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The Relationship between Financial Participation and Other Forms of Employee Participation: New Survey Evidence from Europe

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This article explores the relationships between financial participation and other forms of participation drawing on data collected from listed companies in Finland, Germany, the Netherlands and the UK.

The authors provide evidence on two questions. First, does the presence of either direct or indirect participation predict the use of profit sharing and employee equity plans? Second, to what extent is employee participation in profit sharing and equity plans influenced by the presence of other forms of participation? Overall, the results provide little evidence of complementarity between financial participation and other forms of participation. There are also clear differences between types of financial participation. It is found that indirect participation has a weak relationship with use of profit sharing and participation in profit sharing plans. Direct participation is not associated with the use of equity plans or profit sharing but with participation in stock acquisition plans. Employee participation in plan design is strongly associated with participation in profit sharing and stock acquisition plans but not stock options.

Keywords: employee share ownership, Europe, participation, profit sharing

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Introduction

The relationship between financial participation and other forms of employee participation has emerged as a major issue in discussions of financial participation.¹ A recent Communication from the European Commission notes that the benefits of financial participation (profit sharing and employee share ownership) are greatest when schemes are embedded in participative management systems (CEC, 2002: 19). It also suggests that employees and their representatives should be informed and consulted about financial participation schemes prior to their introduction (CEC, 2002: 12). There is now a reasonable body of evidence to support these claims. Various reviews of the empirical evidence (Blinder, 1990; Doucouliagos, 1995; Jones et al., 1997; Kruse and Blasi, 1997; Poutsma, 2001; Pérotin and Robinson, 2003) conclude that complementarity between financial participation and other forms of participation has a beneficial impact on productivity and performance outcomes. Furthermore, the 'determinants' literature has also observed a systematic co-existence of financial participation and direct forms of participation such as problem-solving groups and decision-making work teams (e.g. Festing et al., 1999; McNabb and Whitfield, 1998; Pendleton, 1997). However, evidence on linkages between indirect representative participation, such as consultation committees and works councils, and financial participation is mixed, with some studies finding that financial participation is more prevalent in unionized environments (Gregg and Machin, 1988; Pendleton, 1997) and others finding the opposite (Festing et al., 1999; Heywood et al., 1997).

In this article, we explore the relationships between financial participation and other forms of participation, drawing on data collected from listed companies in Finland, Germany, the Netherlands and the UK. We address two sets of questions. First, to what extent does the presence of either direct or indirect participation predict the use of profit sharing and employee equity plans? Second, to what extent is the extent of employee participation in profit sharing and equity plans influenced by the presence of other forms of participation?

Our results challenge the view that financial participation and other forms of participation are complementary. Overall, there is little evidence of consistent, strong relationships between financial participation and other forms of participation. The other key finding is that the various types of financial participation differ in their

relationships with participation, especially indirect participation. Contrary to expectations, direct participation has weak and insignificant relationships with profit sharing and employee share ownership, though it does influence participation rates in stock acquisition plans. There is a positive relationship between indirect participation and profit sharing but negative relationships with employee share ownership. The lack of complementarity is especially marked for stock option plans. However, employee participation in plan design does have positive and significant impacts on participation in profit sharing and stock acquisition plans.

This article adds to the extant literature in several ways. First, we distinguish more precisely between types of equity plan than is common in many studies: stock option plans are distinguished from other share acquisition plans. Second, we add to the typical analysis of determinants by focusing on employee participation rates as well as plan presence. Although participation rates will be influenced by company decisions about eligibility, participation in a plan will also be an employee-level decision. Third, we extend the analysis to countries that have not featured in financial participation research to date, such as Finland. Four, we are able to assess the role of employee participation in plan design, as well as direct and indirect participation more generally. Overall, the most important contribution is the evidence that relationships with other forms of participation differ between forms of financial participation, and that these relationships are either weak or contrary to predictions in many instances. The results thus challenge what has come to be the 'conventional wisdom' in research into profit sharing and employee share ownership.

Review of the Literature

Complementarities between human resource management practices have received much attention in the recent literature on the economics of organization, industrial relations and HRM. A series of studies has emphasized the role of 'bundles' of HRM practices, including financial participation, in contributing to superior organizational performance. Some studies have identified financial participation as one practice among several that form part of such bundles (e.g. Ichniowski et al., 1997), while others have focused specifically

on the relationship between financial participation and other forms of participation (e.g. Ben-Ner and Jones, 1995; Levine, 1995).

There are several reasons why companies adopt financial participation and other forms of participation. Financial participation may be used to align the interests of employees and the organization by linking employee rewards to organizational outcomes. Equity ownership plans may go further by making employees partial (or full) owners of their company. This may lead employees to feel a sense of ownership, and thus develop greater commitment to their company.

Companies adopt direct participation practices for reasons of 'dynamic efficiency' (Aoki, 1990). Participation may improve communication and cooperation between management and workers. Furthermore, direct participation may encourage employees to coordinate their work tasks without supervision, thereby saving management time. Joint problem-solving in the production/service delivery may facilitate organizational learning, leading to higher quality human capital and greater efficiency.

Representative participation is not necessarily a company initiative as external pressures (e.g. unions) or legal requirements may force the introduction of representative institutions, such as works councils. However, companies may benefit from representative participation in several ways. Employees may be more likely to accept decisions that they helped to make. Deliberations between employee representatives and management may improve the quality of decisions. Finally, representative participation may improve employee-management relations more generally.

There are several reasons why financial participation can be complementary to direct participation. In themselves, financial participation plans are vulnerable to a free-rider effect: each employee may rely on other workers to deliver the enhanced output and performance necessary to bring about the incentive payments. This is likely to be a significant limitation of financial participation plans in all but the smallest work environment (Oyer, 2004). Direct participation schemes may ameliorate the free-rider problem by encouraging a cooperative corporate culture (Weitzman and Kruse, 1990) and/or mutual monitoring (Kandel and Lazear, 1992). At the same time, financial participation can provide an incentive for employees to share information, thereby contributing to the effectiveness of work teams, quality circles and suchlike (Ben-Ner and

Jones, 1995; MacDuffie, 1995). Furthermore, since some financial participation plans typically require communication with employees (to meet securities regulations, for instance), firms with prior forms of participation will typically face lower set-up costs when introducing financial participation (see Eaton and Voos, 1992). Also, a perceived willingness of management to share information may signal to employees that managerial motives for a financial participation plan are not opportunistic.

Complementarities between financial participation and indirect participation are less obvious. Unions may be hostile to financial participation if it is perceived as a management instrument to undermine employee representation. Alternatively, financial participation may be 'sucked into' productivity bargaining at company or workplace level as a pay-off for workforce agreement to productivity initiatives. However, there is little evidence to date of representative involvement in the design of financial participation. UK evidence indicates that collective bargaining and financial participation usually operate independently, even though both may be present (Pendleton, 2005). It is possible, though, that there are differences between types of financial participation. Profit sharing may be seen as a form of rent sharing that readily fits with the practice of collective bargaining. Employee share ownership, on the other hand, can be seen as occurring in the 'ownership domain' of the company, and thus is quite distinct from employment and its regulation.

