



CEP Discussion Paper No 1112

January 2012

**Paying For Performance: Incentive Pay Schemes and
Employees' Financial Participation**

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Abstract

We present new comparable data on the incidence of performance pay schemes in Europe and the USA. We find that the percentage of employees exposed to incentive pay schemes ranges from around 10-15 percent in some European countries to over 40 percent in Scandinavian countries and the US. Individual pay and profit/gain sharing schemes are widely diffused, whereas share ownership schemes are much less common, particularly in Europe. We document a number of empirical regularities. Incentive pay is less common in countries with a higher share of small firms. Higher product and labour market regulation are associated with lower use of incentive pay. Capital market development is a necessary requirement for a wider diffusion of incentive pay, particularly sharing and ownership schemes. When we control for a large set of individual characteristics and company attributes, we find that the probability that a worker is covered by an incentive scheme is higher in large firms and in high-skilled occupations, while it is much lower for females.

Key words: performance pay, financial participation, institutions

JEL Classifications: J24, J33, D31

This paper was produced as part of the Centre's Labour Markets Programme. The Centre for Economic Performance is financed by the Economic and Social Research Council.

Acknowledgements

This paper is part of a larger project on employees' incentive pay schemes and executive compensation, to be published by Oxford University Press. We are grateful to fRDB for financial support. Alex Bryson would also like to thank the ESRC (grant number ES/I035846/1) for financial support. We would also like to thank Oriana Bandiera, Tito Boeri, Pietro Garibaldi and participants at the XII European fRDB Conference on "Productivity, Profits and Pay" held in Cagliari in 2010, for valuable comments. Elena Cottini provided excellent research assistance. The data used in the Report have been made kindly available by the European Science Foundation (EWCS data), the National Opinion Research Center (GSS data) and the OECD. Part of this project was completed when Claudio Lucifora was visiting UNSW, whose hospitality is gratefully acknowledged.

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Published by

Centre for Economic Performance

London School of Economics and Political Science

Houghton Street

London WC2A 2AE

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1. Introduction

Analysts and policy makers often promote linking pay to employee or company performance as a means of tackling workplace inefficiencies and raising productivity. By motivating individual workers to be more efficient at work and increasing their attachment and identification with the interests of the enterprise, incentive schemes are expected to improve interpersonal relationships, raise job satisfaction, lower absenteeism and lower turnover rates, all of which should produce lasting effects on company performance. But does empirical evidence support these expectations and, if so, wouldn't we expect to see similarities in the diffusion of incentive schemes among firms and employees in Europe and the US?

This paper contributes to the literature by mapping the incidence of performance-related pay schemes across the US and Europe. In doing so we point to a number of empirical regularities that suggest some potential explanations for cross-country differences in the prevalence of performance related pay.

The paper is organised as follows. Section 2 presents some general results on the incidence of different types of incentive pay schemes in Europe and in the US. Section 3 documents a number of regularities in the distribution of performance pay within countries, while Section 4 looks more specifically at differences across countries and suggests some potential explanations for such differences based on institutional factors. Section 5 concludes.

2. Forms of Incentive Pay and their Incidence

The principle of relating pay to performance is as old as the practice of sharecropping, in which a farmer who works someone else's land is paid with a share of the harvest. Remunerating workers "by the piece" was said by Adam Smith (1776) to be the rule in industry in the 18th century¹. Various types of performance bonus schemes, and plans in which firms shared profit with employees or encouraged them to own shares in the company existed at least since the 1840s in France, the UK and the US, as well as in Japan since the end of the first World War (Hatton, 1988; Jones and Kato, 1995). In a separate development, the first trading organisations owned by workers appeared in the UK, France and Italy in the first half of the 19th century (Cole, 1948; Desroche, 1976; Fornasari and Zamagni, 1997).

Studies for the US in the 1980s-1990s reported that 5 to 10 percent of employees had some form of incentive pay, with wide differences by industry (ranging from 2 percent in the chemical industry, to 26 percent in the service sector) and occupation (from 2 percent in low skilled blue-collar occupation up to 21 percent in sales occupations) (see Carlson, 1982; Bonars and Moore, 1995; Barkume and Moehrle, 2001; MacLeod and Parent, 1999). Studies for the US in the late 1990s-2000s report much higher figures for incentive pay, suggesting significant growth in the percentage of employees covered by incentive pay schemes. Indeed, comparing data from 1994/95 to 2003/04 in a variety of US data sets Dube and Freeman (2010) conclude that indeed there was a huge increase in group incentive pay from the 1970s through the 1990s. Lemieux, McCleod and Parent (2009), using PSID data, estimated that 15 percent of workers received incentive pay in a given year while 37 percent held jobs in which a worker 'ever' received incentive pay, and 45 percent of workers were in one of the two groups. In the PSID the share of employees in jobs with incentive pay ranged from 30 percent for craftsmen to 78 percent for sales workers; while shares by industry ranged from a low of 33 percent in mining and durables to a high of 65 percent in finance,

¹ P. 185 (1979 edition).

insurance, and real estate. Lazear and Shaw (2009) report that close to 67 percent of firms used individual incentives for more than 20 percent of workers while 24 percent of firms had gain-sharing schemes for more than 20 percent of workers. Evidence from the 2002 and 2006 special modules of the General Social Survey (GSS) show that financial participation schemes (i.e. profit sharing, gain sharing or employee share ownership) cover up to 47 percent of employees (Freeman, et al. 2010; Kruse, et al. 2010).

Surveys of company pay practices in Europe (e.g. Cranet e-survey and EPOC) show widespread adoption of the schemes in the late 1990s, at least among larger firms (Pendleton, et al. 2005). Nearly one in two companies (45 percent) with more than 200 employees reported having some form of sharing scheme, with one-third (31 percent) having an employee share ownership scheme. However, comparable figures for employee coverage show lower incidences of 10-12 percent for sharing schemes and 2 percent for ownership schemes. This reflects the fact that in some firms only a minority of workers receive incentive pay while few firms with less than 200 employees are likely to have any scheme. Even in industries where a large proportion of companies have schemes, they usually account for only a small share of total pay. Evidence from selected studies and EU reports on employees' financial participation² shows that the overall incidence of group incentive pay in the private sector has been growing, but at 12 percent to 15 percent falls short of the levels in the US. On average less than one-fifth of European employees have ever received some form of incentive pay.

Researchers have investigated the patterns of incentive pay among firms, determinants of the type of compensation chosen by firms and the effects of the mode of compensation on performance in some European countries.³ These studies show that mandatory provisions for incentive schemes (often above a given firm size level), or the introduction of strong fiscal incentives (such as reduced taxation for variable components of pay) are among the main determinants underlying the diffusion of incentive pay in a given country, and help explain significant differences in the incidence in sharing and ownership schemes in European countries.

