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The relationship between profit-sharing schemes and wages: Evidence from French firms**

The article tackles the impact of profit sharing plans (PS) on compensation policies in the French context. Using a sample of 1,143 firms from surveys of the Ministry of Labour, the authors draw up a typology based on a mix of PS plans including cash-based PS, deferred PS and the intensity of deferred plans (additional employer and employee contributions). Our results indicate that profit sharing does not seem to be considered as a way to reduce wages. Cash-based PS-oriented and high-deferred PS policies are not significantly linked to lower wages; but only firms with high-deferred PS policies are related to significantly higher wages.

Key words: **profit sharing, compensation, wages, France**
(JEL: J31, J33, J41, M52)

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Profit sharing (PS) is a form of financial participation defined as a collective regulation that, in addition to the stipulated wage, provides a variable income component dependent on enterprise profits. Historically, approaches and instruments for financial participation have emerged for various reasons. Considered one of the solutions to "labour problems" in the early 20th century (Adams & Sumner, 1905), profit sharing was particularly developed after 1945 because of socio-political motives for promoting wealth creation among employees in many European countries (France, Germany, and the UK). In all European countries, distinct participation models have been developed with national peculiarities in terms of taxation, state support, forms of enterprise, and so on, so they can appear very different in detail. Notwithstanding differences, most European countries are pursuing a national policy promoting financial participation, which is linked to political goals of strengthening participation and wealth creation among employees[1]. According to a survey by the European Foundation for the Improvement of Living and Working Conditions in 2009, France was highest with regard to PS, with an incidence of 35%, followed by the Netherlands (27%), Sweden (24%) and Finland (23%). Given this widespread use of profit sharing among French firms, PS practices in this country are particularly relevant to study.

In France, as in other countries, PS can either be paid directly or diverted to various forms of investment for later disbursement. Two major schemes can be distinguished: profit sharing through bonus payments (cash-based profit sharing) and profit sharing with a deferred payment/savings plan (deferred profit sharing).[2] As in other countries with a high level of profit sharing, schemes in France are offered to the whole workforce. In France, as in some other EU countries, PS plans are subject to tax benefits for employers and employees. This applies primarily when they are set up for the medium-term accumulation of assets by employees. In these cases, allocation rights, prescribed holding periods, forms of investment, and so on, are legally regulated. Examples include not only France but also the Netherlands, Sweden and the UK. Despite these common patterns, the French context presents a few specific features. A part of PS in France corresponds to legal provisions, depending on global benefits, that prescribe financial participation for firms with 50 or more employees; this is called "legal participation". However, profit sharing and gainsharing plans remain based on the principles of voluntariness as well as savings plans. Savings plans are provided by PS revenues and employee voluntary contribution (*versement volontaire*). Both benefit from an additional voluntary contribution provided by the company (*abondement*) with tax advantages for both employers and employees. All of these PS arrangements are based on firms' collective agreements in France. Appendix 1 presents the main features of PS plans in France.

Profit sharing has three main objectives: (1) to stimulate worker effort, (2) to improve labour-management cooperation, and/or (3) to implement wage flexibility and moderation (Poutsma, Hendrickx, & Huijgen, 2003). Many studies about PS address

1 See www.worker-participation.eu/National-Industrial-Relations/Across-Europe/Financial-Participation

2 There is also profit sharing based on share ownership (share-based profit sharing) which follows specific logic that we do not include in this study.

the effects on attitudes or behaviours (Fitzroy & Kraft, 1987; Florkowski, 1987; Doucouliagos, 1995; Coyle-Shapiro, Morrow, Richardson, & Dunn, 2002; Black & Lynch, 2004; Kruse, Freeman, & Blasi, 2010). However, few analyse the effects of PS schemes on wages. This question nonetheless is a fundamental issue. Although PS can be considered a mechanism for incentivizing employees while increasing wage flexibility, particular in an environment of increased profit volatility risk, "it is unclear whether this practice involves substitution of wages", as written in the European report, *The Promotion of Employee Ownership and Participation* (Lowitzsch & Hashi, 2014). In France, the Ministry of Labour, which is concerned with the relevance of tax benefit measures, launched in 2012 a study to clarify whether there is substitution. The results of that study informed part of this paper. Thus, the purpose of this study is to study the relationship between PS schemes (cash-based profit sharing and deferred profit sharing) and wages (level of wages and general increase practices) in the French context.

Therefore, the first part of this paper outlines theoretical and past evidence about the effects of PS on wages and sets out specific arguments in the French case. Data and methodology are presented in the second part. The results are presented in the third part and then discussed in the conclusion.

1. Theories and past evidence about profit sharing and wages: Application in the French context

The relationship between profit sharing and wages has attracted particular interest since Weitzman's theory of profit sharing appeared in 1984. The focus of Weitzman's theory is primarily centred on firms' incentives with respect to a more flexible pay structure. According to Weitzman (1984), profit sharing adoption leads to lower marginal cost of labour than in the case of fixed wages. Indeed, hiring an additional worker does not change the total share of the profits allocated to the workers, which is independent of employment. Following this assumption, profit sharing should substitute for wages, therefore inducing lower wages.

