

Employee Participation in Profit and Ownership: A Review of the Issues and Evidence^{*}

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Executive Summary

1. Introduction

Profit sharing and employee share ownership are widespread in the European Union. In the four largest countries, at least 17 million employees, or 19% of private sector employment, are covered by such schemes.

Financial participation is of interest for public policy because it may have positive effects on productivity and employment and could further other public policy objectives like wealth redistribution and economic democracy.

Issues for the design of policy include choosing the most effective form of intervention (e.g. tax concessions or information and education) and which types of financial participation schemes to promote. Only certain types of schemes may have effects of interest for public policy such as increasing productivity or demand for labour. The form of the scheme may also bear on other public policy concerns including risk bearing by employees and the extent of employee participation in governance.

In order to inform debates on these issues, the paper reviews economic analysis of financial participation and international empirical evidence. The evidence is provided by a wealth of studies from more than 20 countries based on information from large samples of enterprises with and without financial participation and using advanced statistical techniques to examine the effects of the schemes while taking into account the other characteristics of the firms concerned.

2. Forms of Financial Participation

Financial participation includes profit-sharing, under which a portion of profit is paid to employees in addition to their wage, and employee share ownership, under which employees own shares in the company in which they work. Both forms are often combined in the same enterprise.

Like other forms of employee participation, financial participation is characterised by a sharing of property rights with employees. It gives employees a residual right to the firm's surplus. Both profit-sharing and employee share ownership schemes can have a number of varying features (who is eligible, who gets how much, etc) which influence their effects on performance or employment. Neither type of scheme is necessarily associated in practice with any employee participation in governance.

Conditions regarding the sale of their shares by employees determine the liquidity of the shares and the stability of employee ownership. Shares that can be traded easily are more liquid, but employee share ownership may be less stable as a result. There have been contrasting experiences of employee ownership, with unstable forms in the US, among privatised firms in the EU and in many transition countries; and stable employee stock ownership plans in the US and workers' co-operatives in the EU. These experiences suggest that it is important to set up employee ownership in such a way as to reconcile liquidity and stability. Solutions like employee share trusts in conventional firms with some employee ownership, and collectively owned reserves combined with individual capital accounts in co-operatives have been designed to achieve this.

Employee shareholders bear risk on both their wealth and their employment and should be allowed to exercise normal voting rights associated with their shares. Employee share ownership is not an appropriate vehicle for pensions.

3. Which Firms Have Financial Participation?

International evidence indicates that tax concessions have helped financial participation to expand in certain countries but have been unnecessary in others. Other factors include national negotiations promoting financial participation.

It is difficult to obtain reliable evidence about what leads individual firms to adopt financial participation. Enterprises are thought to want to offer incentives for their employees to work better and (for share schemes) to stay longer with the firm. International evidence is contradictory as to the size of the firms that adopt financial participation. The evidence suggests that firms that adopt financial participation are *not* more productive before they introduce the schemes. In several countries the schemes seem to be part of a “package” of participatory measures. The presence of trade unions has been associated with both an increasing and a decreasing chance of firms having financial participation depending on the case. This may be related to the fact that the position of unions has varied a lot across countries and in time, and unions have been increasingly involved actively with financial participation schemes in some countries.

4. Effects on Productivity

There is remarkable agreement across studies from more than 20 countries covering several tens of thousands of enterprises that financial participation has a positive or neutral effect on productivity. The finding is very robust, even though economic theory would predict both positive and negative effects.

It is thought that financial participation schemes provide employees with incentives to work more and better, communicate information to management and colleagues and co-operate with each other. Insufficient information and participation in governance might leave employees vulnerable to moral hazard and lead to conflict with management.

International evidence suggests that profit-sharing probably has a slightly stronger effect than employee share ownership on total factor productivity, though this may be due to differences in the contexts in which the schemes are implemented and absolute levels of effects are difficult to compare across studies and countries.

Schemes that offer a larger financial involvement have higher productivity effects. Cash profit-sharing schemes seem to have a short-term effect, whereas share schemes, which are more long-term oriented, probably have a more sustained effect.

A growing body of evidence suggest that both main forms of financial participation have greater productivity effects when employees are well informed of the affairs of the firm, there is good communication with management, and employees participate in governance and decisions. This association is particularly important for employee share ownership schemes and could explain international differences in observed productivity effects. There is little research as yet and contradictory findings internationally about whether trade union presence strengthens or weakens the productivity effects of financial participation or has no effect. Overall, productivity effects are found to be stronger in labour-managed firms than in conventional firms with participatory schemes, both for profit sharing and employee share ownership.

Other aspects of firms' choices of technology and practices matter in ways that are not always fully understood. Firm policies to fight ethnic and gender discrimination and promote equality of opportunities, which are likely to involve more employees in participation schemes, may increase the effect of share schemes on productivity.

5. Effects on Employment

Both profit sharing and employee share ownership can increase the demand for labour on the part of the firms concerned by increasing productivity. Profit-sharing firms may also have an increased demand for labour because profit-sharing decreases the marginal cost of labour (though not the employee's total pay). All these effects concern individual firms and do not imply that aggregate employment is necessarily higher.

There is some evidence specifically for productivity-induced employment effects in addition to the evidence on productivity presented above. In addition, there is a limited amount of evidence suggesting that profit-sharing firms may have a higher demand for labour because what they regard as the marginal cost of labour is lower. This is consistent with a small number of studies indicating that after a few years pay is probably higher, but the fixed part of pay is probably lower, under profit-sharing than it would otherwise be.

There is little theoretical or empirical justification for expecting employment to be generally more stable in profit-sharing firms. However, there is some indication that profit-sharing firms may respond less to downward demand shocks and more to upward shocks than other firms.

In countries where tax concessions are attached to labour costs under financial participation, profit-sharing firms may be using more labour at the same level of output, but this can be interpreted as an effect of labour cost subsidisation rather than of financial participation.

6. Conclusions and Policy Implications

Very solid international evidence shows that financial participation has a positive or neutral effect on productivity. It is also reasonable to think that financial participation may increase demand for labour on the part of the enterprises concerned.

Public policy may therefore legitimately promote financial participation for these reasons. Tax subsidies do support the diffusion of the schemes but may not be necessary. Other options may be considered, such as information and education strategies directed at social partners.

In reflecting upon options for policy intervention, consideration should be given to several factors. Productivity effects may not cover all the cost of a participation scheme. Both cost and productivity advantage depend on the features of the scheme. Financial participation may also be promoted to further economic democracy or wealth redistribution. Even if no tax advantage is offered in the general case, there may still be reasons to subsidise certain forms of financial participation such as worker co-operatives that set aside a share of profit to build employee-owned firms for future generations.

Financial participation schemes should be associated with sufficient information and communication provisions, and may be more effective and protect employees' financial interest when combined with participation in governance at various levels. In particular, employee share ownership should as a rule be associated with the normal exercise of

shareholders' voting rights, either individually or via structures democratically managed by the employee shareholders.

Provisions for stability of employee ownership while allowing for sufficient liquidity might be desirable in share schemes. Firms might also be encouraged to set up policies to fight ethnic and gender discrimination and promote equal opportunities alongside financial participation schemes to ensure that all employees participate equally.

Some of the questions raised by financial participation will still require much research to produce reliable and detailed information for policy. Comparable and reliable statistical information should be collected across countries of the union so that state of the art research and analysis can be used to inform policy on an on-going basis in these matters.

1. Introduction

Profit-sharing and employee share ownership have a long tradition in several of the largest countries of the European Union, going back at least a century. In the four largest EU countries, these schemes covered at least 17 million employees in the late 1990s, representing about 19% of private sector employment¹. The employees covered in these countries alone represented more than 13% of private sector employment for the whole Union, placing the EU as a whole probably ahead of the US for employee financial participation². In addition, an unprecedented incidence of employee share ownership has emerged as an unexpected result of privatisation programmes in transition countries of Eastern and Central Europe (ECE), including several candidates for accession³.

Financial participation has attracted sustained interest in the European Communities in the past decade. The first Pepper report by M Uvalic published in 1991 revealed the extent of financial participation already in existence in the Union and its very uneven diffusion in member states, as well as the paucity of information on the subject for many countries. The report highlighted the potential benefits of financial participation, which were suggested by a substantial body of empirical research carried out in the US and in a few European states. The Council Recommendation that followed encouraged all member states to promote financial participation and provided for periodical reports to monitor the situation, and the European Parliament has already been involved in the debate. In the wake of the publication of the third of these reports (Poutsma 2001) this paper reviews the main policy issues regarding financial participation schemes and the evidence from empirical economic research in the EU, the US, Japan and ECE countries in order to assist the European Parliament in their new round of deliberations on the subject.

Why should financial participation be of interest to European policy makers?

Reasons why financial participation should be a subject for public policy include the following.

- Financial participation schemes may be associated with increased productivity and employment in the firms concerned, which may further the public interest and therefore justify public action to encourage the schemes.
- Financial participation may also be seen as consistent with the promotion of other public interest objectives such as the redistribution of income and wealth, since the schemes imply that enterprises share the profit and (in the case of share-based schemes) wealth created with their employees; and promoting economic democracy, since financial participation can involve part employee ownership.

What are the issues for policy design?

• Public policy intervention to encourage financial participation schemes can take several forms. For example, several member states offer tax concessions to the enterprises and/or the employees involved in the schemes, but others do not. Other forms of encouragement include information, education and enabling legislation. The choice of

¹ Our computations from Inland Revenue (2002), Fakhfakh and Pérotin (2000), Möller (2000) Cardinaleschi (1999) and OECD (2002).