Despite this evidence, it is difficult to make strong comparative statements about country differences because data from official sources on the incidence and diffusion of incentive pay is relatively scarce. In the US, until the General Social Survey asked about the structure of incentive pay schemes in special modules on 'quality of work life' (2002 GSS) and 'shared capitalism' (2002, 2006 GSS), there was no single nationally representative source of data available. Similarly, in the EU, with the exception of the *ad hoc* Cranet, EPOC and European Working Conditions Surveys (EWCS) there are no official sources of representative data on incentive pay.

To help deal with the data problem, we have examined evidence on incentive pay and financial participation in two household surveys – the EU's EWCS and the US's GSS. The surveys provide detailed information on individual bonuses and piece-rates, profit/gain sharing and share ownership schemes, employees' characteristics, firm attributes and additional work organisation practices. One drawback is that EWCS data do not provide separate information on work-group performance pay which is consistent over time (while GSS does), thus in the empirical analysis that follows we include all kinds of group-performance bonuses with profit/gain sharing schemes. We use the latest waves available, the 2000 and 2005 surveys for EWCS data, and the 2002 and 2006 surveys for the GSS. Since, data on new member countries of the European Union is available only in 2005, we

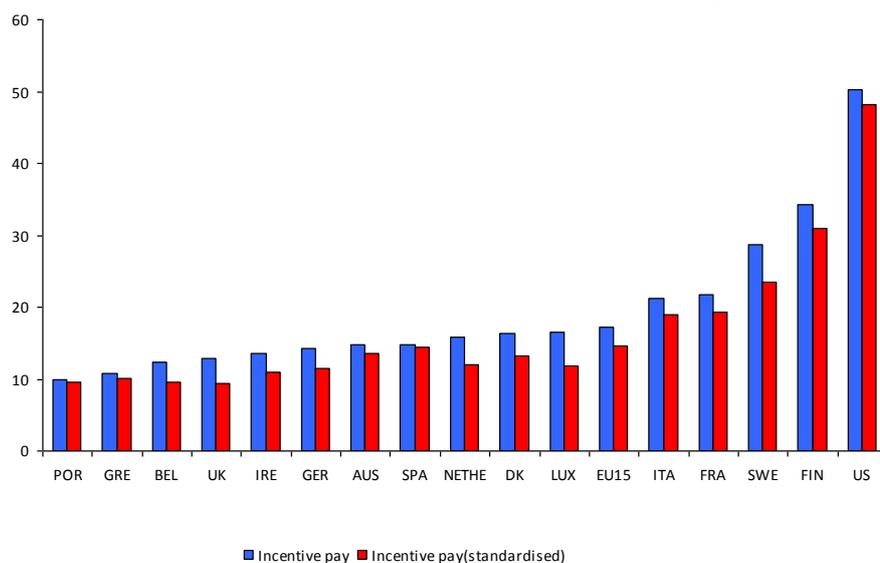
² Brown and Heywood, 2002; European Commission, IV Pepper report, 2009; Poutsma, 2001; European Foundation for the Improvement of Living and Working Conditions, 2007

³ Blinder, 1990; Cahuc and Dormont, 1992; Meade, 1986; Estrin et al. 1997; Conyon and Freeman, 2001; Kato and Morishima, 2002; Barth et al. 2006, 2009; Pendleton et al. 2009

focus on the EU15.⁴ Detailed information on sampling procedure and the exact wording of the incentive pay questions are reported in Bryson et al. (2012). Moreover, in order to minimise potentially confounding factors, we restrict attention to employees with a permanent contract, employed in private sector and in profit oriented firms only. We also do not consider managers and CEOs, which are covered by Conyon et al. (2012).

Figure 1 reports the ranking of countries by the share of private sector employees on permanent contracts who receive any form of incentive pay (i.e. individual, profit/gain sharing and share ownership schemes). It shows striking differences in the diffusion of incentive pay across countries.⁵

Figure 1: Incidence of incentive pay, by country (pooled years)*



Source: EWCS (pooled 2000-2005) and GSS (pooled 2002-2006) data.
Notes: Indices are computed using sampling weights.

Figures range from around 10-15 percent in some Mediterranean (Portugal and Greece), Continental (Belgium and Germany) and Anglo-Saxon (United Kingdom and Ireland) countries, to 30 and over 40 percent in Scandinavian countries (Sweden and Finland) and the US. Adjusting for some observable industry and firm attributes to create our standardised index)⁶, does not change the ranking of countries.

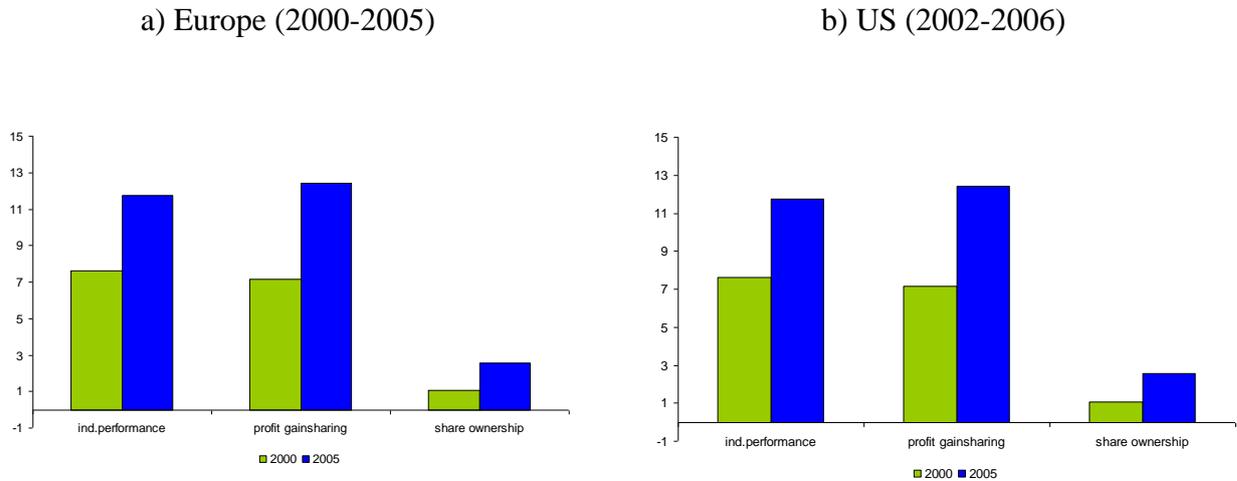
Figure 2 shows the diffusion of incentive pay over time across Europe (panel a) and the US (panel b) for private sector workers over the 2000-2006 period.

