expressed by the workers involved. There are no legal impediments to the adoption of performance related pay and in many countries these schemes are even encouraged by tax incentives.

The fact of the matter is that PRP in two-tier structures can only operate upwards. This, on the one hand, discourages employers from adopting it, and, on the other hand, may make this type of PRP more appealing to risk-averse workers, who may prefer the flat rate schemes imposed by centralized bargaining to remuneration packages offering even a significantly higher level of pay, on average, but at the costs of a greater variance of pay over time.

At the same time, incentive schemes that cannot operate some, albeit marginal, reduction in pay levels, can be rather ineffective in inducing workers and teams to improve their productivity. This does not mean that PRP should exclude wage floors, but simply that some room for wage reductions in case of particularly bad performance is required for the incentive scheme to operate properly.

Positive effects on productivity can also be attained by promoting a better allocation of labor across firms, notably inducing more workers to go to high-productivity sites. This requires that bargaining structures should allow for wage differentials to operate inducing a more efficient allocation of labor. The ECB survey, as argued above, is not informative in this respect. Earlier empirical evidence as to the effects of different bargaining levels on earning differentials is mixed. Some authors (e.g., Hibbs and Locking, 1996, Rycx, 2003, Portugal, 2003) found that decentralized bargaining structures contribute to increase wage differentials, decompressing wage structures imposed by nationwide or sectoral bargaining. Others (e.g., Checchi and Pagani, 2004) instead observed a compression of wage structures associated with local bargaining. These conflicting results can be related to countervailing "between-firms" and "within-firm" effects of plant level agreements. While plant-level bargaining should increase wage differentials across firms, it may indeed induce more compression in the wage structure of each individual firm (Plasman et al, 2007). This may be because unions are generally in favour of egalitarian wage scales and psychological research suggests that sometimes pecuniary incentives within relatively small organizations have unintended consequences on work morale. Whatever the explanations for the limited wage differentials observed within firms in decentralized bargaining, two-tier structures are likely to limit also pay differentials across firms of the same sector, due to the common, industry-level wage floor.

An advantage of two-tier structures over fully decentralized regimes is that they make it easier the co-ordination of bargaining outcomes across firms, preventing Bertrand games that could potentially lead to align wages to the reservation wages of marginal workers. Single employer outcome may also face problems of implementation in presence of a plurality of workers' representation at the plant-level, as it may prove difficult to commit everybody to fulfilling the agreement. These problems of representation are, however, present also in two-tier structures whenever there is a plurality of unions at the bargaining table. They should be handled by properly regulating workers' representation and introducing truce clauses binding even the unions that have not signed the agreement.

**4. Final remarks**

Overall, the case for two-tier bargaining, at least in peripheral EMU countries struggling to recover external competitiveness, is not very strong. These structures tend to combine the rigidity in pay of centralized systems with a lack of consideration of macroeconomic constraints. They may be rationalized as an intermediate step towards a greater decentralization in wage setting, but there is considerable inertia in adjusting bargaining practices. To the extent that two-tier agreements become an immanent feature of industrial relations, they may leave wage setting stuck in the middle of the river. To the extent that the weakening of unions reduces the coverage of add-up bargaining, two-tier regimes

may lead us back to fully centralized bargaining regimes or to a context where no collective bargaining at all takes place, as witnessed by the collapse of collective bargaining in Greece and Portugal .

Put it another way, some further reforms are warranted which could move industrial relations decidedly towards greater decentralization in pay, while leaving industry-level agreements effective only for those firms, mainly small firms, where plant-level bargaining does not take place. Encouragingly enough, the ECB-WDN survey suggests that even centralized bargaining can allow for a significant proportion of pay to be performance related. The lesson to be drawn from this result is that multi-employer agreements can also be signed, which impose wage *rules* (e.g., in terms of a given proportion of the increase in operational value added going to the workers) rather than wage *variations* to be applied uniformly to all firms, independently of their specific performance. Unfolding two-tier regimes into stand alone plant-level bargaining outcomes where the favourability principle does not apply, and centralized agreements for the other firms, allowing for heterogeneous wage increases, could be a better way to reconcile microeconomic flexibility with macroeconomic stability than two-tier bargaining regimes.