A further issue with representative participation is the difference in industrial relations regimes between countries. The statutory support for works councils in Germany and the Netherlands, for instance, can be contrasted with the more voluntary regime in the UK. Some countries may have made relatively less use of financial participation than others because they have developed alternative means of securing employee consent and commitment. If a country has a well-developed works council system, for instance, does it need employee equity plans? Representative participation and financial participation may therefore function as substitutes for each other rather than complements. Equally, a closer complementarity between representative participation and financial participation plans may be anticipated in those countries with more extensive legal regulation of representative participation.

Finally, an interesting question is whether employee representatives are involved in the design and implementation of financial

participation plans. Employee involvement of this sort may help to protect employees from the risks associated with financial participation (Levine, 1995), and thus increase employee participation in these plans. As mentioned earlier, European Commission initiatives on financial participation have argued that employees should be fully involved and consulted prior to the introduction of a plan (CEC, 2002). However, there has been little large-scale evidence on this question, though there has been a certain amount of case study research into the introduction of employee ownership (Pendleton, 2001, for example).

Empirical Evidence

Most recent evidence indicates that financial participation is more likely to have beneficial impacts on performance when other forms of participation are present (Doucouliagos, 1995; McNabb and Whitfield, 1998; Pérotin and Robinson, 2003). However, there is some recent counter-evidence such as Addison and Belfield (2000) and Kalmi et al. (2005). The evidence on coexistence between the two, irrespective of performance outcomes, is more evenly balanced. Poutsma and Huijgen (1999) found significant correlations between financial participation and direct participation in European countries included in the EPOC survey, and especially in France and the UK, the two countries with the highest incidence of financial participation. However, Festing et al. (1999), using data on France, Germany, Sweden and the UK in the Cranet survey, found weak relationships between direct participation and the presence of either profit sharing or share ownership, although job enlargement and flexibility were related to share plans in France and the UK, and to profit share plans in France.

As for indirect participation, the extant European evidence is mixed and contradictory. Festing et al. (1999) found strong inverse associations between union density and equity plans (except in France), and negative but insignificant relationships between density and profit sharing (except in the UK, where it was strongly negative). A later study for the European Foundation found weak relationships between union density and both profit sharing and equity plans, though union density was significantly inversely related to narrow-based equity plans (Pendleton et al., 2001). These pan-European studies contrast with earlier country-based studies,

mainly in the UK, where union density has been positively associated with the use of equity plans, at least up to a point (Gregg and Machin, 1988; Pendleton, 1997). Meanwhile, evidence from Germany indicates that the presence of works councils is not significantly associated with use of profit sharing, except in those establishments that are covered by an industry-wide collective bargaining agreement (Heywood et al., 1997). Further afield, both US and Australian evidence finds weak relationships between profit sharing and union density (Kruse, 1996; Drago and Heywood, 1995).

Several limitations can be observed in this literature. First, the type of financial participation is often not clearly distinguished. It is rare for equity-based plans to be separated into their constituent types. For instance, share option and other share acquisition plans are usually grouped together even though they have very different characteristics (risk exposure differs considerably between options-based and other equity-based plans). Furthermore, some studies (e.g. Festing et al., 1999) do not clearly distinguish between broad-based and executive-only financial participation plans. Second, it is uncommon for studies that investigate the relationships between financial participation and other forms of participation to include more than two or three measures of the latter (often because of multicollinearity between participation measures). Third, with the exception of Drago and Heywood (1995), the extent of employee participation in financial participation plans has not been considered. Yet, other forms of participation may be critical to high rates of employee participation for both administrative and trust-based reasons. Fourth, previous studies using quantitative data have not considered the involvement of employees or their representatives in the design and implementation of financial participation plans.

Key Research Questions

In this article, therefore, we examine potential complementarities by exploring the relationship between various forms of participation and financial participation. Three forms of participation are discerned in addition to financial participation itself: representative participation, direct participation and participation in the establishment and operation of financial participation. We distinguish

between profit sharing and equity plans, and, within the equity plan group, between share options and other forms of share acquisition. The empirical strategy in the article is to examine the relationship between the various forms of employee participation and both the presence of and participation rates in financial participation. The following questions are posed:

1. To what extent do the various forms of decision-making participation predict the use of financial participation?
2. Does the presence of direct and/or indirect participation influence the level of employee participation in profit sharing and equity-based plans?

Question 1 refers to decisions that are primarily made by companies and their managers, though these decisions may be influenced by prevailing patterns of employee representation and influence. Question 2, by contrast, refers to some extent to employee-level decisions, though the parameters will be set by managerial decisions about eligibility.

For both questions, we predict that direct participation will have stronger and clearer relationships than indirect participation with financial participation. Regarding Question 1, we predict that the presence of financial participation will be associated with the use of direct participation because complementarity is likely to raise returns while lowering set-up costs. Furthermore, the managerial decision to establish a financial participation plan may reflect beliefs about the efficacy of employee involvement that will also lead to the use of forms of direct involvement. Predicting the relationship between financial participation and indirect participation is less clear-cut. On the one hand, complementarity may be expected for the same reasons as proposed for direct participation. Also, in the case of profit sharing, the potential capacity for profit shares to be treated as wage supplements may enable them to be determined by extant bargaining processes. On the other, suspicion of financial participation by employee representatives where representation is present may constrain managerial capacities to use financial participation. For the same reasons, it may be easier for managers to introduce financial participation where indirect participation is absent or weakly developed. Absence of employee representation and the presence of financial participation may reflect a managerial ideology emphasizing 'common interests'.

The same considerations apply to Question 2. On the one hand, participation rates could be positively associated with indirect representation such as trade union committees because these forms of representative participation provide protection (real and perceived) against risk and managerial opportunism. The relationship is likely to be stronger in the case of share purchase plans than share options because the level of risk to employees is more immediate. On the other hand, participation rates in equity plans may be negatively associated with indirect participation because these plans are likely to be a more central feature of companies without 'traditional' forms of employee representation, with the result that employees are more likely to subscribe in such companies. Or, given risk aversion among employees, employees in high indirect participation firms may use their decision-making power to limit the use of these plans. Direct participation is likely to be positively associated with share ownership participation (both options and share purchase plans) because provision of employee involvement will encourage a high-trust work environment that will be conducive to employee subscription to the share plan. Employee involvement in the design, introduction and administration of share plans may positively influence employee participation in the share plan because of protection against managerial opportunism.

Data

To address these questions we utilize a dataset consisting of a sample of publicly traded firms in four EU member countries: Finland, Germany, the Netherlands and the UK. We concentrate on listed firms because previous work has indicated that listing is a very powerful influence on the incidence of share-based financial participation (Pendleton et al., 2001).