² Using incidence figures quoted in Kruse (1999) and employment levels from OECD (2002) we calculate that employees covered by financial participation represented about 13% of private sector employment in the US in the same years. Our figures for the UK, France and probably Italy underestimate the actual incidence of the schemes (because no reliable information is available in the UK and France about the net number of employees covered and employees are often covered by several schemes at once, we chose the incidence for the type of scheme with the highest coverage, making only minimal allowance for employees covered only by one of the other existing schemes). In addition, other countries in the EU have financial participation, so that the overall proportion of the EU private sector workforce is certainly higher than 13%.

³ See Earle and Estrin (1998), Uvalic and Vaughan-Whitehead (1997).

promotion instruments depends on their relative effectiveness in increasing the diffusion of financial participation. In particular, if financial participation benefits the enterprises and employees involved sufficiently to induce a large diffusion of the schemes, tax advantages may be a less effective use of public funds than other forms of encouragement, or may be best targeted at certain types of schemes that are most consistent with public interest objectives.

- Not all types of financial participation schemes may be equally worth promoting for public policy. Both profit-sharing and employee share ownership schemes can take a number of forms in practice. Whether financial participation schemes have the effects that are of interest to public policy depends to a certain extent on their characteristics and on other policies implemented by enterprises together with financial participation.

- Certain forms of financial participation schemes potentially raise other issues of concern for public policy and social partners. For example, the recent financial crisis in Asia and the current crisis of confidence in existing systems of corporate governance have brought into focus the potential problems raised by the risk associated with employee share ownership in certain circumstances and the importance of open governance. The conditions under which employees bear financial risk with financial participation schemes may influence the incidence and incentive effects of the schemes. A key question here is the involvement of employee shareholders in enterprise governance. The problem of risk also touches on trade union concerns and has implications for the connection that is sometimes made with the pension debate.

In this paper, we review the evidence provided by economic research on these issues, and in particular the abundant empirical literature examining the effects of financial participation schemes on enterprise productivity and employment. We examine the insights provided by those studies and their policy implications.

Outline

Financial participation, its different forms and the connections with employee participation in general are presented in the next section. Section three reviews what is known of the factors that lead enterprises to set up financial participation schemes and that explain their diffusion. In sections four and five, we examine the effects of financial participation on enterprise productivity and employment, and survey the abundant international evidence provided by econometric studies on both questions. Conclusions and implications of available research evidence for European public policy are outlined in the final section.

2. Forms of Financial Participation

The two main types of financial participation are profit sharing and employee share ownership schemes. With profit sharing, a portion of profit is distributed to employees in addition to their wages, and with employee share ownership employees own stock in the company in which they work.

Both profit sharing and employee share ownership are widespread in European countries, though for example share-based schemes are more frequent in the UK, Ireland and Germany, while profit sharing is more prevalent in France and Italy. Both the UK and France offer or have offered substantial tax advantages to firms and employees for the operation of share-based (UK) or primarily profit-sharing (France) schemes. One profit-sharing scheme is even compulsory in France for all firms with 50 employees or more. However, other countries like Germany and Italy offer very limited or no tax concessions (IPSE 1997).

The two types of schemes are often combined, and can take a number of forms in practice, depending on how the share of profit going to employees is calculated, how it is distributed among employees, how they may buy shares, who is eligible to take part in the scheme, how

much information and influence over decisions employees have, etc. The practical features of individual schemes may affect the schemes' incentive properties, attractiveness to employees and sustainability, as well as their possible effect on employment. We will therefore start off by examining in some detail what financial participation is, and looking at the implications of specific characteristics of financial participation schemes.

Employee Participation in Returns and in Control

Employee participation in general involves sharing one or more aspects of firm property rights with the firm's employees. The two main dimensions of property rights that tend to be shared are *control*--when employees have an input in decisions at any level in the firm--and *returns* or firm surplus, which are shared under financial participation (Ben-Ner and Jones, 1995).

Financial participation gives employees a "residual right" to a portion of the surplus created by the firm. Profit sharing concerns the current year's surplus, whereas employee share ownership extends the residual right to future returns, as capitalised in the share price. Employee share ownership also involves the right to dispose of the assets and may include some participation in control (if employees can exercise voting rights associated with their shares).

Property rights sharing is what distinguishes employee participation from other forms of employee involvement, benefits and payment systems. Thus a residual right to the firm's surplus means that the income and wealth generated by financial participation schemes will vary with the profit of the company the employees work for, and will constitute an employee entitlement. In contrast, variable payment systems like piece rates or group performance bonuses, which tie pay to individual or small group performance rather than overall company performance, do not constitute financial participation. Fixed-level bonuses (e.g. "thirteenth month" bonuses) or payments granted by management on a discretionary basis (e.g. when business is good or for Christmas) do not constitute an employee entitlement and therefore also fall outside the scope of financial participation. Plans under which companies subsidise employee savings also fall outside the definition of financial participation because they do not involve any residual right to company returns, even though these plans combine well with financial participation (e.g. profit-sharing bonuses are often invested in a company savings scheme) and are often lumped together with it. Finally, schemes under which employees own shares in firms other than the one they work in clearly do not qualify as financial participation either⁴.

Profit-sharing Schemes

Profit sharing includes a family of schemes, such as French *intéressement*, British Performance-Related Pay and various forms of *Gewinn-* or *Erfolgsbeteiligung* practised in Germany, under which employees receive a sum dependent on overall firm performance in addition to their (fixed level) wage. The scheme may simply define a certain percentage of profit that is to be attributed to employees annually, perhaps conditional upon profit reaching a certain minimum level. In other cases, the employees' share of profit is computed according to a more complex formula involving other performance measures such as

⁴ In the area of *control* participation, quality circles, works councils or employee representation on the board of directors, which all provide employees with a right to have an input in decisions at various levels--from simply expressing their ideas on limited issues to participating in strategic decisions--are all forms of control participation. In contrast, employee briefings or newsletters, which do not allow for two-way communication between management and employees, or occasional employee consultation that is not an established right but entirely depends on management's initiative, are forms of employee involvement that do not constitute participation in our opinion.

productivity gains or quality indicators. In France, the UK and Japan, the measure of performance most commonly used for profit-sharing schemes is accounting profit, but a variety of other criteria such as productivity and quality indicators are also widely used in Germany and in Italy⁵. In any case, the basis for calculating the employees' profit share is normally known in advance of performance figures⁶. The corresponding sums may be paid cash to employees or released only after a period of several years ("deferred" schemes) to encourage employees to save and to stay with the firm⁷.

While some plans are restricted to certain groups of employees such as executives, we focus here on schemes that cover a majority of the firm's workforce (often called broad-based schemes)⁸. However, many broad-based profit-sharing schemes still exclude temporary and part-time workers. In certain countries, excluding part-time workers can mean that women are less often eligible than men to participate in a scheme if a large proportion of the female labour force work part-time outside the home. Individual profit-sharing bonuses usually also vary among employees of the same firm according to wages, length of service, absenteeism, etc. In a minority of cases eligible employees all receive equal shares of the total.

In principle, profit sharing does not have to be associated with any form of employee input into company decisions at any level. However, certain schemes (e.g. French regulated schemes *intéressement* and *participation*) explicitly provide for informing employees regularly of firm performance and what determined it. In certain countries, like Germany, Japan and the UK, profit-sharing is often implemented by firms as part of a package of participatory measures including various forms of employee participation in control (Carstensen et al 1997, Pérotin and Robinson 1998, Kato 2000). Other important aspects of profit-sharing firms' human resource management practices and working conditions, such as job security or equal opportunities practices, also vary from one firm to another⁹.

Employee Share Ownership

A variety of mechanisms have been used to encourage employees to acquire shares in the company for which they work. Many firms offer free shares to their employees, either occasionally or under an on-going scheme, for example by paying out profit-sharing bonuses in the form of company shares¹⁰. More often, firms subsidise their employees' share purchases in one way or another, by offering employees special discounts, advantageous share options, etc. Free shares, shares at discounted prices or both were available to employees in a large proportion of the numerous privatisations that took place in both Western and Eastern Europe in the last two decades (see e.g. Vickers and Yarrow 1988, Earle and Estrin 1998). In some cases employees had priority rights to purchase their firm when it was privatised, and a governance structure based on a trust or an employee

⁵ Sources: Ministère de l'Emploi et de la Solidarité (1999), Möller (2000), Kato (2002). Only explicit profit-sharing schemes are taken into account for Japan (Kato 2002).

⁶ This feature is consistent with property rights sharing and with the definition of profit sharing used in the theoretical economics literature. It is necessary for some of the employment effects to obtain (see below) and is likely to increase the incentives properties of profit sharing. A set formula tends to be the norm in Japanese and European schemes, but many US profit-sharing schemes leave the amount allocated to employees to the discretion of the firm (see Kruse 1993).

⁷ In many US plans payment is deferred until retirement and profit-sharing plans are used as pension schemes.

⁸ Executive-only schemes are not included in this review because executives enjoy a level of power over key firm decisions and access to privileged information that are not comparable to those of other employees, so that their relationship with the firm should be analysed differently.

⁹ See section three below. See also Pérotin *et al.* (1998).

¹⁰ Workers' co-operatives and other employee-owned firms often do this. There are also famous cases of firms that were given to the employees by the owners, such as the chemical company Scott Bader in the UK (see Estrin and Pérotin 1987).

association was put in place (e.g. in Hungary and Romania¹¹). In others, employees were the best placed, or the only willing investors to buy shares in their firm, as it was privatised. Compared with a one-off allocation of shares to employees, whether on the occasion of a privatisation or otherwise, an on-going employee share ownership scheme offers newly hired employees as well as continuing ones the possibility of acquiring shares. Eligibility and allocation rules also often introduce differences among employees depending on their wages, seniority, etc, just as with profit-sharing schemes.