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## *Annex*

Table A1. Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Multi-employer barg. | 12955 | 0.613 | 0.487 | 0 | 1 |
| Two-tier barg. | 13073 | 0.157 | 0.363 | 0 | 1 |
| Firm level barg. | 12913 | 0.249 | 0.433 | 0 | 1 |
| Size (categorical) | 13070 | 2.545 | 1.089 | 1 | 5 |
| Incidence of labor costs | 11735 | 0.343 | 0.202 | 0 | 1 |
| Firm pays prp | 12099 | 0.674 | 0.469 | 0 | 1 |
| Percentage of the wage that is PRP | 12099 | 11.940 | 19.360 | 0 | 100 |

## Table A2. Regressions with full set of controls

| | Incidence of labor costs | PRP | Share of the wage that is performance related |
|---|---|---|---|
| Multi-employer | 0.02 | -0.03 | 1.491 |
| | (2.89)*** | (1.77)** | (2.24)*** |
| Firm level | -0.025 | 0.044 | 2.652 |
| | (2.83)*** | (1.83)** | (2.78)*** |
| Two-tier | 0.039 | 0.04 | -1.3 |
| | (3.68)*** | -1.42 | -1.18 |
| twotier_country | 0.014 | 0.253 | -5.791 |
| | -0.77 | (4.66)*** | (2.71)*** |
| d_country1 | -0.039 | -0.51 | 2.864 |
| | (2.90)*** | (12.45)*** | (1.78)** |
| d_country4 | -0.008 | -0.042 | 11.525 |
| | -0.5 | -0.85 | (5.88)*** |
| d_country5 | 0.023 | -0.385 | -12.148 |
| | (1.66)** | (9.76)*** | (7.82)*** |
| d_country6 | 0.077 | -0.3 | 5.631 |
| | (4.54)*** | (7.36)*** | (3.51)*** |
| d_country7 | 0.038 | -0.07 | -4.061 |
| | (2.29)*** | (1.77)** | (2.63)*** |
| d_country8 | 0.062 | -0.452 | 1.655 |
| | (4.01)*** | (9.72)*** | -0.9 |
| d_country9 | -0.05 | -0.404 | -3.755 |
| | (3.79)*** | (9.97)*** | (2.36)*** |
| d_country10 | 0.114 | -0.041 | -0.994 |
| | (6.63)*** | -0.97 | -0.6 |
| d_country11 | 0.071 | -0.208 | -8.743 |
| | (4.47)*** | (5.41)*** | (5.79)*** |
| d_country12 | -0.009 | 0.003 | 21.427 |
| | -0.62 | -0.08 | (12.24)*** |
| d_country13 | -0.04 | 0.137 | 5.909 |
| | (1.99)*** | (2.76)*** | (3.02)*** |
| dsec1 | -0.204 | -0.029 | -0.191 |
| | (9.00)*** | -0.26 | -0.04 |
| dsec2 | -0.24 | -0.047 | 2.444 |
| | (4.55)*** | -0.4 | -0.54 |
| dsec3 | -0.138 | 0.082 | 4.996 |
| | (5.80)*** | -0.71 | -1.11 |
| dsec4 | -0.229 | -0.077 | -0.552 |
| | (10.12)*** | -0.67 | -0.12 |
| dsec5 | -0.108 | 0.072 | 5.373 |
| | (4.76)*** | -0.59 | -1.11 |
| dsec6 | -0.091 | -0.148 | 5.099 |
| | (3.10)*** | -1.19 | -1.04 |
| d_size1 | -0.033 | -0.224 | 0.102 |
| | (4.22)*** | (1.93)** | -0.02 |
| d_size2 | -0.04 | -0.123 | 0.265 |
| | (4.99)*** | -1.05 | -0.06 |
| d_size3 | -0.021 | 0.001 | 1.535 |
| | (2.34)*** | -0.01 | -0.33 |
| d_size5 | -0.012 | -0.014 | -1.134 |
| | -0.41 | -0.12 | -0.25 |
| Constant | 0.518 | 0.859 | 11.236 |
| | (18.61)*** | (5.13)*** | (1.71)** |
| $R^2$ | 0.15 | 0.19 | 0.13 |
| *N obs.* | 11,534 | 11,889 | 11,889 |