The sampling frame was 661 stock market listed firms (see Table 1). The data were collected in spring 2001. For the two smaller lists, Helsinki and Amsterdam, we contacted all companies in the stock exchange. In other countries, the sample was drawn from the largest 200 companies by market capitalization. In the UK, the sampling frame was the FTSE 100 plus a random sample of firms within the main market sectors (except investment companies) in the FTSE 350. In Germany, the largest 200 listed companies (excluding investment companies) were contacted.

TABLE 1
Number of Respondents in Each Country

Country	Initial Sample	Number of Responses	Response Rate (%)	Respondents as Percentage of all Responses
Netherlands	180	70	38.9	33.5
UK	169	56	33.1	26.8
Finland	145	42	29.0	20.1
Germany	167	41	24.6	19.6
Total	661	209	31.6	100

Information was collected using a structured questionnaire sent either to the person responsible for managing financial participation or to a senior human resource manager responsible for employee rewards. The questionnaire was designed to collect information on financial participation plans and other forms of employee participation. Information was collected on both consultative and delegative forms of participation (see Poutsma and Huijgen, 1999) as well as on indirect participation and employee involvement in governance. Information on union density was not sought because this measure (of union presence or power) does not have uniform implications between countries due to variations in institutional contexts.

The response rate overall was 31.6 percent, with the lowest being 25 percent in Germany, and the highest in the Netherlands (39 percent). The data may suffer from selection bias insofar as firms with financial participation may have been disproportionately likely to respond. Given the lack of comprehensive national statistics on financial participation in some countries, this cannot be ruled out. However, our data also *understate* the real incidence of schemes. For instance, in Finland in 2001 over 75 percent of publicly listed firms had stock option schemes (Jones et al., 2006), while our data suggest that only 55 percent of firms have stock option plans. Apart from potential sampling error, it may be that some Finnish firms that have only managerial schemes have not indicated their scheme in their response. With these cautions about the degree of representativeness of the respondents, we believe that the data give a good picture of participation practices in the upper reaches of the listed company sector in each country.

Summary size statistics (sales and employment) are shown in Table 2. As can be seen, the sample is quite heterogeneous and the size distribution is skewed to the right. There are also differences between countries: the UK and German companies are clearly bigger than their Dutch and Finnish counterparts.

Results

The Incidence of Financial Participation

Table 3 provides details of the incidence of financial participation plans. Equity schemes are more common than profit sharing schemes: over 70 percent of respondents have an equity scheme, while slightly over 50 percent of respondents have a profit sharing scheme. Stock option plans are widespread, with over 60 percent of respondents having such a plan. This does not mean that the use of other share plans, such as stock purchase arrangements, is confined to the residual between all schemes and stock option schemes. Most respondents with equity schemes have more than one scheme. Overall, nearly 90 percent of firms have some type of financial participation plan.

The above notwithstanding, broad-based profit sharing schemes are slightly more common than broad-based equity schemes. This is because profit sharing schemes are almost always broad-based, while a significant proportion (around one-third) of equity schemes are not. The incidence of broad-based profit sharing is similar between countries, ranging from just under 40 percent to 50 percent. The results for broad-based share plans also fit with institutional explanations: share plans are most prevalent in the UK, where there has been long-standing legislation to promote this form of financial participation. The UK also has the highest incidence of stock options plans, though not all of these are broad-based

The Relationship between Forms of Participation and Financial Participation

In the next stage of the analysis, the focus is on the relationship of direct and indirect participation with financial participation. Specifically, the intention is to determine to what extent various forms

TABLE 2
Summary Statistics of Sales and Employment, by Country

Country	Netherlands	UK	Finland	Germany	All
Sales, ^a minimum	0.1	60	20.4	27	0.1
Sales, median	600	3500	461	5500	1000
Sales, maximum	70,000	700,000	15,200	59,700,000	59,700,000
Sales, mean	3107	31,400	1904	2,150,000	422,000
Sales, SD	9651	129,000	3451	11,300,000	4,950,000
Sales, number of cases	57	29	31	28	145
Employment, minimum	20	76	12	110	12
Employment, median	875	8289	444	15,100	2858
Employment, maximum	100,000	165,000	18,000	120,400	165,000
Employment, mean	6406	29,449	2076	33,571	16,263
Employment, SD	15,286	40,600	3664	40,280	16,263
Employment, number of cases	59	45	35	28	167

^a Annual sales in million euros.

TABLE 3
Incidence of Profit Sharing, Options or Equity Ownership by Country
(in percentages of firms)

	Netherlands	UK	Finland	Germany	All
Profit sharing (all forms)	47.8	51.8	57.1	50.0	51.2
Broad-based profit sharing	37.3	45.1	50.0	39.5	42.4
Equity schemes (all forms)	63.8	89.3	57.1	80.0	72.5
Stock options	59.4	78.6	54.8	60.0	63.8
Broad-based equity schemes (including options)	33.3	51.8	23.8	35.0	36.7
Proportion of firms with at least one scheme	82.6	94.6	85.7	92.5	88.4
Proportion of firms with at least one broad-based scheme	56.7	66.1	66.7	57.9	62.7

Notes:

- (1) One firm may have multiple schemes.
- (2) The respondent is classified as having a broad-based scheme if it has at least one scheme where at least 50 percent of its employees participate.

of participation predict the use of financial participation. Altogether, six forms of participation are considered in addition to financial participation, and these were selected to reflect indirect and direct participation. Indirect participation items are the presence within the firm of a trade union committee, and a works council or joint consultative committee. These represent the main forms of indirect participation in European countries.² Direct participation items are employee surveys, suggestion schemes, quality circles and teamwork. Similar items have been used in previous work (e.g. MacDuffie, 1995; Freeman and Kleiner, 2000). The means of these variables, and the correlations between them, are shown in Table 4.

Table 4 suggests that there are complementarities between participatory practices. Of the 15 pairwise correlation coefficients, 10 are positive and significant and five are insignificant. There are no significant negative correlations. The direct participation variables are more heavily correlated within themselves than with the forms of indirect participation. This supports the contention that forms of direct participation can be viewed as complementing each other.

Given the extent of correlation between the participation variables, the issue arises as to how to deal with these in multivariate analysis. To deal with potential multicollinearity, the direct participation

TABLE 4
Means (Standard Deviations) and Pearson Correlation Coefficients between the Participation Variables

Variable	Means (SD)	Trade Union	Works Council or Other	Teamwork	Quality Circle	Employee Survey	Suggestion Scheme
Trade union committee	0.35 (0.48)	1.00					
Works council or joint committee	0.74 (0.44)	0.27***	1.00				
Teamwork	0.38 (0.49)	0.02	0.02	1.00			
Quality circle	0.40 (0.49)	0.24***	0.16**	0.27***	1.00		
Employee survey	0.46 (0.50)	0.10	0.01	0.05	0.22***	1.00	
Suggestion scheme	0.48 (0.50)	0.27***	0.17**	0.27***	0.46***	0.24***	1.00

Notes:

(1) Significance levels: *** < 1%, ** < 5%, * < 10%.