Employees' shares may be individually held by their owners, who may or may not be allowed to sell them to non-employees outside the firm, or may be held by employees collectively in a trust or a collective fund. For example, in the US ESOP system¹², variants of which have been adopted in the UK and several European transition countries, the firm contracts a loan with which it buys a number of shares on behalf of employees, and the loan is paid back by the firm over a period of several years out of profits (this is a form of profit sharing as well as an employee share ownership scheme). As the loan is paid back, shares are released to employees individually, but until they are released the shares are held in a trust and cannot be sold by their employee owners. In other cases, employee shares are permanently held in trust for voting purposes but dividends are paid out to employee shareholders individually, or a portion of employee shares always remains in a trust while the rest is held individually, and employees who want to sell some of their stock have to sell it to the trust.

The question of whether to allow employees to sell all or part of their shareholdings to investors other than co-workers hinges on the two issues of share liquidity and the stability of the scheme. Allowing employees to sell their shares means employees can realise that wealth, especially if there is a well-functioning capital market and the firm is quoted on the stock exchange or is valued regularly, e.g. by independent accountants. Employees may also value the possibility of selling their shares to attempt to protect their savings in the event of an on-going drop in the share price. On the other hand, in the absence of a well-functioning capital market and/or fair valuation, the shares may not be truly liquid and employees wishing to sell their shares may be quite vulnerable. In transition countries, as in a number of privatised firms in developing countries, many employees' lack of information about share ownership and urgent need for extra cash has added to that problem. In many cases employees have been selling their shares to management, sometimes after being put under pressure to buy shares in the first place (see Estrin 2002, Jones 1999 and e.g. Kalmi 2000, Jones and Klinedinst 2002). There is anecdotal evidence of firms with substantial employee ownership being bought out by "asset stripping" investors¹³. In contrast, employee share ownership schemes of the ESOP type (which involves a trust) have been used as a defence against hostile take-overs in the US (see Kruse and Blasi 1997).

Aside from the issue of share valuation and liquidity, the possibility of selling employee shares to outsiders implies that employee share ownership may not be stable. There is obviously nothing wrong with employees selling their shares freely on an efficient capital market if the objective of offering favourable terms for employee share acquisition was wealth redistribution, or the creation of a market for shares, which was the case in several mass privatisation exercises¹⁴. However, if an employee share ownership scheme is at least

¹¹ See Earle and Estrin (1998). It should be noted that the existence of such a structure does not guarantee employee involvement in governance unless the governance of the trust is itself democratic.

¹² ESOP stands for Employee Stock Ownership Plan but in the US context refers to one specific type of government-subsidised plan that facilitates the acquisition of shares by employees.

¹³ In principle, closing down an inefficient plant and selling the equipment may be allocatively efficient, provided that employees' and community interests were taken into account. This is not the case if ill-informed and poorly paid employees sell their shares to unscrupulous investors without understanding the full implications of the sale.

¹⁴ Another motive for relying on employee share ownership was the lack of private capital base in formerly planned economies (Estrin 2002).

in part designed to create a long-term employee involvement in the company--as a way to promote economic democracy or as a long-term incentive plan--the possibility that employees soon sell all their shares can be a cause for concern, and a structure providing for a permanent level of employee ownership (e.g. via a trust) may be preferred.

In general, whether shares are held individually or in some trust, employee share ownership in practice does not necessarily entitle employees to have a say in the running of the company as shareholders. Employees may be issued non-voting stock, or may be issued voting shares but have very little or no control over the management of the shares held in trust. For example, the trustees may be appointed by management rather than elected by the employees participating in the scheme. In practice, employee shareholders are not automatically represented on the board of directors, even if they hold the largest block of shares. Overall, in the majority of cases in the US, in France (outside workers' co-operatives) and in a number of transition countries, employee share ownership is associated with little or no employee influence on decisions (see Earle and Estrin 1998, Jones 1999). When employees do have a say in the way their shares are voted, for example if employee shares are managed by elected representatives, collective representation may give them a stronger voice, especially if ownership of the company's shares is otherwise dispersed.

The Issue of Risk

Both profit-sharing and employee share ownership schemes make employee income partly dependent on overall firm performance. However, in principle profit is determined not only by employees' effort, but also by management decisions and external demand shocks, which are outside employees' control. If employees have no input into decisions, they are thus exposed to "moral hazard" on the part of managers, who may make decisions that affect pay and/or wealth negatively¹⁵. The problem is potentially more severe with employee share ownership than with simple profit sharing, since in the case of share ownership poor firm performance can result in losses for employees as the share price drops (or worse, the firm goes out of business). Because of this wealth risk, shareholders normally control management decisions via the board of directors and voting in annual general meetings, in addition to being able to "vote with their feet" by selling their shares. It would seem logical to give employee shareholders, who also bear an employment risk, at least the same rights of representation and control over decisions as other shareholders. This implies that employee shareholders should be allocated voting shares and be represented on the board of directors if their share of capital is substantial, and that employees should have democratic control over their representatives if the shares are managed collectively by an association or a trust. This participation in governance seems even more important in the light of the recent problems that have surfaced with current corporate governance systems.

Like owner-entrepreneurs, employee shareholders risk both savings and jobs in the same firm. Some of that risk is not related directly to management decisions but to overall market conditions and stock market movements. This element of risk can be considerable, as for example employee shareholders in Japan and Korea can testify—Kato (2002) shows that the share price, and the market value of outstanding shares owned by ESOPs per participant fell by nearly one-half in the late 1980s-early 1990s¹⁶. Employee share ownership therefore seems to be an inappropriate vehicle for a pension scheme, which requires greater prudence and risk diversification, and the question of employee share ownership should be considered separately from pension issues.

¹⁵ This vulnerability may affect the incentive properties of financial participation (see section four below).

¹⁶ For employee share ownership plans in Korea, see Cin and Smith (2000)

The Special Case of Fully Employee-Owned Firms

In Europe and in the US, a few thousand firms are entirely or majority-owned by their employees and controlled by them¹⁷. On both continents the tradition goes back to the 19th century. Typically, employee-owned firms were created as labour-managed enterprises from the start (the majority of cases in the EU) or were bought by employees on the occasion of privatisation (the majority of cases in transition countries)¹⁸. Among employee-owned firms, workers' co-operatives allocate shareholders voting rights according to the rule "one-person-one-vote" rather than according to the share of capital held. While this is not the place to go into the detail of the specific issues raised by labour-managed firms (e.g. in matters of entrepreneurship) or the separate debate of the European cooperative statute, it is worth looking at fully employee-owned firms in regard to a few issues that have wider relevance¹⁹. Employee-owned firms constitute in many ways a special form of employee participation which throws light on the question of stability discussed above and on the possible effects of employee share ownership on productivity and employment. These issues are especially relevant in the context of those accession countries that are undergoing transition to a market economy at present, but underlie debates about financial participation more generally as well.

Employee-owned firms can be set up as conventional joint stock companies in which employees own the shares (though not all employees necessarily own shares) and may sell them outside²⁰. This is the rule for example in the US and in the majority of employee-owned firms that resulted from privatisation in Western as in Eastern Europe. This structure makes it possible for employees to accumulate some wealth as the value of the shares appreciates and makes the shares liquid. However, it also implies that employee ownership is potentially unstable. If the share value rises a lot, it may also become difficult for new employees to join the firm as co-employee-owners. Employee-owned firms structured in this way have been repeatedly observed to turn into conventional firms as the proportion of owners among employees dwindled over time and/or employee owners sold the business to a conventional owner²¹. While this is not necessarily a problem if the employee acquisition of the firm was accidental, as it were, or resulted from a scheme with primarily distributional objectives, it is a potentially serious risk if employee ownership or industrial democracy is in itself an objective.

Workers' co-operatives, which have as an explicit objective the creation and operation of democratic firms open to all workers who may want to join²², have devised various systems that provide safeguards against degeneration and transformation into conventional firms. Used for example by Italian, French, Spanish and UK co-operatives, these systems tend to involve some accumulation of collectively owned capital reserves which cannot be split among employee shareholders, combined with shares that do not appreciate but are paid back at par and cannot be sold outside the firm (see Pérotin 1999). This can be viewed as an alternative device to the trust structure used for example in certain ESOPs that own 100% of the firm's capital. The collective reserves system has proved very effective in

¹⁷ For example, there are several thousand workers' co-operatives in Italy and in Spain, approximately 1,200 - 1,500 each in the US, the UK and France, and several hundred in Finland.

¹⁸ A minority of cases result from rescue employee buy-outs of private firms threatened with closure or transformation of sound private firms into employee-owned firms.

¹⁹ For a detailed review of empirical and theoretical studies of labour-managed firms, see Bonin *et al* (1993) as well as Earle and Estrin (1998) for the transition context. One of the issues for public policy in this regard is the support for co-operative entrepreneurship in order to overcome co-operative specific barriers to creation.

²⁰ The company may also have a one-person-one-vote rule at the same time.

²¹ Famous examples include the plywood co-operatives of the US Pacific Northwest (see e.g. Berman 1982) and UK bus companies bought by workers with union support in the 1990s wave of privatisation (see Pendleton, Robinson and Wilson 1995). See also Jones (1982a) on the US experience.