⁴ These countries are Portugal, Greece, Belgium, the UK, Ireland, Germany, Austria, Spain, the Netherlands, Denmark, Luxembourg, Italy, France, Sweden and Finland.

⁵ Problems of comparability due to measurement error, cross-country differences in definitions and measurement of incentive pay, differences in institutions, and government policies as well as long-term macroeconomic conditions are not large enough to gainsay the pattern in the figure.

⁶ The standardised index is the mean incidence of incentive pay, conditional on industry and workplace size. Technically, it is derived as the estimated country fixed effects from a cross-country panel regression that includes workplace size and a full set of industry dummies as additional controls.

Figure 2: Individual performance related pay and financial participation in Europe and US



Source: EWCS (2000-2005) and GSS (2002-2006) data.
 Note: Figures are computed using sampling weights.

Individual performance pay schemes have become more common, but it is likely this increase is due to use of discretionary merit pay rather than traditional piece rates. Studies suggest traditional piece-rate payments are in decline (Freeman and Kleiner, 2005). Group-based profit sharing and gainsharing has also risen, whereas there has been little change in the incidence of share ownership.

Table 1: Country patterns in incentive schemes

		Change in incidence (2000-2005)§	
		High	Low
Incidence (2000) §	High	AUS, SPA, ITA	FRA, SWE, FIN, US, GER
	Low	POR, GRE, BEL, IRE, LUX	DK, UK, NETHE

Source: EWCS and GSS data.
 Note: § 2000-2005 EWCS; 2002-2006 GSS. Computed using sampling weights

Table 1 classifies countries according to their (average) diffusion of overall incentive pay (i.e. any of individual/piece-rate, profit/gain sharing and share ownership) at the beginning of the period, and the change that occurred over the 2000-2005 period. Austria, Italy and Spain exhibit both a high-incidence and a significant (positive) change in the diffusion of incentive schemes over the period. Most other high-incidence European countries (FIN, FRA, SWE, GER) and the US are characterised by a fairly moderate increase in incentive pay schemes over the same period. Conversely, countries with initially lower incidence and diffusion of incentive pay (BEL, GRE, IRE, LUX, POR) show a catching-up with respect to high-incidence countries. Finally, there is a group of countries (DK, NETHE, UK), that show a lower than average incidence and moderate (positive) rate of change in incentive pay diffusion.

Determining the relative importance of the different factors behind the incidence and growth of performance related pay is not straightforward, as implied by some of the literature on these issues (for a review see European Commission, 1991, 1997 and 2006), since several variables are hard to measure and a large number of potentially confounding effects are at work. We discuss some of these in identifying empirical regularities about the incidence of incentive pay schemes within and across countries.

3. Empirical Regularities Within Countries

In this section we report some empirical regularities that characterise the diffusion of incentive pay in Europe and in the US by occupation, industry and firm size.⁷

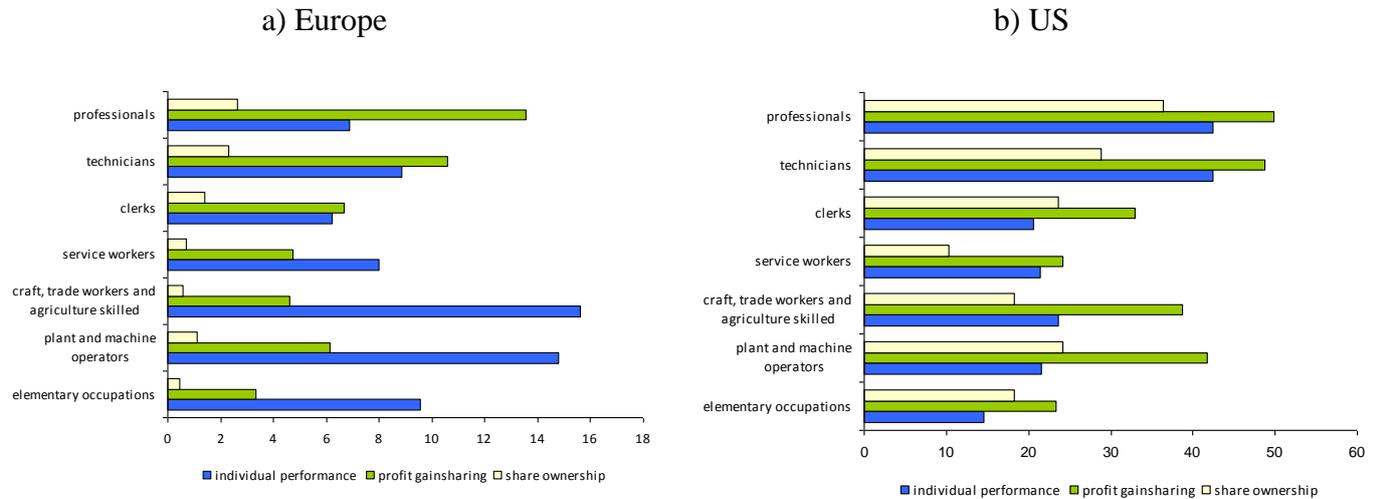
Figure 3 reports the distribution of individual pay schemes, profit/gain sharing and share ownership schemes by selected occupations in Europe and the US. In both Europe and US, the diffusion of profit/gain sharing schemes and share ownership is greater in high skilled than low-skilled occupations. In Europe, individual schemes are concentrated among those in low-skilled occupations whereas in the US it is those in high-skilled jobs who are more likely to have individual schemes. In Europe and the US the percentage of employees covered by financial participation schemes, whether share plans or profit-sharing, rises as one moves up the occupational hierarchy. But within each occupation financial participation is much more common in the US than in Europe.

Turning to the distribution of incentive schemes by industry (Figure 4), our data show that they are more diffused in manufacturing and financial services, and less prevalent in hotel and restaurant and in other services industries. The main difference between Europe and the US lies in the relative importance of individual and piece-rates pay schemes relative to financial participation schemes.

Finally, there are significant differences in the distribution of incentive pay schemes by firm size (Figure 5). A priori, the relationship between incentive pay and firm size is not obvious. On the one hand, monitoring costs of workers are likely to be higher in large firms, which may make it more profitable to adopt incentive modes of payment but, on the other hand, free riding behaviour should make the incentive effects weaker. Empirically, the distribution of incentive schemes shows an almost monotonic increase with size of firm.