(2) $N = 167$.

variables were brought together in a summated scale.³ Direct participation has been proxied by summated scales elsewhere in the literature (e.g. MacDuffie, 1995).

Variations in national industrial relations regimes and statutory requirements suggest that indirect participation variables should be incorporated into the regressions in a different way from the direct participation variables. At firm level, trade union representation may occur primarily through works councils rather than separately in some countries, so it is not readily clear that a firm with these two forms of participation is more participative than a firm with just one. For these reasons, we created a dummy variable for indirect participation with a value of 1 if at least one of the following were present: trade union, works council or joint consultative committee.

We mount probit estimations of the determinants of various forms of financial participation, with the participation variables included as independent variables. Several control variables are included. The natural log of employment is the measure of firm size. It should be noted that although the sample basis was size by market capitalization, the inclusion of high value smaller firms (e.g. biotechnology firms) means that there is greater variation in employment size than might be expected (see Table 2). Employment size is expected to have two contradictory effects. On the one hand, economies of scale in scheme set-up and administration suggest a positive relationship. On the other hand, the free-rider effect suggests a negative relationship between employment size and financial participation.

We also control for the *relationship between different forms of financial participation*. There is evidence from Japan and from the US that firms may operate more than one type of financial participation scheme simultaneously (Jones and Kato, 1995; Dube and Freeman, 2001). It is worth noting that, while profit sharing and equity schemes are often lumped together as 'financial participation', they may operate to a quite different logic. Profit sharing is based on accounting figures and thus reflects past performance. The returns to equity schemes, in turn, depend on share price performance and reflect expectations of future performance. In our data, the coexistence of profit share and equity plans sometimes results from the fact that profit shares are paid at least partly in equity, as in the Approved Profit Sharing plan in the UK. As noted earlier, we cannot fully distinguish between cases where equity awards are

part of a profit sharing plan and cases where the two schemes operate separately.⁴

Finally, dummies are included for each country in our analysis (the UK being the omitted category), for information and communication technologies (ICT) firms, and for services (manufacturing being the omitted category). Our expectations related to country dummies are based on previous cross-European research, as well as the results presented earlier, that has suggested that broad-based share schemes are common in the UK (Pendleton et al., 2001; Poutsma and de Nijs, 2003). We expect equity schemes to be most common in ICT because (young) employees in that sector are assumed to be risk-positive, there is a pronounced need to lock in unique human capital, and there are often liquidity problems for the firm (Ittner et al., 2003). Financial participation is predicted to be more prevalent in services rather than manufacturing environments due to the nature of work tasks (e.g. less easily measured) and the nature of the workforce.

Table 5 shows the results (marginal effects) of the probit analysis. We estimate separately the probabilities of having broad-based profit sharing and broad-based equity schemes.⁵ The criterion for 'broad-based' is a positive response to a question asking whether plans are broad-based, supplemented with a 50 percent or higher participation rate.

The specification for the profit sharing equation is relatively weak. The likelihood ratio chi-square, which describes the overall significance of the model, is only significant at the 10 percent level, and the overall explanatory power, measured by the pseudo R^2 , is low. The two independent variables that are significant in this specification are the number of employees (larger firms are more likely to have profit sharing) and the dummy for indirect participation. The latter finding indicates that indirect participation might increase the probability of observing a profit sharing scheme. However, this finding is significant only at the 10 percent level. The direct participation scale is not significant.

The specification for the broad-based equity plans is statistically more robust than the profit sharing specification. Here we observe results that are contrary to the profit sharing results: the impact from indirect participation is now negative and significant at 5 percent. Thus, there is evidence that the presence of trade union or works council actually reduces the likelihood of observing a broad-based equity scheme. Also, there is now an inverse relationship with

TABLE 5
The Probability of a Broad-Based Financial Participation Scheme
Probit Marginal Effects (z-values in parentheses)

	Broad-Based Profit Sharing Scheme	Broad-Based Equity Scheme	Broad-Based Share Acquisition Plan	Share Options Plans
Broad-based equity scheme (dummy)	0.12 (1.53)			
Broad-based profit sharing scheme (dummy)		0.09 (1.55)	0.20** (2.44)	0.11* (1.65)
Indirect participation (dummy)	0.18* (1.81)	-0.24** (-2.37)	-0.12 (-0.95)	-0.27** (-2.51)
Direct participation scale	0.04 (0.82)	0.02 (0.17)	0.16 (1.04)	-0.01 (-0.15)
Netherlands	0.01 (0.12)	-0.36*** (-3.31)	-0.59*** (-5.34)	-0.34*** (-2.99)
Finland	0.16 (1.29)	-0.61*** (-4.45)	-0.62*** (-5.02)	-0.52*** (-3.81)
Germany	-0.05 (-0.54)	-0.15 (-1.42)	-0.40*** (-3.16)	-0.17 (-1.42)
ICT	-0.03 (-0.42)	0.12* (1.86)	0.05 (0.39)	0.19** (2.48)
Services	0.01 (0.09)	-0.04 (-0.56)	0.04 (0.38)	-0.02 (-0.23)
Number of employees (log)	0.04** (2.20)	-0.05*** (-2.72)	-0.06** (-2.05)	-0.05*** (-3.04)
Likelihood ratio χ^2	16.79*	40.04***	56.04***	38.45***
Pseudo R^2	0.07	0.18	0.30	0.18
Expected probability	0.22	0.79	0.65	0.71

Notes:

- (1) Significance levels: *** < 1%, ** < 5%, * < 10%.
- (2) $N = 167$.
- (3) UK is the omitted country and manufacturing is the omitted industry.
- (4) Expected probability is counted when keeping the log of number of employees at its mean and other variables at zero. Marginal effects are expected changes in expected probability when the independent variables increase by one unit.

the number of employees: smaller firms are more likely to have broad-based equity plans. Note that all the country dummies are negative, and for Finland and Netherlands they are significant. This shows that broad-based equity plans are clearly more common in the UK than in other countries. Finally, the ICT dummy is positive and significant at the level of 10 percent.

We also examine more specific forms of share plans: share acquisition and stock option plans. We cannot clearly separate out firms with these two forms of share plans: a substantial number of share plan firms have both forms. Nevertheless, the results indicate some differences in predictors. In the results for share acquisition plans, all of the country dummies become significant. In combination with the significant effect of profit sharing, this suggests that the results are picking up the UK Approved Profit Sharing scheme (which allocates shares to employees, resourced by profits). By contrast, stock option plans are strongly predicted by the ICT dummy and the indirect participation dummy. The incidence of both types of equity schemes correlates negatively with size. Finally, direct participation continues to be insignificant in both cases.