²² See International Cooperative Alliance (2002) for a statement of the International Cooperative Principles, which include free and open membership.

preventing degeneration and closure²³. Thus, for example, the oldest worker co-operatives trading in France today were created in the second half of the 19th century. However, the system leaves all accumulated wealth in the firm and may provide incentives for inefficient investment since employees have no claim on future profit as they would via the price of their shares if shares were tradable (see Uvalic 1992). An intermediate system is in place in the famous cooperative complex of Mondragón, in the Basque country in Spain, where in addition to non-tradable shares and collectively owned reserves the firm accumulates capital in individually owned accounts that employees can retrieve as they retire (see Thomas and Logan 1982, Whyte 1995). Other systems have been suggested, such as Meade's labour shares (see Meade 1986) and worker co-operatives in France, Italy and Spain are examining and experimenting with systems that allow co-operative members to accumulate wealth individually without excessive risk and without putting in danger the democratic governance of the firm, in addition to collectively owned reserves.

3. Which Firms Have Financial Participation?

The late 1980s and 1990s have been marked by a considerable expansion of financial participation in many industrialised countries (see Estrin *et al.* 1997). In certain countries like the UK, France and the US, this growth was undoubtedly supported by tax concessions and/or favourable revisions of the relevant legislation. Similarly, cuts in the tax concessions attached to employee share ownership schemes in Korea were associated with a drop in the take up of the schemes (Cin and Smith 2000). However, financial participation is also widespread in Japan and Germany, where tax advantages are very limited, and was observed to grow in Canada for schemes for which tax advantages had been greatly cut, as well as in Italy, where no tax concession was offered in relation to financial participation and the legislation was not particularly favourable²⁴. The position of trade unions and national level negotiations seem to have had a determinant role in Italy, where the diffusion of profit-sharing schemes formed part of a movement to decentralise pay setting (Damiani 2000). Overall market conditions that affect share prices may have had a role in Korea, where the growth of employee share ownership has suffered from the financial crisis (Cin and Smith 2000). The design of Japanese schemes, which makes it difficult for employees to sell small numbers of ESOP shares, may have in part prevented the same movement, though Japanese ESOP members may simply have acted rationally by not selling their shares at the lowest price (Kato 2000). Clearly, we must go to the firm level to understand what leads individual firms to adopt financial participation.

Methodological Issues

Finding out why firms set up financial participation schemes is useful in order to understand how firms may respond to public policy in this area²⁵. Unfortunately however, we know very little about what may induce firms to adopt financial participation. There are several reasons for this. The first is that there is little consistent theory that might guide empirical studies, so that the factors looked at vary enormously from one study to another, are not always comparable and often do not provide very significant results. The second reason is that the reasons why enterprises decide to adopt financial participation are difficult to observe.

²³ The system is effective if the collective reserves may not be split even if the firm goes bankrupt. The old British co-operatives, which had non-distributable reserves but contrary to eg the French law allowed distribution in the case of closure, all disappeared (see Jones 1982b).

²⁴ See OECD (1995), Kato (2002), IPSE (1997), Pérotin and Pendleton (forthcoming).

²⁵ Another reason for studying the circumstances in which firms set up financial participation schemes might be to examine whether the firms that currently have schemes have peculiar features that would make their experience difficult to generalise to other firms. This problem can also be handled by using econometric techniques that take into account the characteristics of firms that choose to have financial participation when estimating the effects of the schemes (see below).

Thirdly, very few studies observe firms before they adopt a financial participation scheme, so that many studies simply compare firms that have certain schemes with firms that do not, and run the risk of mistaking a feature that is an effect of financial participation for a motive for its adoption. For example, if financial participation increases productivity, firms with financial participation may appear as being more productive, but this does not mean that more productive firms choose to have financial participation. Finally, empirical studies cover schemes with a wide variety of practical features, and until recently the information available to researchers often failed to distinguish even between pure profit-sharing schemes and employee share ownership. We will therefore not enter into the detail of the often contradictory findings of the empirical literature on this topic but summarise the main issues, which revolve around the benefits firms and employees or their trade unions may expect from financial participation.

The Firm's Motives

Although certain firms will introduce financial participation solely because their owners or managers value economic democracy (as for example in workers' co-operatives) most firms would be expected to set up schemes in order to get some additional benefit²⁶. It has long been thought that giving employees a stake in profit might provide them with an incentive to work more and better. In certain circumstances, financial participation schemes may be expected to be more effective than other forms of incentives like piece rates, merit pay or promotion prospects²⁷. If employees have a certain amount of discretion in their work and monitoring their effort is costly, firms may prefer rewarding employees according to their contribution to productivity than, say, only according to the time spent at work. However, if individual contributions are difficult to measure, for example because much work is done in teams or because of the type of skill of the employees concerned, pay systems based on individual performance like piece rates cannot be used. Tying pay to overall collective performance, as with a profit-sharing scheme, may be regarded as a collective incentive that also encourages cooperation among workers and more intangible forms of commitment like "company spirit". This reasoning suggests that, all else being equal, larger firms and firms that employ certain production processes and skills involving employee autonomy and cooperation will be more likely to have a financial participation scheme²⁸. Larger firms are also more often publicly traded and should therefore be more likely to have share ownership schemes. It has also been suggested that employee share ownership would be offered by firms in order to retain employees with certain skills and protect the firm's investment in firm-specific training. Anecdotal evidence supports this proposition for Ireland, where a tight labour market seems to have led an increasing number of firms to offer share schemes. A related hypothesis can be derived from Margaret Blair's theory that employee share ownership protects employees' investment in skills that are not usable in other firms (see e.g. Blair 1999) and is supported by tentative findings for the UK (Robinson *et al.* 2002).

Available evidence on the role of firm size is not conclusive. For the US, Canada and Germany, existing studies are approximately equally divided in each country between those that find the presence of profit-sharing schemes to be positively related to size and those that do not find any statistically significant relationship with size. Both positive and negative relationships between firm size and the presence of a profit-sharing scheme have been

²⁶ According to Martin Weitzman's theory (see e.g. Weitzman 1984) a single firm introducing a profit-sharing scheme will employ more workers but make less profit than the firms that keep a fixed pay system in the same economy, so that we wouldn't expect firms to adopt profit-sharing unless they received government subsidies for it. However, both profit-sharing and employee participation may bring extra benefits for firms if they act as incentive schemes, a factor that was not taken into account originally in that theory.

²⁷ On these and other forms of incentives, see e.g. Fama (1990), Lazear (1995). For profit-sharing see Jirjahn (2000).

²⁸ Monitoring employees' effort may be more costly in larger firms, but at the same time larger firms may also expect firm-wide incentives to be more remote from individual workers and therefore less effective due to free-riding (see section on productivity below).

found for the UK²⁹. Only in Japan has the incidence of explicit profit-sharing schemes been found unambiguously higher in smaller firms (Kato 2000). The inconclusiveness of the evidence regarding size and the adoption of profit sharing may be due in part to the frequent use of cross-section data (i.e. comparing firms with and without profit-sharing at a given time) which may show profit-sharing firms to be larger if profit-sharing increases employment in firms that were of the same average size as non-profit-sharing firms prior to setting up a scheme. Employee share ownership is more clearly found in larger firms, but only a handful of studies covering the US and Canada are available³⁰.

Whether firms that adopt financial participation schemes were better or poorer performers than average beforehand is also in dispute, due to much the same methodological problems as with the question of firm size. Only two studies, on France and Italy respectively, have information on enterprises observed before they adopt the schemes and find that in both countries profit-sharing firms are more productive than non-profit sharing firms once the schemes are in place but not before profit-sharing is implemented (Estrin et al. 1999, Biagioli and Curatolo 1999).

Evidence on work processes and skills is still patchy but suggestive. A German study (Heywood and Jirjahn 2002) indicates that profit sharing is more likely with “blue-collar” jobs, while in the UK share based schemes are found in larger firms with a higher proportion of “white-collar” workers (Robinson and Wilson, 2001). Both studies find that establishments with team-based production are more likely to use group-based incentives such as profit sharing, a finding mirrored in research on Canada (see Long 2002) and the US (Osterman 1994) which suggests that profit sharing can encourage the cooperative behaviour that is required in this type of work organisation.

Firms that adopt financial participation may also put in place a range of forms of control participation from simple information-sharing to participation in decisions, whether to strengthen employee incentives or out of a preference for economic democracy. The balance of the evidence, which is available for the US, Canada, the UK, Germany, Japan and Australia suggests that firms that implement financial participation schemes tend to see the schemes as part of a package of participatory measures³¹. However, it is difficult to determine from existing studies exactly which sets of participatory practices are most often found with profit-sharing or with employee stock ownership plans. In addition, there may be cross-national differences in this. For example, anecdotal evidence suggests that in Italy and France profit-sharing is not usually associated with participation in control, though no systematic study is available on this issue.

For firms that have large, rigid labour costs and/or uncertain demand prospects for their product, profit-sharing could be a way of making extra pay contingent on performance rather than offering fixed pay increases, thereby limiting the risk on firm profits. In other words, profit sharing could be a way of sharing some of the risk with employees (Estrin *et al.* 1999). One of the expected effects of this form of risk sharing may be to improve the prospective financial health of the firm and to lower the cost and level of external finance (Ichino 1994, Junkes 2001). Some evidence has been found for the UK (Robinson 1998, Estrin and Wilson 1986) and Australia (Drago and Heywood 1995) that firms with profit-sharing are found on more unstable or competitive markets, though findings for Germany and France

²⁹ For reviews of these findings outside Japan, see Long (2002), Jirjahn (2002), Blasi and Kruse (1997), OECD (1995).

³⁰ See Blasi and Kruse (1997) for a survey. Almost all publicly traded firms in Japan have employee share ownership plans (Kato 2002).