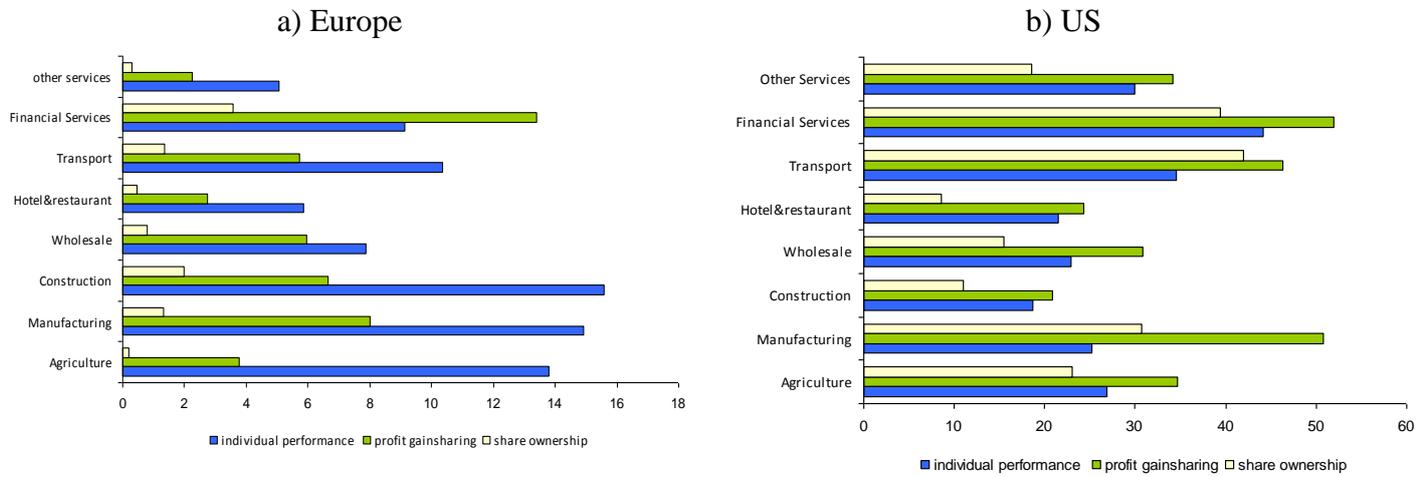
⁷ In comparing our figures with other studies we note that our sample only includes private sector employees with a permanent contract. Managers and CEO have been excluded from the present analysis since they are the exclusive focus of Conyon et al. (2012) in the same volume.

Figure 3: Individual incentive schemes, profit sharing and share ownership by occupation, Europe and US



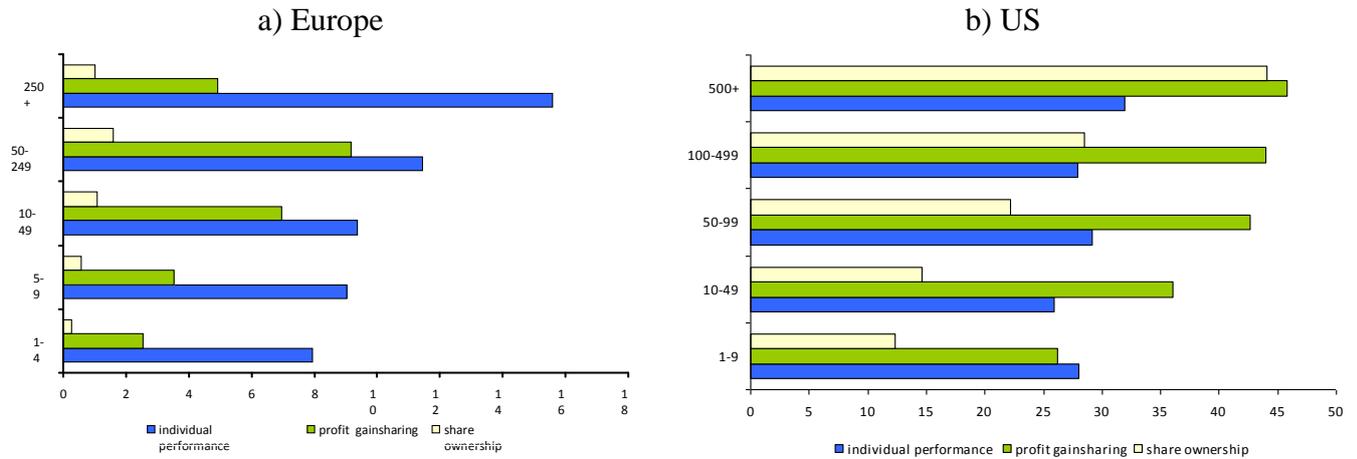
Source: EWCS (pooled 2000-2005) and GSS (pooled 2002-2006) data.
 Note: CEO and Managers are excluded. Sampling weights are used in the calculations.

Figure 4: Individual incentive schemes, profit sharing and share ownership by industry, Europe and US



Source: EWCS (pooled 2000-2005) and GSS (pooled 2002-2006) data.
 Note: Sampling weights are used in the calculations.

Figure 5: Individual incentive schemes, profit sharing and share ownership by firm size, Europe and US



Source: EWCS (pooled 2000-2005) and GSS (pooled 2002-2006) data.

Note: firm size bands differ between EWCS and GSS data. Sampling weights are used in the calculations.

Table 2 compares the characteristics of workers in incentive pay jobs with those on fixed pay only. Those receiving incentive pay are more likely to be males, more highly educated, and to have longer tenure. Incentive pay is more common in larger firms, in high-skilled occupations like professional, while it is less common in service jobs. Differences are generally more pronounced in the US, where pay levels are much higher for employees covered by (any) incentive pay scheme than for those who are not so covered. Marginal effects of the probability that an employee receives some form of incentive pay based on separate probit regressions for Europe and the US produce similar results to Table 2 confirming a lower probability of incentive schemes for women, young workers and the less educated. The partial effects for firm size are substantial: employees in medium-sized and large firms are characterised by a much higher probability to be in incentive pay jobs, as compared to employees in small firms.