To sum up the findings from Table 5, profit sharing is positively related to indirect participation (albeit weakly), while broad-based equity schemes, stock options in particular, are negatively related to indirect participation. There are no significant links between any form of financial participation and direct participation in decision-making. The country effects are also consistent with the results presented earlier, and reinforce the importance of national institutional and legislative contexts.

Employee Participation in Financial Participation Plans

The final stage of the analysis is concerned with the determinants of employee participation rates in broad-based financial participation, and specifically whether other forms of employee participation have a positive effect on these. We anticipate positive effects on the grounds that these other forms of participation will add to a participatory culture and generate trust. All things being equal, these considerations should be more important for equity plans than for profit sharing because the former typically require employees to invest or at least to explicitly 'opt in' to the plan (because of regulatory requirements).

TABLE 6
Employee Participation Rates in Financial Participation by Country. Mean (standard deviations) and Median Percentages (number of observations)

	Netherlands	UK	Finland	Germany
Participation rate, profit sharing	77.16 (34.90)	78.38 (24.33)	80.96 (26.77)	76.44 (35.00)
<i>N</i>	98 (31)	85 (24)	97.50 (24)	100 (18)
Participation rate, equity plan	51.07 (37.51)	57.10 (30.04)	53.05 (33.12)	52.26 (32.26)
<i>N</i>	50 (42)	55 (43)	50 (19)	50 (27)
Participation rate, stock options	50.51 (37.90)	57.75 (31.06)	52.11 (33.81)	52.67 (33.18)
<i>N</i>	50 (39)	57.5 (38)	45 (18)	50 (21)
Participation rate, share acquisition	55.73 (37.37)	58.73 (29.60)	50.00 (38.59)	50.63 (28.45)
<i>N</i>	50 (11)	60 (41)	40 (10)	41.5 (16)

Notes: Where respondents participate in options and share acquisition programmes we are unable to distinguish the separate participation rates in each. Equity plans include stock appreciation rights and convertible bonds.

Table 6 provides descriptive statistics for employee participation rates in the various forms of financial participation. Average participation rates in profit sharing are above 75 percent in all countries, with the median rate being 100 percent or just under. By contrast, the average participation rate in share plans is much lower, with a mean in the four countries of just over 50 percent, and a median participation rate of a similar order.

Additional independent variables are included in the regressions at this stage. We control for the recent performance of the firm, on the grounds that higher performance is likely to stimulate higher participation, either because it may lead to larger profit share payouts or may boost the valuation of the listed company. This is a reverse argument to the typical causal path in the literature, which postulates that financial participation causes superior performance.⁶ Past performance was measured on a three-point scale where 1 indicates lower than average performance in the sector, 2 is average performance and 3 is above average performance upon adoption. Since

very few respondents indicated that their performance was below average, the variable was recoded into a dummy with the value 1 where performance was above average and 0 otherwise.

We also include controls for the use of tax breaks for employees and employers, where 1 = the presence of a tax break, 0 otherwise. The expectation here is that tax breaks, especially those for employees, are positively linked with participation rates.

We expect that employee participation in the management of financial participation will positively affect employee participation rates because of the protection apparently provided against hidden risk and managerial opportunism. The variable used is a five-point scale measuring the extent of employee participation in the development of the financial participation plan.

Since the dependent variable is a continuous measure (though censored at 0 and 100), ordinary least squares (OLS) is used to assess the determinants of the employee participation rate, and the results are shown in Tables 7 and 8. Two sets of specifications are shown: one where the independent variables are the same as those in the probit analysis (Table 7), and a second that incorporates the additional variables described earlier (Table 8). The new variables included in Table 8 have a value only if a plan is present, so the number of observations in the regressions is lower than in Table 7. A weakness of the OLS method in this context is that many observations are concentrated at the ends of the distribution, with the result that the standard errors may get overly large, thereby reducing the statistical significance of our findings. This is more of a problem with the profit sharing equations because participation tends to be more or less uniformly high. Therefore, the results should be interpreted with care.⁷ A further limitation of this analysis is that we do not have any direct information on the characteristics of employees and that we have to use rather broad proxies (e.g. industry sector) to capture these.

The results for profit sharing are similar to those presented in Table 5. Participation in profit sharing is related to the size of the firm (larger firms have higher participation rates) and to indirect participation (firms with representative participation have higher participation). The participation in equity schemes is also positively significant but has a minor impact. Again, direct participation is not significant.

In column 5 (Table 8) we present the results for profit sharing with the additional explanatory variables. Here, the only significant vari-

TABLE 7
The Determinants of Employee Participation Rates. OLS Estimates
(t-values in parentheses)

	(1) Participation Rate in PS Scheme	(2) Participation Rate in Equity Scheme	(3) Participation Rate in Share Acquisition Scheme	(4) Participation Rate in Stock Options Scheme
Participation rate in equity scheme	0.20* (1.82)			
Participation rate in profit sharing scheme		0.11* (1.82)	0.13** (2.58)	0.12** (2.00)
Indirect participation dummy	16.47* (1.80)	-17.21** (-2.58)	-6.43 (-1.13)	-18.66*** (-2.74)
Direct participation scale	8.72 (1.54)	0.54 (0.13)	4.13 (1.15)	-0.09 (-0.02)
Netherlands	7.79 (0.79)	-25.10*** (-3.62)	-45.08*** (-7.58)	-21.40*** (-3.02)
Finland	18.73 (1.54)	-40.04*** (8.39)	-50.15*** (-6.97)	-32.31*** (-3.77)
Germany	-1.05 (-0.10)	-8.14 (-1.04)	-24.28*** (-3.61)	-9.10 (-1.13)
ICT	-10.32 (-1.04)	22.74*** (3.21)	7.58 (1.25)	27.67*** (3.82)
Services	4.25 (0.54)	-1.23 (-0.21)	1.04 (0.21)	0.18 (0.03)
No. of employees (in log)	3.81* (1.95)	-3.74*** (-2.63)	-2.22* (-1.82)	-3.14*** (-2.16)
Constant	-15.97 (-0.78)	90.84*** (6.91)	69.19*** (6.14)	78.76*** (5.86)
F-test	2.03	5.86***	9.55***	5.51***
Adjusted R ²	0.05	0.21	0.32	0.20

Notes:

(1) Significance levels: *** < 1%, ** < 5%, * < 10%.