³¹ See Kruse and Blasi (1997), Long (2002), Robinson and Wilson (2001) and Pendleton (1997), Jirjahn (2002), Kato (2002), and Shields (2002) for discussions for the US, Canada, the UK, Germany, Japan and Australia respectively.

are mixed (Möller 2001, Junkes 2001, Jirjahn 2002, Estrin et al. 1999). In contrast, firms with employee share ownership schemes, which do not involve a transfer of risk from profit onto pay, were found to operate on more stable markets in the UK and Germany (Robinson 1998, Carstensen, Gerlach and Hübler 1995). Finally, employee share ownership has been used in the US and in Europe not only as a defence against hostile takeovers but also as a way for retiring owners of small enterprises to resolve succession problems by selling the firm to employees.

The Employees' Side

Because employees are normally expected to be risk-averse, the risk sharing implied by financial participation schemes should be compensated with higher average total pay under profit sharing than without it. The little evidence available for the US and for France supports this (see Black and Lynch 2000, Mabile 1998)³².

More generally, employees' prospects under financial participation may depend on the existence of productivity increases and on the presence of a union. According to Weitzman's theory, employees would not want the firm to implement profit sharing because in the absence of productivity effects, a single firm adopting profit sharing will increase employment but some of this increase would be paid for by a decrease in the average employee's pay (see e.g. Weitzman 1984)³³. If productivity increases sufficiently with the implementation of the scheme, both employment growth and an increase in total pay may be possible. However, before the scheme is implemented, the extent of eventual productivity gains is unknown. For the employees, the risk is that productivity increases insufficiently to provide both for extra employment and extra pay. If this is the case, they could lose out if the firm chooses a higher level of employment and keeps total pay at the same level (but with risk) or even at a lower level than before. The presence of a trade union makes it possible to enforce an agreement that allocates possible productivity gains in such a way as to protect the pay level of existing employees (Freeman and Lazear 1995).

In Europe as the US and Japan, the position of unions regarding profit sharing and employee share ownership varies greatly, from severe reservations to active involvement in negotiating and implementing schemes, as for example in Ireland, where there is a national tripartite commitment to a participatory culture or in the US and in the UK with the unions that have been involved in setting up successful ESOPs³⁴. There has clearly been an evolution in the position of trade unions regarding financial participation. Kruse (1996) shows that in the case of US data the negative correlation between the presence of a union and profit sharing disappears over time, which he attributes to changes in the unions' stance. In Germany, the presence of profit sharing is positively associated with the presence of a works council in the establishment (due to workforce support) but negatively so with coverage of the firm by collective bargaining, which involves trade unions at the industry level (Hübler and Jirjahn 1998) probably because of unions' scepticism towards financial participation (Jirjahn 2002). In the UK financial participation is positively associated with union presence (Pendleton 1997). In Canada, workplaces that have employee share ownership schemes are more unionised (Long 2002). However in Japan employees are found to participate in their company's ESOP less often as the proportion of union members

³² For the UK Addison *et al.* (2000) suggests pay may only be higher under profit-sharing if a union is present, but data restrictions imposed severe limitations on the specification and estimation method used for this part of the study.

³³ See section 4 below.

³⁴ See O'Donnell and Thomas (2002) for an analysis of the Irish national social partnership. Certain trade union positions can be understood in a historical context where participation has often been used by firms with the aim of keeping trade unions out. Provisions in the current regulations regarding ESOPs in the US still make it possible to exclude trade union members from a scheme (see e.g. Blasi and Kruse 1997, Pérotin 1993)

among employees is higher (Jones and Kato 1993) and profit-sharing is more frequent in non-union firms (Kato 2002).

4. Effects on Productivity

A large body of empirical economic studies have examined the effects of financial participation schemes on enterprise performance and in particular on productivity. Using advanced statistical techniques, these econometric studies have been carried out on large samples of enterprises from at least twenty industrialised countries in Western Europe, North America, Asia and Eastern and Central Europe³⁵. One survey alone (Doucouliagos 1995) published a few years ago pooled the results of about 20 econometric studies on financial participation involving more than 30,000 enterprises. There is remarkable agreement among studies across the world, indicating that financial participation has a positive or neutral effect on enterprise productivity, even though economic theory would predict that the effect could be either negative or positive³⁶. In this section, we will briefly look at the mechanisms that can relate financial participation to enterprise performance and review empirical evidence about the conditions under which financial participation schemes are associated with increased productivity.

Why should financial participation affect productivity? Economic Theory

Both profit sharing and employee share ownership are thought to improve productivity by ensuring that employees' interests coincide to a certain extent with firm objectives³⁷. Both types of schemes provide employees with incentives to work more and better and to cooperate with colleagues and management, since their income will increase if enterprise performance improves. As a result, not only effort but also work quality and information flows should increase, so that organisational effectiveness will improve. Employees should organise their work better and be more willing to communicate information to management and to other colleagues, and to train junior colleagues.

Incentives may generally be stronger if a larger share of employees' income or wealth is affected, though the corresponding increase in risk implies that the average level of gains would also have to be higher in order to compensate risk-averse employees. Similarly, incentives could be stronger under employee share ownership than under profit-sharing, since losses could be greater under employee share ownership as employee shareholders' wealth may decrease if firm performance is poor. In addition, under employee share ownership and deferred profit-sharing schemes, which are more long-term oriented, employees may have incentives to acquire new skills and to stay with the firm longer, which would decrease turnover costs (such as the costs of training new employees for enterprise-specific skills).

It has also been argued that financial participation might instead cut productivity by inducing individual employees not to work hard but instead to free-ride on the effort of others because of the collective nature of the schemes. Individuals might be discouraged from working if they realise that the extra profit that could be generated by their increased individual effort

³⁵ Examples of countries on which there are econometric studies include Australia, Bulgaria, Canada, France, Germany, Israel, Italy, Japan, Korea, the Netherlands, Poland, Romania, Russia, Slovenia, Sweden, Taiwan, Ukraine, the UK and the US as well as Albania, Chile and Mexico. For surveys of this literature, see Jones and Pliskin (1997), Kruse and Blasi (1997), Kruse (1999) Doucouliagos (1995) OECD (1995) and Jones (2000) as well as Fakhfakh and Pérotin (2002).

³⁶ There are rare and partial findings of negative effects on productivity but too few to conclude that they could reflect a significant pattern (see discussions in Doucouliagos 1995 and Kruse and Blasi 1997).

³⁷ The arguments summarised in this section are reviewed in the surveys by Kruse and Blasi (1997), Jones and Pliskin (1997) and OECD (1995) as well as in Ben-Ner and Jones (1995) and Pérotin and Robinson (1998) where more detailed references to the theoretical literature can be found.

would have to be shared with all other employees in the scheme. Instead of working harder they may actually work less and count on sharing the extra profit resulting from their co-workers' effort. This problem may not arise if employees monitor each other and exercise peer pressure over each other to ensure nobody free-rides, a process that may develop over time. In workplaces where employees have strong bonds with each other, mutual monitoring may not even be necessary to prevent free-riding, as feelings of solidarity and incentives to co-operate with each other may be stronger than the temptation to free-ride. These forms of co-operative behaviour can also be encouraged through other human resource management and work organisation practices such as team working, quality circles, etc.

The incentive effects of financial participation are generally expected to be stronger, the more information is provided to employees about performance and the more influence employees perceive they have over the performance indicator that determines their income. Without adequate information, employees may not trust profit figures. Conflicts may arise if profit is low for a time period in which employees have been working very hard. Employees may suspect that management have made bad decisions or that the measure of firm performance used to calculate workers' share under profit sharing is inaccurate, and any incentive effect the scheme might have had could be lost. Extensive, independent and regular information about firm performance and its determinants (as well as the relevant training) may help employees understand all the implications of the scheme and trust it. Because profit depends on many factors besides employee effort, employees may also feel they are taking a risk over which they have no power, and generally be unwilling to invest high effort unless they are involved in decisions that have a key impact on profit and share prices, such as investment or strategic decisions. This implies that participation in control and financial participation may be complementary, and that financial participation may have a greater positive impact on productivity when it is associated with participation in control. In particular, employee share ownership schemes should be expected to have a higher impact on performance if voting rights associated with employee shares can be exercised by employees³⁸. A further implication is that the incentive effects of employee share ownership may depend on how well capital markets function and how closely share value reflects the firm's performance.

Finally, other human resource policies practised in the enterprise which give more employees more autonomy and capacity to influence the quality and pace of their work are likely to amplify whatever incentive effects financial participation may have.

In summary, the predictions of economic theory are ambiguous overall, and hypotheses that financial participation will affect productivity positively suggest that those effects could depend on the level of participation and design of the scheme (including in particular the clarity of the performance indicator and the governance of employee stock ownership schemes) and be strengthened by information and complementary forms of control participation and by human resource policies or working conditions that give more employees the capacity to influence the pace and quality of their work. Employee share ownership may also be affected by the capital market environment.

Methodological Issues

The studies reviewed here are all based on econometric analyses of production functions or related models using data from mostly large random samples of firms with and without financial participation³⁹. They typically estimate whether firms that have financial

³⁸ However, it should be noted that participation in control has often been argued to have detrimental effects on productivity because of possible conflicts between employee-shareholders and management and because managers' incentives to manage would be diluted. See Ben-Ner and Jones (1995) for a discussion.