Table 2: Descriptive statistics: Incentive schemes and fixed pay, Europe and US

	Europe		US	
	<i>Incentive pay</i>	<i>Fixed pay</i>	<i>Incentive pay</i>	<i>Fixed pay</i>
	(1)	(2)	(3)	(4)
<i>Personal characteristics</i>				
female	0.310	0.461	0.436	0.542
loweduc*	0.208	0.295	0.067	0.130
mideduc*	0.403	0.395	0.644	0.711
higheduc*	0.389	0.311	0.289	0.158
age <25 years	0.141	0.187	0.134	0.179
age 25-34 years	0.314	0.298	0.296	0.286
age 35-44 years	0.278	0.262	0.253	0.215
age 45+ years	0.267	0.253	0.316	0.321
<i>Industry and occupations</i>				
professionals	0.083	0.068	0.216	0.133
white	0.300	0.316	0.359	0.306
service workers	0.128	0.175	0.105	0.193
blue collars	0.490	0.441	0.320	0.368
agriculture	0.021	0.020	0.015	0.017
industry	0.642	0.548	0.513	0.568
services	0.337	0.432	0.472	0.414
<i>Firm's size</i>				
very small (EU1-4/US1-9)	0.103	0.180	0.159	0.236
small (EU5-9/US10-49)	0.130	0.190	0.229	0.263
medium (EU10-49/US50-99)	0.376	0.361	0.157	0.135
large (EU50-249/US100-499)	0.288	0.211	0.249	0.204
very large (EU250+/US500+)	0.104	0.058	0.207	0.162
<i>Work attributes</i>				
tenure	9.940	8.420	6.030	5.660
hours worked	39.113	36.765	42.966	39.689
Wages (EU-Euros/US-USD)	1,132.926	1,059.843	2,588.470	1,387.270
Nobs	3,814	20,345	668	943

Note: * the variable education for EWCS is only present in 2000.
Sampling weights have been used to compute statistics.

We also ran probit estimates to investigate the association of incentive pay with various indicators of “high involvement management” (HIM) practices (Table 3). Using different specifications with random and fixed country effects we find that, *ceteris paribus*, HIM is positively associated with the probability that a worker receives incentive pay. In particular, low job autonomy (-3 percent in EU; -14 percent in US) and performing repetitive tasks (-2 percent in EU; -12 percent in US) are associated with a lower probability that the worker is in a job covered by an incentive pay scheme. This is consistent with the notion that in jobs where the pace of work is dictated by the technology, workers can be more easily monitored and are less likely to receive incentive pay. Conversely, working in shifts and performing complex tasks are positively associated with the probability of a worker receiving incentive pay. Long working hours defined by more than 40 hours per week show opposite effects in Europe and the US: in European countries long hours of work are associated with a higher probability of incentive pay (+5 percent), while in the US the probability is lower (-5 percent). One possible explanation for this is the greater hours worked in the US, which means the threshold of 40 hours a week has a different meaning than in Europe.

Table 3: Incentive pay and work organisation, Europe and US

	Europe		US	
	(1)	(2)	(3)	(4)
Repetitive work (=1)	-0.023*** (0.007)	-0.016** (0.006)	-0.114*** (0.022)	-0.124*** (0.021)
Shift (=1)	0.027*** (0.012)	0.016* (0.008)	0.030 (0.040)	0.028 (0.040)
High work intensity (=1)	0.040*** (0.007)	0.036*** (0.006)	-0.011 (0.049)	-0.011 (0.049)
Low Job autonomy (=1)	-0.034*** (0.009)	-0.029*** (0.006)	-0.151*** (0.022)	-0.138*** (0.020)
Complex tasks (=1)	0.025** (0.012)	0.022*** (0.006)	-0.033 (0.039)	-0.027 (0.041)
Working hours>40	0.037*** (0.010)	0.044*** (0.009)	-0.050** (0.020)	-0.047*** (0.024)
Country random effects#	□		□	
Country fixed effects#		□		□
Rsquared	0.058	0.06	0.101	0.113
Nobs	14,544	14,544	1,530	1,530

Note: All estimates include also employee, firm characteristics and year dummies. Excluded categories are: males, primary education, <25 years, professional, agriculture, firm size <5 EU/<10 US;

For Europe we include country dummies, for US four macro regional dummies. Robust standard errors in parentheses. Significance levels: *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$. Probit partial effects reported.

If we consider correlates of individual incentive schemes and financial participation we find individual characteristics are more strongly correlated with financial participation than with individual schemes (Table 4). In Europe, high education is not statistically associated with having individual incentive pay, while the blue collar dummy is positive and statistically significant – the opposite of the pattern in the US. The likely reason is that individual pay schemes for employees in Europe are more often old style piece-rates rather than merit pay based on objective and subjective assessments of performance. In Europe, firm size monotonically increases the probability of incentive pay with similar magnitudes for both individual and financial participation schemes whereas, in the US, there is no statistically significant effect of firm size for individual schemes and much larger effects on financial participation than in Europe.

Table 4: Types of incentive schemes, Europe and US

	Europe		US	
	Individual schemes	Financial Participation	Individual schemes	Financial Participation
Employee Characteristics				
Female (=1)	-0.044*** (0.005)	-0.049*** (0.004)	-0.128*** (0.026)	-0.112*** (0.030)
Mideduc (=1)	0.008 (0.009)	0.022** (0.010)	0.029 (0.040)	0.119*** (0.045)
Higheduc (=1)	0.005 (0.010)	0.052*** (0.012)	0.171*** (0.056)	0.257*** (0.052)
age 25-34 years (=1)	0.008 (0.007)	0.034*** (0.008)	-0.006 (0.037)	0.063 (0.043)
age 35-44 years (=1)	0.013* (0.007)	0.034*** (0.008)	0.038 (0.039)	0.143*** (0.044)
age 45+ years (=1)	0.001 (0.007)	0.024*** (0.008)	-0.031 (0.035)	0.091** (0.042)
White collars (=1)	0.006 (0.010)	-0.001 (0.007)	-0.013 (0.037)	-0.026 (0.045)
Service workers (=1)	0.017 (0.012)	-0.020*** (0.007)	-0.096*** (0.040)	-0.181*** (0.050)
Blue collars (=1)	0.034*** (0.011)	-0.056*** (0.008)	-0.150*** (0.038)	-0.136** (0.049)
Firm Characteristics				
Industry (=1)	0.013 (0.016)	0.012 (0.017)	-0.016 (0.093)	-0.064 (0.112)
Service (=1)	-0.009 (0.016)	-0.004 (0.017)	0.034 (0.094)	-0.054 (0.113)
small (EU5-9; US10-49) (=1)	0.014* (0.009)	0.009 (0.008)	-0.011 (0.035)	0.114*** (0.040)
medium (EU10-49; US50-99) (=1)	0.027*** (0.008)	0.024*** (0.007)	0.041 (0.042)	0.217*** (0.044)
large (EU50-249; US100-499) (=1)	0.047*** (0.009)	0.056*** (0.009)	0.015 (0.036)	0.241*** (0.039)
very large (EU250+; US500+) (=1)	0.074*** (0.015)	0.089*** (0.016)	0.012 (0.038)	0.291*** (0.039)
R-squared	0.079	0.104	0.077	0.106
Number of obs	14,583	14,583	1,530	1,530

There are also significant differences between Europe and the US in terms of the number of incentive schemes employees are subject to. Only a very small proportion of European workers (1.4 percent) is covered by two schemes, while over one quarter (25.2 percent) of US workers is in a job that combine individual and financial participation schemes. The coefficients in Table 5 are from an ordered probit equation that estimates the partial effect for the probability of a worker being covered by more schemes -- i.e. we report both individual (or group) incentive pay and financial participation (other categories, not reported, are fixed pay or individual (or group) incentive pay only). Women, the less educated, young persons and workers in blue collar and service jobs are less likely to be subject to multiple incentive schemes than workers with the opposite characteristics. Size of firm also increases the chance of having both a financial participation and an individual incentive system.