* $p$ <0.15; ** $p$ <0.1; *** $p$ <0.05

Table A3. Regressions with interaction dummies

| | Incidence of labor costs | PRP | Share of the wage that is performance related |
|---|---|---|---|
| national_level | 0.022 | -0.023 | 1.433 |
| | (3.12)*** | -1.36 | (2.14)*** |
| firm_level | -0.024 | 0.048 | 2.728 |
| | (2.73)*** | (2.01)*** | (2.89)*** |
| twotier_FR | 0.024 | -0.046 | -5.235 |
| | (1.89)** | -1.44 | (4.14)*** |
| twotier_IT | 0.052 | 0.054 | -1.91 |
| | (4.16)*** | (1.69)** | (1.53)* |
| twotier_IR | -0.005 | -0.102 | -7.35 |
| | -0.19 | -1.4 | (2.57)*** |
| twotier_GR | 0.06 | -0.074 | -2.531 |
| | (1.88)** | -0.79 | -0.69 |
| twotier_PT | 0.004 | -0.076 | 2.356 |
| | -0.11 | -0.86 | -0.68 |
| twotier_AT | 0.116 | 0.552 | 24.558 |
| | (3.76)*** | (9.71)*** | (11.01)*** |
| twotier_CZ | -0.01 | -0.034 | 4.952 |
| | -0.2 | -0.28 | -1.02 |
| d_country1 | -0.028 | -0.555 | 1.616 |
| | (1.75)** | (11.99)*** | -0.89 |
| d_country2 | 0.016 | -0.055 | 11.102 |
| | -0.88 | -1.01 | (5.16)*** |
| d_country4 | -0.01 | -0.269 | 5.713 |
| | -0.62 | (4.61)*** | (2.50)*** |
| d_country5 | 0.041 | -0.666 | -6.633 |
| | (2.40)*** | (14.55)*** | (3.70)*** |
| d_country6 | 0.085 | -0.292 | 7.04 |
| | (4.25)*** | (6.19)*** | (3.81)*** |
| d_country7 | 0.038 | -0.342 | 1.468 |
| | (2.28)*** | (6.78)*** | -0.74 |
| d_country8 | 0.081 | -0.454 | 2.379 |
| | (4.43)*** | (8.69)*** | -1.16 |
| d_country9 | -0.041 | -0.435 | -3.812 |
| | (2.49)*** | (9.36)*** | (2.09)*** |
| d_country10 | 0.114 | -0.311 | 4.649 |
| | (6.62)*** | (6.00)*** | (2.29)*** |
| d_country11 | 0.07 | -0.481 | -3.032 |
| | (4.40)*** | (10.23)*** | (1.64)* |
| d_country12 | 0.006 | -0.008 | 21.264 |
| | -0.37 | -0.15 | (10.92)*** |
| d_country13 | -0.042 | -0.14 | 11.517 |
| | (2.08)*** | (2.55)*** | (5.34)*** |
| dsec1 | -0.208 | -0.02 | 0.343 |
| | (9.09)*** | -0.18 | -0.08 |
| dsec2 | -0.244 | -0.071 | 1.258 |
| | (4.63)*** | -0.62 | -0.28 |
| dsec3 | -0.141 | 0.093 | 5.597 |
| | (5.91)*** | -0.81 | -1.25 |
| dsec4 | -0.233 | -0.067 | 0.053 |
| | (10.19)*** | -0.59 | -0.01 |
| dsec5 | -0.112 | 0.079 | 5.776 |
| | (4.91)*** | -0.65 | -1.21 |
| dsec6 | -0.094 | -0.133 | 5.412 |
| | (3.19)*** | -1.06 | -1.11 |
| d_size1 | -0.034 | -0.212 | 0.491 |
| | (4.36)*** | (1.82)** | -0.11 |
| d_size2 | -0.042 | -0.112 | 0.562 |
| | (5.15)*** | -0.96 | -0.12 |
| d_size3 | -0.023 | 0.012 | 1.805 |
| | (2.55)*** | -0.1 | -0.39 |
| d_size5 | -0.009 | d_size4 0.005 | -0.476 |
| | -0.32 | -0.04 | -0.1 |
| Constant | 0.524 | Constant 1.111 | Constant 4.833 |
| | (18.72)*** | (6.74)*** | -0.75 |
| $R^2$ | 0.16 | $R^2$ 0.2 | $R^2$ 0.14 |
| *N obs.* | 11,534 | *N obs.* 11,889 | *N obs.* 11,889 |
| * $p$<0.15; ** $p$<0.1; *** $p$<0.05 | | * $p$<0.15; ** $p$<0.1; *** $p$<0.05 | * $p$<0.15; ** $p$<0.1; *** $p$<0.05 |