³⁹ A number of studies also look at the relationship between financial participation and other measures of performance, such as profitability. We do not review those studies here (see e.g. Jones and Pliskin 1997, Kruse

participation schemes are more productive on average than firms that do not, once the industry, size and capital equipment of the firm as well as other factors such as skill levels, market share, etc. are taken into account. A limited number of studies compare firms' productivity before and after they introduce financial participation, again taking into account other factors that influence performance. Certain studies also look at whether the presence of financial participation schemes affect the shape of the production function and therefore whether the firm will use relatively more or less capital or labour at a given level of output. Studies often also examine the effect on productivity of the degree of participation (e.g. the share of capital in the hands of employees or the size of profit-sharing bonuses paid out) and/or the extent to which the effect of participatory schemes is strengthened by the presence of other policies in the same firm.

How solid is the overall finding that financial participation has a zero or positive effect on productivity overall? One concern is that firms with financial participation might be more productive than firms that don't have a scheme because they are better managed—in other words, it could be that more productive firms tend to adopt financial participation schemes in the first place. If this possibility was not taken into account, financial participation could appear to increase productivity, when in fact it was the other way around, with higher productivity firms having a higher probability of adopting a scheme (reverse causality problem). This problem was a frequent weakness in early studies. However, most recent studies tend to use instrumental variables or panel data estimation methods that ensure that this possibility is taken into account and corrected for in the estimations (see for the US, Kruse 1992, 1993; for France, Fakhfakh and Pérotin 2000; for France and the UK, Estrin et al. 1999; and for Japan, Jones and Kato 1995)⁴⁰.

It might also be argued that, as most of the schemes that have been studied have been voluntarily adopted by firms, no harmful effect will be observed because firms that lost money as a result of financial participation would have abandoned the schemes, and only firms that find the schemes profitable or neutral keep them and can therefore be observed by researchers. Most studies to date have not had the possibility of using data that included firms that had a scheme for some of the period studied and abandoned it for the rest of that period, ensuring that those firms where the effect might not be positive or zero were included in the analysis. However, a number of studies have looked at cases where financial participation is either compulsory, as with the French profit-sharing scheme *participation*, or was adopted as a matter of principle, as in workers' co-operatives (see Fakhfakh and Pérotin 2000, Estrin et al. 1999). Both types of studies therefore allow for the inclusion of firms that might have dropped the schemes in a different context because of negative effects. Both types of studies confirm the positive or neutral productivity effects found in other studies.

The final question is whether there is a publication bias, so that findings of negative effects on productivity would have less chances of being published by a journal. This is also unlikely to be the explanation for the dominance of positive or neutral effects in empirical evidence. The issue of the performance effects of financial participation has been hotly debated. However, the least favourable findings have tended to be that financial participation simply has no effect on productivity⁴¹.

and Blasi 1997, Jones 2000) because the hypotheses regarding employee effort and organisational effectiveness all relate precisely to productivity rather than profit. Profit is also subject to a degree of arbitrariness depending on provisions, etc. and is influenced by a wide range of factors external to the firm. It is therefore not surprising that empirical evidence relating to profitability should be less conclusive than the evidence relating to productivity. For example, see the contradictory findings of UK studies based on 'financial performance' and not productivity by McNabb and Whitfield (1998) and Addison and Belfield (2001).

⁴⁰ As we have seen in the preceding section, there is no reliable evidence that more productive enterprises adopt financial participation in the first place in any case.

⁴¹ See e.g. Blanchflower and Oswald (1988). In contrast, the published evidence concerning the effects of *control* participation in control is much more mixed (see e.g. Jones and Pliskin 1991).

The relevant issue is therefore not so much whether financial participation is good or bad for productivity but rather in what circumstances and for what precise reasons it might be good rather than neutral, and whether some of the effect associated with financial participation might be traced to other firm practices that tend to be put in place together with financial participation.

The Evidence

The first question is whether we can tell from the evidence which of the two main types of schemes--profit-sharing schemes (without a share component) or employee share ownership--is generally more likely to be associated with increased productivity. While early studies sometimes tended to confuse the two types of scheme, there now exist many studies that clearly identify the type of scheme they look at. However, relatively few studies are able to examine the effects of both types of schemes separately and at the same time (but see Kruse 1993, Robinson and Wilson 2001). If firms tend to have both but only one is observed by the researcher, or if the prevalent system combines the two types (e.g. if profit-sharing bonuses are allocated to employee share purchases) there is a risk of attributing to one type of scheme what is actually the total effect of both profit-sharing and employee share ownership schemes. This being said, two recent meta-analyses (Doucouliagos, 1995, Kruse and Blasi 1997) that apply statistical methodology to large sets of published studies for a number of Western European countries, Australia, Canada and Japan conclude that overall and across countries, profit-sharing schemes can be said to have a small positive and statistically significant effect on productivity, while employee share ownership plans have a zero or weakly positive effect. Although no meta-analysis is available for the recent literature on financial participation in transition economies of Eastern and Central Europe, Jones's detailed survey of those empirical studies (Jones 2000) suggests that a similar difference may be observed between the two main types of financial participation in that region, but probably in the context of a lesser impact of the schemes on productivity overall.

Outside meta-analysis methodology, it is difficult to compare the magnitude of the effects found in different studies because differences in measures, specifications and approaches across studies may all explain part of the differences in the levels of effects reported. For example, US studies of profit sharing in the late 1980s and early 1990s found profit-sharing to increase productivity by 3 - 32%, while in the same period UK studies calculated the productivity advantage to be 3 - 8%⁴². Estimates for Japan also vary from about 3 - 9%⁴³. On the other hand, most studies for France find profit-sharing to be associated with a productivity advantage of 7 - 9% in that period, regardless of the sample, specification and estimation method used and whether or not the possible presence of employee share ownership is taken into account. However, most French studies do not control well for the presence of other incentive or participatory policies which may also be adopted by profit-sharing firms and could be the source of some of the positive effects on productivity⁴⁴. In general, it is therefore advisable to focus on the relative importance of the different factors reported within studies rather than on the absolute levels of productivity differentials reported. Across studies, the important point of comparison is whether positive, negative or neutral effects are reported rather than the estimated magnitude of those effects.

As the theory predicts, the degree of financial participation matters, as well as the design of the scheme. Where financial participation increases productivity, larger financial rewards from profit-sharing plans and a greater degree of financial involvement of employees under employee share ownership (proportion of employees owning shares, average employee

⁴² See Kruse (1992) Conte and Svejnar (1988) Wadhvani and Wall (1990) and Cable and Wilson (1989) .

⁴³ See Kato (2002) for a survey, as well as Ohkusa and Ohtake (1997).

⁴⁴ An exception is Pérotin and Fakhfakh (2002) but this study only covers firms with active traditional industrial relations, which may therefore have more effective profit-sharing schemes.

stake, proportion of capital held by employees, etc) clearly result in higher productivity effects. This relationship has been observed for example for conventional firms and workers' co-operatives from Germany (e.g. FitzRoy and Kraft 1986, 1987, Carstensen and Hübler 1997), the US (Conte and Svejnar 1988)⁴⁵, France, Italy and the UK (Estrin, Jones and Svejnar 1987, Estrin and Jones 1995, Cahuc and Dormont 1992) and South Korea (Cin and Smith 2000).

Very little is known at this stage about what happens to productivity effects over time, but limited evidence suggests that it probably depends as expected on the type and design of the scheme--the benefits of cash schemes are more short-term than with deferred or share-based schemes. Thus, Jones and Kato (1995) find that the positive effect associated with employee share ownership in large Japanese firms is observed with a time lag, which is similar to what Fakhfakh (1998) observes for profit sharing in large French firms, in which most profit-sharing is either deferred or deposited in employee savings plans. Kruse (1993) finds that in US firms cash profit-sharing plans only increase productivity in the short-term, while the effect is more sustained with deferred schemes.

There is scattered evidence that the informational aspects of scheme design also matter in the expected way. For example, Kato and Morishima (2000) find that Japanese profit-sharing schemes that define employees' total profit share with an explicit formula that is known beforehand (i.e. schemes that meet our definition of a formal profit-sharing scheme) have stronger effects on firm productivity than schemes where the firm makes a discretionary annual allocation to employees. For France, Fakhfakh (1997) analysed data from the national survey of industrial relations and found that in about one-third of the establishments in which both management and employee representatives had replied to a question on voluntary profit-sharing schemes the two replies disagreed. Positive effects on productivity were only observed for schemes that were reported to exist by employees' representatives, whether or not management agreed, whereas schemes that were said to exist only by management had no effect on productivity⁴⁶.

In the above study on France, establishments in which management and labour agreed on the existence of a scheme were also more likely to have in place mechanisms that improved communication between management and employees. Over the years, there has been a small but steady flow of evidence supporting the theoretical intuition that there is a complementarity between control participation and financial participation, in the sense that the productivity effects of financial participation are strengthened if employees also have a voice in decisions at various levels in the firm. While information, as we have seen, helps employees understand the incentives and trust performance figures, a voice is the counterpart to the risk associated with financial participation that can contribute to protecting employees from moral hazard in decisions that affect their income and wealth (see theory section above). This area has been under-researched, primarily because of the difficulty in measuring and obtaining data on participation in control. Most of the evidence concerns employee share ownership and especially US ESOP plans, though there is also limited evidence that profit-sharing plans have stronger effects on productivity when they are associated with participation in control in the US and in Japan. Thus, Cooke (1994) found that profit sharing had a higher effect when associated with autonomous team working arrangements, and Kato and Morishima(2000) report a similar complementarity between

⁴⁵ However, Kruse and Blasi (1997) more recently review US studies that suggest ownership in itself has a stronger influence than the share of capital held on employees' attitudes.