Table 5: Number of incentive schemes: Distribution and estimates (ordered probit), Europe and US

		Europe	US
Number of incentive schemes	0	<i>84.21</i>	<i>49.72</i>
	1	<i>14.38</i>	<i>25.08</i>
	2	<i>1.41</i>	<i>25.2</i>
Employee Characteristics			
Female (=1)		-0.068*** (0.004)	-0.113*** (0.025)
Mideduc (=1)		0.019** (0.008)	0.111*** (0.038)
Higheduc (=1)		0.040*** (0.010)	0.248*** (0.043)
Age 25-34 years (=1)		0.028*** (0.007)	0.048 (0.036)
Age 35-44 years (=1)		0.032*** (0.007)	0.118*** (0.035)
Age 45+ years (=1)		0.018** (0.007)	0.083** (0.035)
White collars (=1)		-0.001 (0.008)	-0.015 (0.039)
Service workers (=1)		-0.014 (0.009)	-0.159*** (0.045)
Blue collars (=1)		-0.023*** (0.008)	-0.124*** (0.042)
Firm Characteristics			
Industry (=1)		0.020 (0.017)	-0.083 (0.089)
Service (=1)		-0.009 (0.016)	-0.058 (0.091)
small (EU5-9; US10-49) (=1)		0.018** (0.008)	0.067** (0.034)
medium (EU10-49; US50-99) (=1)		0.039*** (0.007)	0.172*** (0.035)
large (EU50-249; US100-499) (=1)		0.075*** (0.008)	0.181*** (0.030)
very large (EU250+; US500+) (=1)		0.105*** (0.011)	0.216*** (0.031)
R-squared		0.0814	0.112
Nobs		14544	1530

Note: The dependent variable indicates the type of incentive pay schemes. It takes value 0 for fixed pay, 1 for individual or collective incentive pay and 2 for both individual, collective incentive pay and financial participation. All regressions include year dummies, and for Europe we include country effects, while for US macro regional dummies. Robust standard errors in parentheses. Ordered probit partial effects reported for top outcome=2. Significance levels: *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

To improve understanding of why there has been growth in the use of incentive pay we decompose the increase into changes associated with the characteristics of the workforce (i.e. more skilled workers, less service workers, increase in the proportion of large sized firms, etc.) versus changes in the probability of incentive schemes that are associated with

those characteristics.⁸ We do the same exercise for the differences between coverage by incentive systems between Europe and the US.⁹ Table 6 shows that in the US 38 percent of the growth is due to changes in the characteristics of workers and 62 percent to changes in the associated probabilities; whereas in Europe the trend is entirely attributable to changes in the probabilities - that is to say, it occurs within all worker types.

Table 6: Decomposition of incentive schemes over time (2005 versus 2000§)

	EU		US	
	coef	%	coef	%
Characteristics	-0.002	-3.63	0.0177	37.92
Coefficients	0.742	103.62	0.029	62.07
Raw differential	0.0716	100	0.0467	100

Note: Blinder–Oaxaca type decomposition for non linear estimation.
§ for the US the time span is 2006 versus 2002.

Table 7 shows the results of the decomposition between the EU and the US. Only fifteen percent of the difference in the incidence of incentive pay between the US and Europe is due to differences in the characteristics of US and European workers.

Table 7: Decomposition of incentive schemes, US versus EU

	US vs EU	
	coef	%
Characteristics	0.0513	14.96
Coefficients	0.292	85.04
Raw differential	0.342	100

Note: Blinder–Oaxaca type decomposition for non linear estimation.
Data are pooled over two surveys (2000-2005; 2002-2006).

Even controlling for a relatively large set of individual and firm characteristics, cross country differences in the probability that a worker receives some form of incentive pay remain large. We examine country differences next.

4. Empirical Regularities Between Countries

Because we have relatively few countries in our data set, we examine the links between the diffusion of incentive pay schemes and country variables with simple two variable comparisons of the incidence of incentive pay (always on the Y-axis) with measures of specific country characteristics (always on the X-axis). Patterns that replicate those found within countries are more likely to hold up under more detailed investigation.

The first empirical regularity is reported in Figure 6, where we correlate incentive pay (i.e. share of employees covered by an incentive scheme, on the Y-axis) and the size distribution of workplaces (on the X-axis). Incentive pay is less common in countries where a higher proportion of workers are in firms with less than 50 employees ($\rho = -0.35$)¹⁰.

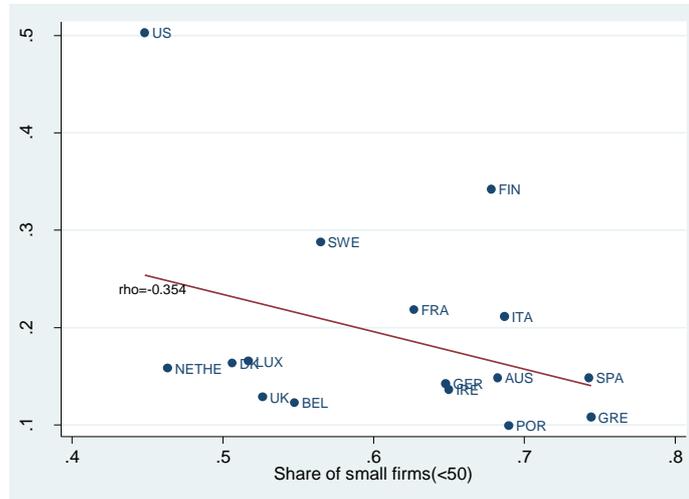
⁸ We perform a Blinder–Oaxaca type decomposition of the mean outcome differential of our dependent variable (incentive pay) as developed by Bauer and Sinning (2008). We also use Neumark's (1988) weighting matrix.