(2) $N = 167$.

able is employee participation in plan management. The direction of causality is not entirely clear. In the model, more participation in plan development leads to higher participation rates, via the effect that employees are more willing to participate in plans they have helped to create. However, a plausible alternative scenario is that managers decide that the scheme covers the entire workforce, and

TABLE 8
The Determinants of Employee Participation Rates. OLS Estimates
(t-values in parentheses)

	(5) Participation Rate in PS Scheme	(6) Participation Rate in Equity Scheme	(7) Participation Rate in Share Acquisition Plan	(8) Participation Rate in Stock Options Plan
Participation rate in equity scheme	0.05 (0.39)			
Participation rate in profit sharing scheme		0.14** (2.05)	0.13* (1.95)	0.19** (2.56)
Indirect participation dummy	13.41 (1.20)	-24.82*** (-3.11)	-6.28 (-0.85)	-30.47*** (-3.58)
Direct participation scale	7.85 (1.20)	6.19 (1.27)	10.89** (2.42)	2.14 (0.42)
Netherlands	1.60 (0.14)	-4.35 (-0.51)	-35.43*** (-4.47)	-6.11 (-0.67)
Finland	9.81 (0.68)	-11.11 (-0.90)	-26.57** (-2.33)	6.65 (-0.51)
Germany	-11.41 (-0.93)	-4.92 (-0.51)	-19.12** (-2.15)	-7.01 (-0.69)
ICT	-12.85 (-1.15)	10.18 (1.29)	5.88 (0.80)	18.05** (2.14)
Services	7.56 (0.81)	-2.67 (-0.38)	3.42 (0.53)	-1.91 (-0.26)
No. of employees (in log)	2.99 (1.31)	-3.82** (-2.33)	-1.71 (-1.12)	-3.26* (-1.87)
Employee participation in the scheme design (1-5 scale)	11.02*** (2.82)	4.84 (1.31)	9.52*** (3.42)	-0.60 (-0.15)
Performance at adoption above industry average	0.78 (0.10)	-5.93 (-0.95)	3.52 (0.61)	-7.90 (-1.19)
Employee tax reliefs		15.45** (2.03)	14.88** (2.10)	13.33 (1.64)
Company tax reliefs		-1.16 (-0.15)	2.07 (0.30)	2.71 (0.34)
Constant	-10.63 (-0.40)	84.97*** (4.87)	35.39** (2.19)	86.47*** (4.66)
<i>N</i>	129	103	103	103
<i>F</i> -test	1.80	2.97***	5.83***	3.25***
Adjusted <i>R</i> ²	0.06	0.20	0.38	0.22

Significance levels: *** < 1%, ** < 5%, * < 10%.

when this decision is made, the managers allow (or encourage) employees to participate in plan development.

In column 2 (Table 7) the results for equity scheme participation are shown. As could be expected, several of the country dummies are significant. Also the industry dummy ICT is significant and large at 22 percent, indicating that ICT firms typically operate inclusive schemes. The indirect participation dummy is again significant and negative, showing that firms with indirect participation have on average 17 percent lower participation rates. This is consistent with the view that employees may oppose equity schemes when they have a say, perhaps due to the risk involved in them. It also suggests that employee participation in equity schemes is not dependent on the provision of voice mechanisms to protect their investments. As in the probit, direct participation is not significantly related to equity plans. The negative relationship with the number of employees is also present in this specification.

Column 6, in Table 8, adds the further variables. The country dummies are no longer significant, and some of the country effects are likely to be channelled into the tax effect (employee tax relief is found to be significant, but employer tax relief is not). The performance effect is negative, though insignificant. The indirect participation dummy continues to be negative and significant, and the impact from profit sharing remains positive and significant. The coefficient on direct participation is larger than before but continues to be insignificant.

Columns 3, 4, 7 and 8 examine the determinants of high participation rates in specific types of equity plan. Country dummies are significant for the restricted specification for share acquisition plans and they remain significant when employee tax reliefs are added in column 7. This suggests that UK share acquisition plans are more inclusive than the plans in the other sample countries. Participation in a profit sharing plan has similar effects in the two specifications, suggesting that the UK Approved Profit Sharing plan is being picked up here. For the first time, we observe a significant (positive) coefficient for direct participation in column 7. There is also a significantly positive coefficient on the variable for participation in plan design in stock acquisition schemes. This is consistent with the view that those investing in potentially risky stocks require protections against risk and managerial opportunism, and suggests that high participation rates in stock acquisition plans require employee involvement in plan design.

The stock option results (columns 4 and 8) are somewhat different from the stock acquisition plan results. Country effects are less pronounced in the restricted specification and are insignificant in the full specification. The ICT dummy is most powerful in both equations and there are also significant negative size effects. Employee participation is not apparently dependent on tax concessions. The indirect participation dummy is negative in both columns 4 and 8, while the direct participation and participation in plan design variables are insignificant. These results suggest that stock options in particular do not form part of a participative work culture. We may speculate that broad-based stock options are used for rather different purposes than employee involvement, such as providing rewards where there are liquidity constraints on the firm.

Conclusions

In this article, we have used data from listed firms in four EU countries to investigate the relationship between several types of financial participation and various other forms of employee participation. Overall, our expectation was that these other forms of participation would form complementary relationships with financial participation, as the literature tends to predict. The most important results generated by the study are twofold. The first is that there is not clear evidence of strong complementarity between financial participation and other forms of participation. Entirely contrary to expectations, direct participation is not significantly related to the presence of either profit sharing or employee share ownership plans, and is only associated with employee participation rates in stock acquisition plans. Indirect participation is generally negatively related to employee stock plans and employee participation in them. It is, however, positively related to the presence of profit sharing, though not employee participation in such plans. Employee participation in plan design positively influences participation rates in profit sharing and stock acquisition plans. The second finding flows from the above: there are clear differences between types of financial participation, and between types of employee share ownership plan, in their relationships with other forms of participation.

These results suggest a number of scenarios in Europe. The first is where large companies use broad-based profit sharing supported by indirect participation and participation in the management of the

plan. These firms may be viewed as having 'traditional' collectivist industrial relations, and lacking well-developed forms of direct participation. An explanation is that profit sharing is more complementary to indirect representation than equity-based plans because it has much closer linkages to core employee remuneration. Profit shares, except when paid in shares, are paid from the wages budget and provide cash supplements to wages or cash contributions to saving plans. Since employee wages are typically subject to collective bargaining in many large European firms, profit sharing seems likely to come into the ambit of collective bargaining, even where it is designed to bring about greater flexibility in pay and pay determination. Even where profit sharing is not formally subject to collective bargaining, it may be stipulated as an issue for works councils, as in Germany. Profit sharing may form part of tacit 'productivity bargaining' conducted by works councils. By contrast, equity plans in most cases are formally distinct from wages and are governed separately by securities regulations. We would not expect therefore the same degree of complementarity with indirect participation.

A second scenario is the use of broad-based stock option plans in ICT firms. These firms are smaller (in terms of employment) than many listed firms with similar market capitalization, and may well suffer from liquidity constraints. In these cases, options may function as pay substitutes. These firms tend not to possess institutions of employee representation for a variety of reasons. The fact that there is also no relationship with direct participation suggests that options are primarily a form of deferred compensation rather than a route to sustained employee participation.