⁴⁶ This finding is confirmed in Fakhfakh and Pérotin (2002) who also review the empirical literature on profit-sharing in French firms.

profit sharing and participation in decision⁴⁷. Those findings are corroborated by recent studies on transition countries reviewed by Jones (2000). Recent research on UK data suggests that information sharing and communication allowing employees an input may be necessary for financial participation schemes, especially employee share ownership, to have any effect on productivity (Robinson and Wilson 2001). While these findings are still tentative, they suggest that empirical research in this area needs to form more precise hypotheses as to the ways in which control and financial participation interact⁴⁸.

Kato (2000) notes that Japanese firms tend to regard financial participation schemes as part of a participatory “package” including various forms of participation in control, and Jones and Kato (1993) speculate that the participatory environment may be the reason why employee stock ownership plans have stronger effects on firm performance in Japan than in the US. Conversely, it is striking that recent studies on transition countries show very little evidence that employee share ownership has any effect on productivity outside the Baltic countries, and only weak evidence that profit-sharing has a positive effect⁴⁹. In transition countries, employee share ownership is widely reported to be associated with little or no employee control even when employees formally hold a large portion of capital⁵⁰. Among Western European countries, differences in the magnitude of the productivity effects of profit sharing that were observed when identical specifications were estimated on data from the UK, Germany, France and Italy have been attributed to differences in participatory practices in firms with profit-sharing plans (Pérotin and Robinson 1998). Profit-sharing plans tend to be implemented along with a range of forms of employee consultation and participation in control in the UK and Germany, where the estimated effects were highest, whereas in France accompanying participatory practices are often limited to the information sharing prescribed by the legislation, and at the time of the study profit sharing was viewed primarily as a variable pay system rather than a form of participation in Italy, where the estimated effect was the lowest.

The focus of researchers’ attention on these arrangements purporting to increase employee influence in the workplace has not been matched by research into the role played by the “natural” representatives of employees, that is trade unions, in relation to financial participation. The very limited evidence available indicates that profit-sharing schemes may not have higher productivity effects in unionised firms in the US (Black and Lynch 2000) or may even have stronger effects in non-union than in unionised firms (Cooke 1994). A similar finding to Cooke’s is reported for the UK (Addison *et al.* 2000) but the same study reports opposite findings when other measures of enterprise performance are used instead of productivity. Kruse (2002) indicates that in the US employee attitudes towards unionisation is not affected by employee ownership. Generally, it is likely that differences in industrial

⁴⁷ See Jones and Pliskin (1991) and Kruse and Blasi (1997) for surveys of the literature on employee share ownership in the US. One study on German firms also suggested complementarity with employee share ownership in Germany (Cable and FitzRoy 1980).

⁴⁸ Another area that is not fully understood is the connection between changes in employee attitudes associated with financial participation and productivity. The available evidence suggests employee ownership may be positively related to employee motivation, satisfaction and indicators of employee attitude such as presence, provided it is associated with participation in control (Kruse and Blasi 1997). More limited studies on profit sharing show the schemes to have favourable effects on turnover and absenteeism (see Kruse 1999, Brown *et al* 1999).

⁴⁹ See the survey by Jones (2000) who reviews empirical work of the type we have been looking at from Albania, Bulgaria, Russia, Poland, Slovenia, Estonia, Lithuania and Latvia and related evidence from Ukraine, Hungary and the Czech Republic. See also e.g. Earle and Estrin (1998) and Uvalic and Vaughan-Whitehead (1997) about employee ownership and participation in newly privatised firms in transition economies.

⁵⁰ Obviously, another reason may be that share value is perceived to be low regardless of employees’ effort.

relations systems and union involvement in financial participation will produce very different situations across countries. At the level of the enterprise, the interaction between union action and financial participation may depend on whether the scheme was negotiated with trade unions in the first place, given that historically various forms of participation have been known to be introduced by certain firms as a barrier against union influence, whereas some schemes like the French or Italian profit-sharing plans are systematically negotiated. In France, the evidence provided by Fakhfakh and Pérotin (2002) indicates that both types of financial participation have strong productivity effects in large companies where trade unions are well established and industrial relations are very active.

A number of other firm-specific factors such as the choice of technology (see Cable and Charles 1990) and organisational change are likely to influence the way financial participation translates into improved organisational performance and productivity. Research in this area is still in infancy, although research by Robinson and Wilson (2001) shows the share schemes to operate less successfully when it is associated with job and small batch production and with a wider package of organisational design. Besides participation in control in and of itself, differences in the choice of organisational structure and technology may explain the meta-finding reported by Doucouliagos (1995) who shows that the empirical evidence indicates that the effect of financial participation on productivity overall is greater in labour-managed firms than in participatory conventional firms, both for profit-sharing and employee ownership schemes. This means that there may be lessons to be learned from the labour-managed sector and that more serious consideration should be given to supporting and promoting this sector.

Other elements of the firm's human resource policies may condition or affect the impact of financial participation on productivity, for example by influencing perceptions of fairness in the workplace, the proportion of employees effectively involved⁵¹ and the extent to which employees are allowed to have an impact on their work. Using UK data from 1998, Pérotin and Robinson (2000) found that the existence of firm policies to improve equality of opportunity and fight gender and ethnic discrimination together with control participation and employee share ownership schemes were associated with a productivity advantage over and above the separate effects of individual policies and schemes. The effectiveness of those participatory schemes seems to increase as female and ethnic minority employees are provided with more opportunities and incentives to contribute to performance⁵². Again this is an area where research is only starting.

⁵¹ The studies we have included in this survey concern schemes that are open to all or a majority of employees, and as a rule exclude executive-only schemes. When the coverage of the scheme can vary, it is often found that financial participation schemes that cover a larger section of the workforce have a stronger effect on productivity (see e.g. Kruse 1992, Meihuizen 2000). One study for Germany suggests that management-only profit sharing could have a greater effect on productivity than broad-based schemes, but the methodology that had to be employed in this study has serious limitations, especially for the German case (see Addison *et al.* 2000). It is interesting to note that executives are *not* eligible to join Japanese and Korean ESOP schemes (Kato 2002, Cin and Smith 1999).

⁵² The results are less clear-cut with profit-sharing schemes, possibly because extending profit sharing to a broader group of employees can dilute the incentives for the original group (Pérotin and Robinson 2000.).

5. Effects on Employment

In his influential 1984 book *The Share Economy. Conquering Stagflation*, Martin Weitzman argued that profit sharing applied to a whole economy could cure unemployment without creating inflation. The hypothesis concerns a whole economy, so it is difficult to test⁵³, but Weitzman's work focused the attention of researchers on the possible relationship between profit sharing and employment for a while. Most of the empirical work on this issue has been based on a hypothesis about firm-level behaviour that is at the heart of Weitzman's model and was proposed earlier by Vanek (1965). In its strictest form, the hypothesis only concerns profit-sharing schemes, but related hypotheses apply to employee share ownership schemes as well, and we will cover both here.

Theory

Financial participation can increase the firm's demand for labour, and therefore its level of employment, in two main ways--by increasing productivity and by affecting the marginal cost of labour.

The first hypothesis goes as follows. If, as we have seen in section 3, financial participation schemes increase total factor productivity, unit costs will decrease and if the firm can sell more on a competitive market it will make a greater profit by expanding output and employment⁵⁴. This hypothesis applies to both profit-sharing and employee share ownership. The second way in which financial participation may increase demand for labour on the part of the firm relates to profit sharing only and is the firm-level version of the Weitzman-Vanek hypothesis. Under profit sharing, the firm pays employees partly in the form of a fixed-level wage and partly in the form of a bonus dependent on profit. The total share of profit allocated to employees in the form of profit-sharing bonuses does not vary with employment. As a result, the firm only has to provide for the fixed part of pay when it hires an extra worker (the remaining part of pay will depend on the profit level). This implies that for a given pay level the marginal cost of labour is lower than if pay was entirely fixed, and the firm's demand for labour should be higher.

It is worth noting that under the second hypothesis, extra employment is financed in part through a reduction in each employee's portion of profit. In a tight labour market firms may not be able to hire new employees without guaranteeing a set level of total pay, in which case total pay would constitute the marginal cost of labour. Furthermore, if employees have a say in pay and/or hiring decisions (e.g. through collective bargaining or employee ownership) they may also resist an increase in employment that might cut their individual bonuses unless there are sufficient productivity gains under the scheme to finance stable or increasing bonuses for all. Finally, employment will only increase if the fixed part of pay in profit-sharing firms is lower than (fixed) wages would be without profit sharing⁵⁵. The empirical literature has addressed both critiques of the hypothesis.

In addition to the two main hypotheses above, financial participation has been argued to affect employment in two other ways. Firstly, it is often thought that profit-sharing plans increase the stability of employment by making pay more variable. Although this idea is intuitively appealing, the hypothesis in this form is logically flawed. If the percentage of profit allocated to employees is fixed in advance (so the scheme meets our definition of profit sharing) and the conditions discussed above obtain, the only element of pay that determines

⁵³ Freeman and Weitzman (1986) attributed Japanese economic success to profit sharing, but critics of this paper argued that the bulk of the bonus pay that was identified as profit sharing in the paper actually was not (see Estrin *et al.* 1988).

⁵⁴ If the market for the firm's product is imperfectly competitive, the firm may still make a higher profit by expanding if the corresponding price drop is small.

⁵⁵ These issues are discussed in Estrin *et al.* (1987) Kruse (1993) and Estrin *et al.* (1999).

the firm's demand for labour is the fixed part of pay, which is by definition fixed, and has no reason to be more flexible than fixed wages in non-profit-sharing firms (Nuti 1987). Employment should only be less variable in this sense in profit-sharing firms if the share of profit allocated to employees is set discretionarily by management every year, as in many US plans, rather than following a pre-defined formula. If instead the scheme meets the definition we have used (which is also the definition implicit in the theoretical literature and is necessary for profit sharing to increase labour demand) employment levels may be stabilised downwards if there is excess demand for labour at the prevailing wage, and may be stabilised both downwards and upwards if employees or their representatives are involved in employment decisions⁵⁶.