⁹ There are caveats for this exercise, namely the time period is not exactly the same in EU and the US; and there remain measurement differences between the EU and US surveys

¹⁰ The correlation is partly driven by the position of the US. If we exclude the US the correlation is still negative but the fitted line slightly flattens.

These tend to be Mediterranean countries where the share of family firm is larger, which is independently likely to limit the introduction and diffusion of employee financial participation schemes (Pendleton et al. 2005).

Figure 6: Incentive pay and share of small workplaces (<50)



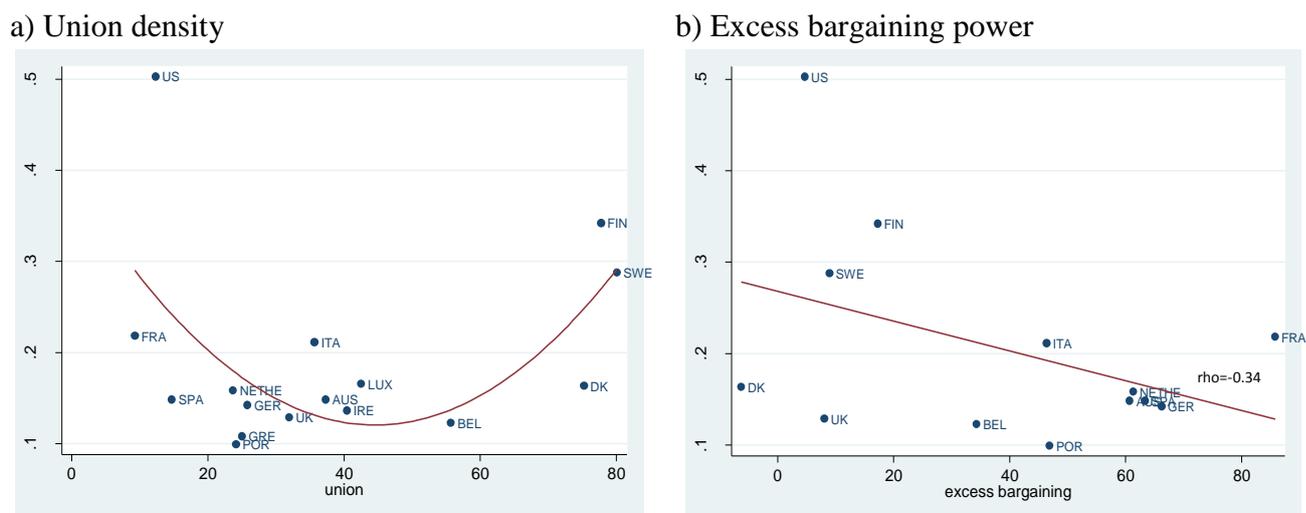
Source: EWCS, GSS and OECD institutional data.

Note: country averages (2000-2005 EWCS; 2002-2006 GSS).

Unions generally favour modes of payment that limit managerial discretion and underpin egalitarian pay. Workers paid on piece-rates are, in general, less likely to be union members. However, Figure 7a shows that the relationship between union density and the extent of incentive pay is “U”-shaped with a high incidence of incentive pay at both low and high levels of unionisation. This could reflect the possibility that strong unions may be able to negotiate the introduction of (collective) incentive pay schemes and monitor their application with direct participation in joint management committees. Since union density may not accurately reflect effective union bargaining power Figure 7b shows the relationship between incentive schemes and excess bargaining power, that is the ability of the union to extend the effects of collective bargaining over and above their membership.¹¹ The negative correlation shows that incentive pay schemes are more diffused in institutional settings where unions are weak or where they are encompassing; conversely when bargaining power is based on (excess) coverage there is likely to be strong opposition to performance related and discretionary pay.

¹¹ Excess bargaining power is computed as the difference between collective contracts coverage and union membership. In France, for example, union coverage is close to 95 percent while union membership is less than 10 percent; conversely in Sweden both coverage and unionisation are very high and excess bargaining power is low. The extent of excess bargaining coverage depends on mandatory (or *de facto*) extensions of union contracts to the relevant occupation/industry.

Figure 7: Incentive pay, union density and excess bargaining power



Source: EWCS, GSS and OECD institutional data.
 Note: country averages (2000-2005 EWCS; 2002-2006 GSS).

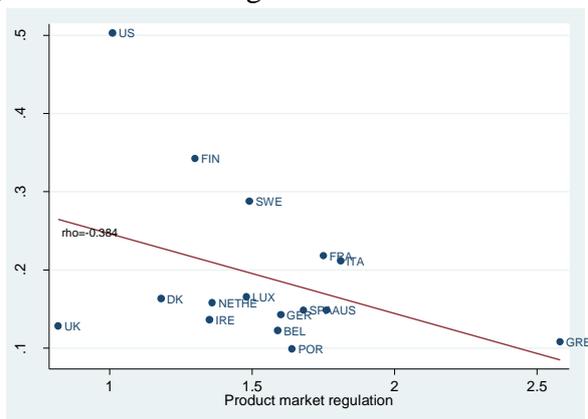
Figure 8a displays the relationship between a measure of the regulation of product markets and the diffusion of incentive pay. Figure 8b shows the relation between a measure of the regulation of labour markets and the diffusion of incentive pay. Both measures of regulation are negatively correlated with the diffusion of incentive pay ($\rho_{PM} = -0.384$; $\rho_{LM} = -0.434$). Countries with highly regulated product and labour markets -- such as Mediterranean and (some) Continental European countries -- exhibit a lower diffusion of incentive pay. Perhaps greater regulation reduces competitive pressures to introduce performance related pay to attract, retain and motivate high ability employees?

Capital market development is also associated with the diffusion of incentive pay. Sharing and ownership schemes are more likely when a larger proportion of companies are listed on the stock exchange or capital markets are otherwise more developed. Figure 9 shows a strong positive correlation ($\rho = 0.51$) between an index of capital market development¹² and the diffusion of incentive pay. Nevertheless, there is a high degree of variance in the incidence of sharing schemes in countries scoring highly on capital market development (Festing et al. 1999, Pendleton et al. 2001; Poutsma, 2001).