Conversely, several other authors consider that profit sharing should be a supplement to wages rather than a substitute for them (Kraft & Ugarkovic, 2005; Kruse et al., 2010). If the objective of profit sharing is to improve work effort, efficiency and cooperation, its objective cannot be achieved unless rewards can be guaranteed to exceed regular wages (Burritt, Dennison, Gay, Heilman, & Kendall, 1918). Additionally, the profit-sharing incentive should lead to improved employee involvement and productivity, so employees should be rewarded with a pay increase. Furthermore, according to some authors (Kraft & Ugarkovic, 2005; Lazear, 2000), a profit-sharing premium might lead to higher stress levels and higher work rates because of closer monitoring (to guard against free riding) and higher requirements. The result might be that workers not performance-oriented will leave the organization and be systematically replaced with performance-oriented workers. This could influence wage levels. Another argument tackles the substitution approach. Profit sharing implies sharing risk; consequently, employees should be compensated for this through higher remuneration (Delahaie & Diaye, 2008; Kraft & Ugarkovic, 2005; Kruse et al., 2010).

The French case is quite specific because of tax regulations. To encourage the spread of profit sharing, French tax regulations offer tax advantages for this type of compensation. For employers, profit sharing is exempted from social contributions. For employees, profit-sharing premium is not taxable if invested in company savings plans. Despite the 'principle of non-substitution' in French law, such a regulation might provide an incentive for employers to replace regular taxed wages by this less-taxed compensation. Coutrot (1992) and Chaput, Delahaie, and Diaye (2010) show that profit sharing would be more likely to moderate basic wages. However, substitution would depend on the size of the bonuses paid out, the size of the organization and how long the profit-sharing systems have been in place (Coutrot, 1992; Mabile, 1998). According to Mabile's (1998) results, substitution is more frequent in SMEs and appears some years after the implementation of profit sharing. That conclusion emphasizes that the substitution effect would be related to firm size. This can be explained by the fact that some of these firms are more likely to be under economic and competitive pressures; therefore, they seek to reduce salary costs and increase flexible pay. Moreover, SMEs are less unionized. Unions are opposed to the substitution of fixed wages by flexible pay, particularly in France (Guery & Stévenot, 2006), so that we can suppose that the less that firms are unionized, the easier is substitution. All of these considerations lead to two hypotheses:

- The more intense PS plans are, the lower wages are (H1).
- The more intense PS plans are, the lower is the likelihood of general wage increases (H2).

2. Data and methods

The data used in this study are derived from the 2004 REPONSE Survey, a nationally representative survey of all private sector workplaces in France with 20 or more employees, and from the 2005 PIPA Survey on profit-sharing practices of all private sector workplaces with 10 or more employees. Merging these two databases left us with a sample of 1,143 firms for which we had information regarding profit-sharing practices, wages and, more globally, a description of all compensation practices implemented within the workplace.

To consider the various forms of PS plans, which may or may not be combined, we propose to construct a typology. This allows differentiating different types of PS practices and strategies of firms. This is an original contribution to the literature. Indeed, the main studies have considered only one type of PS mechanism (mostly cash-based profit sharing) at a time, without studying the effects of a mix of cash-based PS and deferred PS. In France, mandatory PS (legal participation) is widespread because of regulation but does not make it possible to distinguish PS firms' practices and strategies. The differences among firms depend on the existence of voluntary PS plans and savings plans and on the importance of savings plans, which varies depending on the level of voluntary additional contributions of employers and employees. Our typology is based on these differentiating characteristics, using a cross tabulated analysis. Four types of firms are identified. The first type (34% of firms) corresponds to firms opting for a minimalist approach; there is no voluntary profit-sharing agreement and levels of employer and employee deposits in savings plans are below the median. The second

type (36%) represents a policy based on profit sharing; all of these firms have such an agreement, but levels of employer and employee deposits in savings plans are below the median. The third type (7%) represents a policy based on stimulating employee saving. These firms have no profit-sharing agreement, but levels of employer and employee deposits in savings plans are higher than the median. The fourth type (22%) represents an ubiquist policy; these firms have a profit-sharing agreement and savings plans with levels of employer and employee deposits greater than the median. Table 1 presents the descriptive characteristics of the typology classes.

Table 1: The profit-sharing typology: descriptive characteristics

	Minimalist (1)	*Cash-based profit-sharing-oriented policy* (2)	*Deferred profit-sharing stimulation Policy* (3)	*Ubiquist Policy* (4)	Mean
Number of firms	392	416	78	257	1 143
Mandatory PS plan	68 %	86 %	79 %	88 %	80 %
Voluntary cash-based PS plan	0 %	100 %	0 %	100 %	59 %
Savings plan	13 %	69 %	100 %	100 %	59 %
(Additional employers' contribution to saving plan + employees' contribution) / payroll	0.10 %	0.77 %	3.69 %	2.56 %	1.45 %

According to the substitution hypothesis, classes that resort more to PS plans should have lower wages and be less likely to have general increases. In particular, ubiquist policy firms would have the lowest wages and the least general increases, everything else being equal.