The last way in which financial participation may affect employment applies to both profit sharing and employee share ownership and operates through the schemes' effect on productivity. Independently from increasing total factor productivity, financial participation may modify the shape of the production function by changing the way capital and labour are used, so that more, or less, of either factor is used at a given level of output (i.e. production becomes more or less capital- or labour intensive at each level of output).

Methodological Considerations

The general hypothesis that firms with financial participation demand more labour than other firms can be tested by estimating a labour demand function in which a "dummy" variable indicating the existence of financial participation is inserted. This is a way of calculating whether, once the determinants of firms' demand for labour such as pay, assets or output and industry are taken into account, firms with financial participation employ more people. This procedure can be used for both profit sharing and employee share ownership. However, for profit-sharing schemes this test cannot distinguish between employment increases due to increased productivity and employment increases coming from a decrease in the marginal cost of labour as described by Weitzman and Vanek.

Another type of test is necessary to test the Weitzman-Vanek hypothesis. If data are available separately on fixed pay and profit-sharing bonuses in profit-sharing firms, a labour demand function can be estimated for these firms alone, taking into account the fixed wage and the amount of profit-sharing bonus separately in order to ascertain whether profit-sharing firms regard only the fixed part of pay as the marginal cost of labour (Estrin and Wilson 1993). If they do, the fixed wage will be found to have a statistically significant (negative) effect on the level of employment of the firm, but the bonus will not. If both are found to affect employment significantly and negatively, the implication is that firms use total pay to determine their demand for labour and the Weitzman-Vanek effect does not obtain. When separate information on the levels of fixed wages and profit-sharing bonuses is not available, a slightly different approach has been used to test the hypothesis indirectly (see Biagioli and Curatolo 1999). In all of the above tests, most empirical studies also use estimation methods that take into account interrelations between the employment, output and performance of the firm and correct for this.

The hypothesis that profit-sharing schemes stabilise the firm's level of employment has rarely been tested for properly. With notable exceptions such as Kruse (1991) most studies estimate the effect of profit sharing on employment growth rather than employment variability, which would require either looking at the variance of employment (where both positive and negative variations count as positive) or considering positive and negative demand shocks separately, as Kruse did.

⁵⁶ See also Kruse (1991). See Bonin *et al.* (1993) and Earle and Estrin (1998) for discussions of the theoretical debates regarding the employment behaviour of labour-managed firms.

Finally, it is important to recall here that the evidence we report only concerns firm-level employment and does not make it possible to draw conclusions about national aggregate employment levels.

The Evidence

The effect of profit sharing on labour demand hypothesised by Weitzman require the fixed part of pay to be lower under profit sharing than otherwise, even though total pay may be higher. We therefore look at evidence on pay levels first. Very few studies have attempted to find out whether the fixed portion of pay in profit-sharing firms was lower than in other firms. As reported in OECD (1995) the three studies available in the early 1990s gave contradictory results. Since then, two studies have tested specifically for the effect of profit-sharing on wages in the US and in France (see Black and Lynch 2000 and Mabile 1998) and offer support for the idea that the fixed part of pay may become lower in profit-sharing firms over time, even though total pay remains higher than in non-sharing firms (which would be consistent with compensating employees for risk). In particular, Mabile (1998) estimated wage equations on French data and showed that the fixed wage did not decrease when profit-sharing was introduced, which is to be expected since French law prohibits substituting profit-sharing bonuses for fixed wages. However, over the few years following the adoption of profit-sharing, fixed wages increased less in profit-sharing firms than in other firms, all else being equal. Thus there was a substitution over time that was consistent with the operation of a Weitzman-style mechanism, even though total pay remained higher in sharing firms (Mabile, *ibid.*).

It is therefore not surprising that the balance of the evidence on labour demand in France should suggest that in that country profit sharing may increase employment by depressing the marginal cost of labour, though that evidence is still limited (see Pérotin and Fakhfakh 2002 for a survey). Evidence on the UK and US is mixed--the most recent UK evidence suggests that profit sharing may have a positive effect on employment (see Estrin *et al.* 1999), a finding supported in the past by Bradley and Estrin (1992) but not by Wadhvani and Wall (1990) or Blanchflower and Oswald (1988). However, limited recent evidence on Italy also suggests the possible existence of a Weitzman-Vanek effect on employment in that country (Biagioli and Curatolo 2000, Biagioli *et al.* 1999).

Whether in the UK, Italy or France, evidence that employment is increased via the productivity effect of financial participation rather than by a Weitzman-style mechanism is clearly stronger (Estrin *et al.* 1999, Biagioli and Curatolo 2000). This particular version of the employment hypothesis has not been tested often, but a recent study on Taiwan suggests it is also verified for that country⁵⁷ and the extent of the evidence indicating that financial participation schemes increase productivity would imply that employment effects should generally be positive.

Given the confusion that exists regarding the employment stability hypothesis, it is not surprising that evidence is inconclusive overall (see OECD 1995 for a review) though Kruse (1991) does suggest that in the US employment in profit-sharing firms responds more than other firms to positive demand shocks and less to negative demand shocks. This finding is consistent with the possibility that demand for labour is generally greater in profit-sharing firms. Finally, a comparison of identically specified estimations of production functions for France, Germany, Italy and the UK leads Pérotin and Robinson (1998) to conclude that the different tax arrangements regarding profit-sharing scheme at the time of the study in those countries probably explain the effect of the schemes on the firms' relative use of labour and capital at a given level of output. Two of the countries covered in the study offered tax

⁵⁷ Han (2002) finds the presence of profit-sharing and the presence of employee share ownership affect employment and productivity positively, whereas the profit-sharing bonus has no significant effect on employment.

advantages for profit-sharing in the form of an exemption from social security contributions and/ or income tax on profit-sharing bonuses, which is equivalent to subsidising labour costs in the firms concerned. Unsurprisingly, this form of subsidisation was found to incite profit-sharing firms to use more labour-intensive processes at a given level of output. In contrast, where profit-sharing plans are not subsidised in this way they tend to make capital relatively cheaper to the firm (since part of profit does not go to capital but to labour) and in the corresponding countries profit-sharing enterprises were using relatively more capital at a given level of output (see also Biagioli and Curatolo 1999).

6. Conclusions and Policy Implications

One of the strongest conclusions that come out of international empirical research on financial participation is that there is very solid evidence that it has a positive or neutral effect on productivity. If only because of this effect, it is also reasonable to think that financial participation may increase demand for labour on the part of the enterprises concerned (though there is no implication that aggregate employment would necessarily rise).

It is therefore legitimate for public policy to promote financial participation for those reasons (keeping in mind that there also exist other ways to increase productivity and labour demand). Policy intervention could take several forms. International experience suggests financial participation spreads when tax subsidies are offered to the firms and/or the employees involved in financial participation, but that diffusion can also happen without tax concessions. This is presumably because both firms and employees can benefit from a financial participation scheme. This in turn implies that a subsidy may not be absolutely necessary, and that other options may be considered, such as information and education strategies directed at social partners.

In reflecting upon options for policy intervention, several considerations are relevant. The first is that productivity effects may not in all circumstances be sufficient to cover the cost to the enterprise of setting up and running a scheme, in which case firms may want a subsidy to agree to have a scheme. Secondly, proposing a standard scheme may cut the cost of setting it up for individual firms. At the same time, features that will increase the productivity effects of financial participation will help the scheme “pay for itself”. The type of scheme that is promoted is therefore of importance. Thirdly, there may of course be reasons other than productivity and employment effects to promote financial participation. Those might include for example promoting economic democracy or wealth redistribution, as in France and in Germany in the post-war reconstruction period. Finally, even if it is concluded that the private benefits of financial participation to employees and firms are sufficient to cover its costs and no tax advantage should be offered, there may remain reasons to tax-subsidise certain forms of financial participation. An example might be worker co-operatives that set aside a share of profit in collectively owned reserves in order to build an employee-owned firm that will be available for future generations to work in.

International experience and research evidence also provide several elements regarding the design of the schemes that should be promoted. It seems clear that financial participation schemes should be associated with sufficient information and communication provisions in order to have an impact on productivity. Participation in governance at various levels (from discussion groups to worker directors and co-determination) may further increase productivity effects, or even condition them in the case of share schemes, and acts as a way to protect employees’ financial interests. In particular, employee share ownership should normally be associated with the normal exercise of shareholders’ voting rights, either individually or via structures democratically managed by the employee shareholders.

International experience also suggests that in designing share schemes it may be desirable to consider provisions for stability of employee ownership while allowing for sufficient liquidity. Another suggestion that emerges from recent empirical research is that other important aspects of enterprises' organisational and human resource practices, such as the protection of human rights at work, may also affect the impact of financial participation. In particular, firms might be encouraged to set up policies to fight ethnic and gender discrimination and promote equal opportunities alongside financial participation schemes to ensure that all employees participate equally.

Finally, it should be clear from the evidence presented that some questions are very well understood at present, while others will still require much research to produce reliable detailed information for policy. Examples include the two areas just mentioned--liquidity/stability issues and the human resources and organisational context. A priority may be the collection of genuinely comparable and reliable statistical information on financial participation across the union, both at the national and at the establishment levels. This would require the construction of survey instruments grounded in a solid analytical framework so that state of the art research and analysis could regularly inform policy in these matters.

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