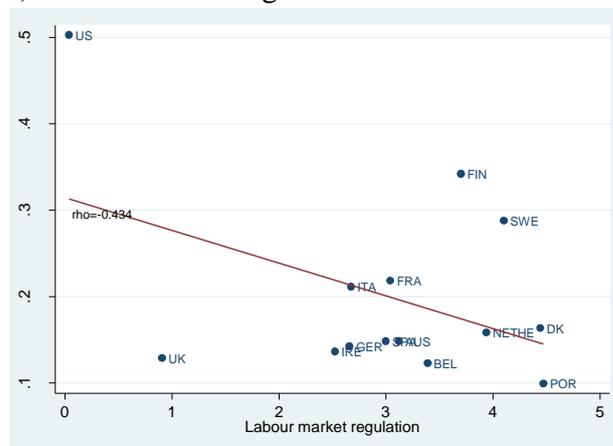
¹² We use the World Bank Capital market index.

Figure 8: Incentive pay and market regulation

a) Product market regulation

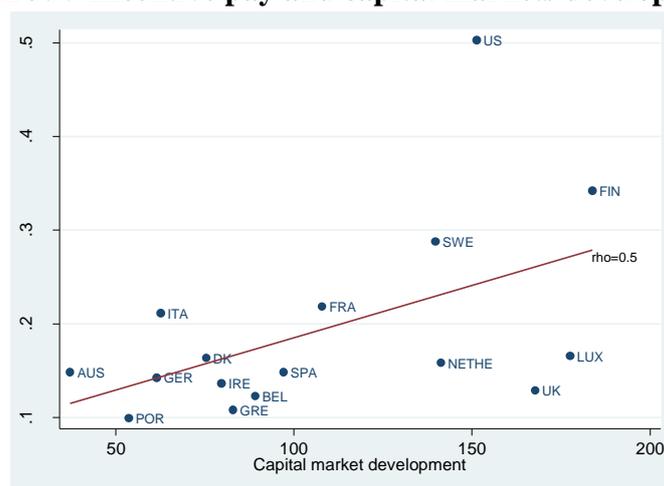


b) Labour market regulation



Source: EWCS, GSS and OECD institutional data.
 Note: country averages (2000-2005 EWCS; 2002-2006 GSS).

Figure 9: Incentive pay and capital markets development



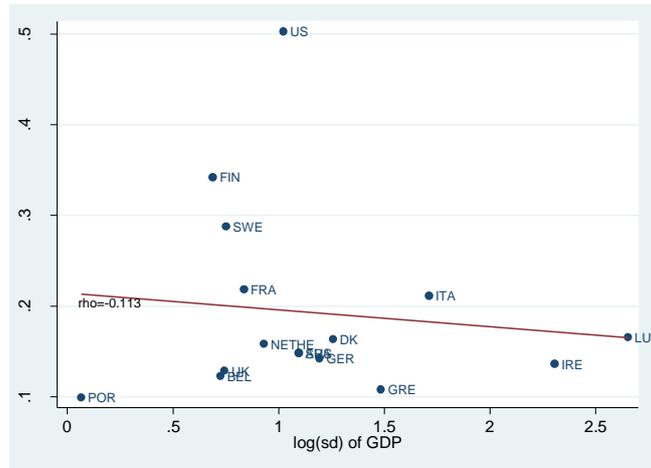
Source: EWCS, GSS and World Bank Capital market index.
 Note: country averages (2000-2005 EWCS; 2002-2006 GSS).

Output variability is often treated as an indicator of high demand for flexibility by firms. Flexibility over the wage bill can come through incentive pay. However, Figure 10 does not support this hypothesis, as the correlation is weak and bears the opposite sign ($\rho = -0.113$).

Finally, “high involvement management” practices are likely to be associated with incentive pay as discussed earlier. In Figure 11 we relate an index of several high involvement management practices to the incidence of incentive pay.¹³ The figure documents a large spread in management practices across countries and a positive relationship with the diffusion of incentive pay ($\rho = 0.219$).

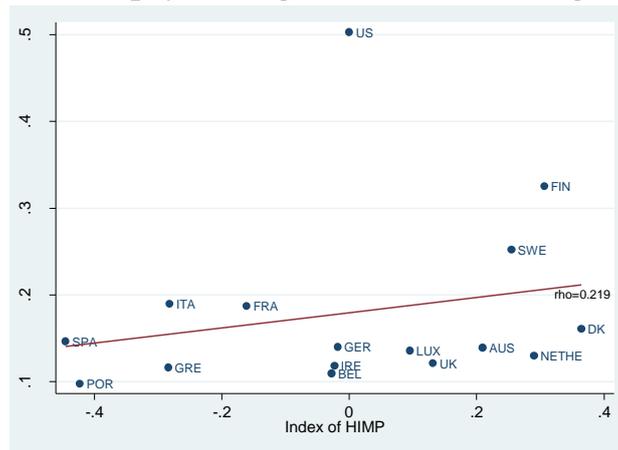
¹³ To construct our indicator of HIMP, we use principal component analysis to extract the first factor out of a large number of management practices drawn from EWCS data.

Figure 10: Incentive pay and output variability



Source: EWCS, GSS and Eurostat.
 Note: country averages (2002-2005 EWCS,2002-2006 GSS).

Figure 11: Incentive pay and high involvement management practices



Source: EWCS, GSS.
 Note: country averages (2002-2005 EWCS,2002-2006 GSS).

Overall, the empirical regularities suggest the existence of an association between country attributes and the diffusion of incentive pay schemes.

5. Conclusion

Only a limited number of studies have investigated the diffusion of incentive schemes across different countries. We contribute to this literature by presenting new comparable data on the incidence and growth of incentive schemes in Europe and the USA. The share of workers who receive any form of incentive pay (i.e. individual, profit/gain sharing and share ownership) is strikingly different between countries, ranging from 10-15 percent in some European countries to over 40 percent in Scandinavian countries and the US. Individual pay schemes and financial participation appear to be on the rise across Europe, although their incidence remains much lower than in the US. There is some evidence of a catching-up for those countries with incidence below the median.

There are within-country and cross-country patterns in the diffusion in incentive pay that suggest that economic and institutional factors substantially affect the decision of firms and workers to choose this form of compensation and the type of incentive pay. When we look across countries we find incentive pay is less common in countries with a higher share of small workplaces. Higher product and labour market regulation are associated with lower use of incentive pay. Capital market development is a necessary requirement for a wider diffusion of incentive pay, particularly sharing and ownership schemes. Within countries, when we control for a large set of individual characteristics and company attributes, we find that the probability that a worker is covered by an incentive scheme is higher in large firms and in high-skilled occupations, while it is much lower for females. A decomposition of the differences in incidence between periods and across Europe and the US, shows an important contribution of coefficients, suggesting the existence of significant differences in the mechanisms that determine pay and incentive schemes both within and across firms, rather than in the distribution of characteristics of employees and workplaces.

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