A third scenario is where employees are encouraged to acquire stock in their companies. The results suggest that this is a highly country-specific phenomenon, being found primarily in the UK in our study. The results appear to pick up the Approved Profit Sharing plan which distributed equity to employees and gave them the opportunity (in some companies) to purchase further shares. This plan has now been superseded by the Share Incentive Plan (SIP), in which employees can purchase equity with very favourable taxation concessions. It is possible that a small number of SIP firms are observed in the study since it was introduced around a year before this study was conducted. Although direct participation does not significantly predict these stock acquisition plans in our results, the marginal effect is quite large. Furthermore, direct participation does appear to encourage high participation rates. Indirect

participation is negatively related to plan presence and participation rates but this effect is not as pronounced as in other stock-based plans. Employee participation in plan design appears to be an important influence on participation rates. Of the stock-based plans, stock acquisition plans appear to be the most participative. On the basis of our results, the reason for this would appear to be a need to provide protection against risk where employees are asked to contribute to equity. This seems to be a more credible explanation than amelioration of free-rider effects in this context.

Our results have substantial implications for both policy and academic research into financial participation. It is clear that there is considerable heterogeneity of participation ‘constellations’ within financial participation. Profit sharing is very different from employee stock plans. There are clear differences between subtypes of employee stock plans. Policy initiatives to promote these instruments, and employee participation in them, need to take account of these differences. More radically, it is open to question whether the term ‘financial participation’ should be used to group together these instruments: the differences may outweigh the similarities. As for the academic literature, the results indicate that the ‘conventional wisdom’ regarding the complementarity between employee participation in decisions and financial participation needs to be revised. Theory needs to be refined to take account of how other forms of participation may relate to the specific characteristics of particular kinds of plan.

There is clearly a need for further research in this area. More finely tuned distinctions between types of plan would be helpful in future research. Also, it would be desirable to use measures that capture more of the ‘quality’ of participation than we were able to. Future research might go beyond simple measures of the presence of various forms of participation. Most important of all, it is desirable to assess the degree of coupling between forms of participation. Do the various forms merely coexist (or not) or are there active synergies between them, which are consciously promoted by actors within the firm? This type of issue is perhaps more readily investigated by case study methods, where detailed attention can be given to issues of process. The challenge will be to address this question in large-scale surveys.

Annex: Description of Financial Participation Schemes and Regulations in the Four Countries in 2001

In *Germany*, financial participation is viewed as participation in productive capital or capital participation. The legal framework provides for preferential tax treatment on employer payments to various forms of employee savings (including shares) and on the gains from those savings. Since 1999, additional savings may be invested in productive capital (shares or share-based funds), and savings in productive capital attract preferential government savings premiums. Stock options were prohibited until 1998, and from the beginning of 2002, capital gains from the sale of shares have been treated more favourably.

As in *Germany*, employee savings schemes are at the centre of financial participation in the *Netherlands*. Company saving schemes were introduced in 1994, and the most widespread form of contribution is a profit sharing scheme. The employer secures tax advantages on the contribution to the fund, while the employee receives the profit share tax free if it is held in the savings fund for four years. Savings funds may be used to operate broad-based stock option plans, with the exercise of shares financed by savings in the fund. This type of stock options plan allows employees to receive double the amount of options tax free than is normally permitted.

In *Finland* there are several types of employee financial participation. The most common are stock options and deferred profit sharing (personnel funds). The development of broad-based employee share ownership remains weak. This can be attributed to the lack of fiscal incentives for employee share ownership. Typically, the initiative for the establishment of the fund comes from the management and the personnel. The personnel are responsible for administering it. The administration of funds belongs to shop stewards. The funds typically invest their money in some combination of the company's own stock, stock of other companies and bonds. There are several tax advantages for the personnel funds. The employer can deduct the profit sharing part in taxation. It does not have to pay pension and social security payments on the profit share. Employees get 20 percent of the income from the fund tax-free and pay income tax on the rest. The personnel fund does not have to pay taxes on the return of its financial investment.

The *UK* has a long tradition of financial participation. Deferred share-based profit sharing was introduced in 1978 though superseded

by the Share Incentive Plan in 2000. Stock options have been the most important form of financial participation in the UK, with the approved schemes (i.e. benefiting from tax concessions) being SAYE or Sharesave (the employee enters into a tax beneficial savings contract to finance the exercise of options), Company Share Options Plan (an option plan that may be restricted to selected employees), and Enterprise Management Incentives (aimed at smaller firms). The Share Incentive Plan provides substantial tax benefits for share purchases by employees and also for grants of shares to employees by companies.

See Poutsma (2001) and Pendleton and Poutsma (2004) for further details.

Notes

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1. See for instance the recent European Commission (CEC, 2002) communication. Prior to that, the EU had published, for example, two PEPPER reports and a Community Recommendation in 1991.

2. Employee representation in company boards can also be classified as a form of indirect participation. However, since this is mandatory in Germany and Finland for companies of a certain size, we decided not to use it in the analysis.

3. The summated scale was created by first transforming the four DP variables into standardized scores with zero mean and unit standard deviation, and then summing up the individual components. The mean of the new variables is zero and the standard deviation is 0.66.

4. The co-occurrence of profit sharing schemes and equity schemes may also be caused by different pay systems for different occupational groups, e.g. stock options for managers and profit sharing for the remainder of the workforce. However, we can control for this to some extent, since we have information on participation rates.

5. Alternatively, we could have used the bivariate probit model, where the probabilities for these two outcomes are estimated simultaneously by assuming that the disturbance terms in these equations are correlated (see Greene, 2000: 849–56). The results from the bivariate probit models turned out to be similar to univariate probit models. Since the coefficients are easier to interpret in the univariate model, we report those in the article.

6. It is widely suggested that correlations between financial participation and superior company performance reflect a reverse causality to that stipulated in studies of performance effects (e.g. Weitzman and Kruse, 1990).

7. An alternative would be use of models for censored or sample-selected data, such as tobit models or Heckman-type selection models (see, for example, Breen, 1996). However, these approaches are also sensitive to statistical problems. Probably due

to the fact that most observations in the profit sharing equation are concentrated at the ends of the distribution, the standard two-limit tobit model produces implausibly large coefficients. In turn, Heckman-type selection models are quite sensitive to the assumption that the selection process is correctly specified. This assumption is not easily met with our data, which involve selection in two margins. Partly for ease of interpreting the OLS coefficients and partly for lack of obvious solutions to the statistical problem, we go on to use the OLS, but remind the reader to be careful in interpreting the coefficients.

References

- Addison, J. and C. Belfield (2000) 'The Impact of Financial Participation and Employee Involvement on Financial Performance: A Re-Estimation Using the 1998 WERS', *Scottish Journal of Political Economy* 47: 571–83.
- Aoki, M. (1990) 'Toward an Economic Model of the Japanese Firm', *Journal of Economic Literature* 28: 1–27.
- Ben-Ner, A. and D. Jones (1995) 'Employee Participation, Ownership and Productivity: A Theoretical Framework', *Industrial Relations* 34: 532–55.
- Blinder, A. (1990) *Paying for Productivity: A Look at the Evidence*. Washington, DC: The Brookings Institution.
- Breen, R. (1996) *Regression Models: Censored, Sample Selected, and Truncated Data, Quantitative Applications in the Social Sciences* No. 111. Thousand Oaks, CA: Sage.
- CEC (Commission of the European Communities) (2002) *Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions: On a Framework for the Promotion of Employee Financial Participation*. COM (2002) 364 final. Brussels: Commission of the European Communities.
- Doucouliaqos, C. (1995) 'Worker Participation and Productivity in Labor-Managed and Participatory Capitalist Firms: A Meta-Analysis', *Industrial and Labor Relations Review* 49(1): 58–77.
- Drago, R. and J. Heywood (1995) 'The Choice of Payment Schemes: Australian Establishment Data', *Industrial Relations* 34: 507–31.
- Dube, A. and R. Freeman (2001) 'Shared Compensation Systems and Decision-Making in the US Job Market', in *Incomes and Productivity in North America: Papers from the 2000 Seminar*, pp. 159–98. Washington, DC: Commission for Labour Cooperation.
- Eaton, A. and P. Voos (1992) 'Unions and Contemporary Innovations in Work Organisation, Compensation, and Employee Participation', in L. Mishel and P. Voos (eds) *Unions and Economic Competitiveness*, pp. 173–216. Armonk, NY: M.E. Sharpe.
- Festing, M., Y. Groening, R. Pabst and W. Weber (1999) 'Financial Participation in Europe: Determinants and Outcomes', *Economic and Industrial Democracy* 20: 295–329.
- Freeman, R. and M. Kleiner (2000) 'Who Benefits Most from Employee Involvement: Firms or Workers?', *American Economic Review* 90(2): 219–23.
- Greene, W. (2000) *Econometric Analysis*, 4th edn. New York: Macmillan.

- Gregg, P. and S. Machin (1988) 'Unions and the Incidence of Performance Linked Pay Schemes in Britain', *International Journal of Industrial Organisation* 6(1): 91–109.
- Heywood, J., O. Hubler and U. Jirjahn (1997) 'Use of Variable Payment Schemes: Evidence from Germany', *Kyklos* 51(2): 237–58.
- Ichniowski, C., K. Shaw and G. Prennushi (1997) 'The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines', *American Economic Review* 87(3): 291–322.
- Ittner, C., R. Lambert and D. Larcker (2003) 'The Structure and Performance of Equity Grants to Employees of New Economy Firms', *Journal of Accounting and Economics* 34(1–3): 89–127.
- Jones, D. and T. Kato (1995) 'The Productivity Effects of Employee Stock-Ownership Plans and Bonuses: Evidence from Japanese Panel Data', *American Economic Review* 85(3): 391–414.
- Jones, D., T. Kato and J. Pliskin (1997) 'Profit Sharing and Gainsharing: A Review of Theory, Incidence, and Effects', in D. Lewin, D. Mitchell and M. Zaidi (eds) *The Human Resource Management Handbook, Part I*, pp. 153–74. Greenwich, CT: JAI Press.
- Jones, D., P. Kalmi and M. Mäkinen (2006) 'The Determinants of Stock Option Compensation: Evidence from Finland', *Industrial Relations* 45(3): 437–68.
- Kalmi, P., A. Pendleton and E. Poutsma (2005) 'Financial Participation and Performance in Europe', *Human Resource Management Journal* 15(4): 54–67.
- Kandel, E. and E. Lazear (1992) 'Peer Pressure in Partnerships', *Journal of Political Economy* 100: 801–17.
- Kruse, D. (1996) 'Why Do Firms Adopt Profit-Sharing and Employee Ownership Plans?', *British Journal of Industrial Relations* 34: 515–38.
- Kruse, D. and J. Blasi (1997) 'Employee Ownership, Employee Attitudes, and Firm Performance: A Review of the Evidence', in D. Lewin, D. Mitchell and M. Zaidi (eds) *The Human Resource Management Handbook, Part I*, pp. 113–51. Greenwich, CT: JAI Press.
- Levine, D. (1995) *Reinventing the Workplace: How Business and Employees Can Both Win*. Washington, DC: Brookings Institution.
- MacDuffie, J. (1995) 'Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry', *Industrial and Labor Relations Review* 48: 197–221.
- McNabb, R. and K. Whitfield (1998) 'The Impact of Financial Participation and Employee Involvement on Financial Performance', *Scottish Journal of Political Economy* 45: 171–87.
- Oyer, P. (2004) 'Why Do Firms Use Incentives that Have no Incentive Effects?', *Journal of Finance* 59(4): 1619–41.
- Pendleton, A. (1997) 'Characteristics of Workplaces with Financial Participation: Evidence from the WIRS', *Industrial Relations Journal* 28: 103–19.
- Pendleton, A. (2001) *Employee Ownership, Participation, and Governance*. London: Routledge.
- Pendleton, A. (2005) 'Employee Share Ownership, Employment Relationships, and Corporate Governance', in B. Harley, J. Hyman and P. Thompson (eds) *Participation and Democracy at Work: Essays in Honour of Harvie Ramsay*, pp. 75–93. Basingstoke: Palgrave Macmillan.
- Pendleton, A. and E. Poutsma (2004) *Financial Participation: The Role of Governments and Social Partners*. Luxembourg: European Foundation for the Improve-

- ment of Living and Working Conditions/Office for Official Publications of the European Communities.
- Pendleton, A., E. Poutsma, J. van Ommeren and C. Brewster (2001) *Employee Share Ownership and Profit Sharing in the European Union*. Luxembourg: European Foundation for the Improvement of Living and Working Conditions/Office for Official Publications of the European Communities.
- Pérotin, V. and A. Robinson (2003) *Employee Participation of Profit and Ownership: A Review of Issues and Evidence*. Luxembourg: European Parliament.
- Poutsma, E. (2001) *Recent Trends in Employee Financial Participation in the European Union*. Dublin: European Foundation for the Improvement of Living and Working Conditions.
- Poutsma, E. and W. de Nijs (2003) 'Broad-Based Employee Financial Participation in the European Union', *International Journal of Human Resource Management* 14: 863–92.
- Poutsma, E. and F. Huijgen (1999) 'European Diversity in the Use of Participation Schemes', *Economic and Industrial Democracy* 20: 197–223.
- Weitzman, M. and D. Kruse (1990) 'Profit-Sharing and Productivity', in A. Blinder (ed.) *Paying for Productivity: A Look at the Evidence*, pp. 95–141. Washington, DC: Brookings.

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