To study the relationships between profit sharing and wage practices, we considered wage levels (measured by the log of median net hourly wage and the log of mean net hourly wage) as dependent variables in Ordinary Least Squares (OLS) regression models, and the existence of general increases[3] as dependent variable in probit regression models. The variables of interest correspond to the different classes of profit-sharing policies. To isolate their specific effect, we introduced several control variables used in compensation studies.[4] Therefore, variables linked to company characteristics (listing on the stock exchange, work organisation, shareholders, business sector, profitability, etc.) and to labour relations and workforce structure (presence of union representative, percentage of men, percentage of engineers and managers, and so on) have been included.

3 This variable is based on a question of REPONSE survey about the existence of general increase of wages.

4 The complete list of variables can be found in Appendix 3.

3. Results

The descriptive statistics presented in Table 2 indicate differences in wage levels depending on the type of PS policy.

Table 2: Descriptive statistics: level of wages in the firms based on the PS profiles

	Minimalist policy (1)	*Cash-based profit-sharing-oriented policy (2)*	*Deferred profit-sharing stimulation policy (3)*	*Ubiquist policy (4)*	Mean
Firms (N=1,143)	392	416	78	257	
Characteristics of wages					
Mean net hourly wage (€)	11.99	12.39	15.20	14.74	12.98
Standard deviation	4.28	3.60	5.75	4.65	4.42
Median net hourly wage (€)	10.55	11.09	13.35	12.91	11.47
Standard deviation	3.73	3.30	5.25	3.79	3.85

Given the ANOVA results (Appendix 2), there are significant (at better than the 1% level) differences among the four typology classes. Bonferroni multiple-comparison tests provide more detailed results related to the significance of differences in wages between classes. Firms that stimulate employee saving (profile 3) have the highest hourly wages: €15.20 mean net hourly wage and €13.35 median net hourly wage. This seems consistent with the characteristics of firms in this group (Appendix 3), which are mostly large listed organizations, some of which are highly profitable, with relatively more flexibility in regard to setting prices and whose personnel include a high proportion of engineers and managers. "Ubiquists" (profile 4) also have higher wage levels than the rest of the sample (€14.74 mean net hourly wage and €12.91 median net hourly wage). These firms also have large workforces (with a strong proportion of office and clerical workers), are listed on the stock exchange and are profitable. They have a significantly higher level of capitalistic intensity that can justify an employee retention strategy. Furthermore, because they benefit from great freedom in setting selling prices, these firms enjoy some flexibility in regard to developing a complete compensation system with a profit-sharing policy and a protean, and eventually generous, PS plan.

Companies belonging to profiles 3 or 4 are characterized by strong union membership, which invites us to study the link between unionization and remuneration levels in more detail (Kroumova & Lazarova, 2009). This possible link also appears when observing the other profiles, minimalists (profile 1) and cash-based PS-oriented policy firms (profile 2), which have lower levels of wages and, at the same time, lower rates of union membership. These firms also stand apart from those with large workforces (they are SMEs) and the composition of their workforces (many skilled and unskilled workers, and office workers).

The following table presents the results of the OLS estimations (Table 3).

Table 3: PS profiles and wages (OLS models)

	Log of median wage	Log of mean wage
Profit-sharing policy:		
Minimalist	Ref.	Ref.
Cash-based profit sharing	0.016	-0.001
Deferred profit-sharing stimulation	0.059*	0.0057**
Ubiquist	0.044**	0.041**
Listed on the stock exchange	0.045***	0.052***
Main shareholder:		
Industrial company	Ref.	Ref.
Financial company	0.040**	0.026
Family	-0.003	-0.016
Employees	0.017	0.008
Workforce under 50	Ref.	Ref.
Workforce between 50 and 200	-0.005	0.012
Workforce greater than 200	0.040	0.062
Weak profitability	Ref.	Ref.
Moderate profitability	0.039***	0039***
High profitability	0.052***	0.040**
High training expenditures	0.019	0.007
Type of organization:		
Taylorist organization	Ref.	Ref.
Simple structure	-0.026	-0.046**
Learning organization	-0.016	-0.016
Lean production	-0035**	-0.022
Workforce structure:		
% skilled and unskilled worker	Ref.	Ref.
% top managers	0.048	2.693***
% engineers and managers	1.043***	1.070***
% first line managers and technicians	0.350***	0.444***
% office and clerical workers	0.041	0.032
% women	-0.269***	-0.191***
% of employees under 30	Ref.	Ref.
% of employees between 30 and 40	0.002***	0.002***
% of employees between 40 and 50	0.003***	0.002***
% of employees over 50	0.004***	0.003***
Union representative	0.033*	0.032*
Industry controls	yes	Yes
Constant	1.8744***	1.952***
Number of observations	721	721
R^2	0.724	0.726

***, **,* indicate that coefficients are significant at 1%, 5% and 10%, respectively. All control variables and their estimated coefficients are not presented here, but can be obtained on simple request from the authors.

Table 4: PS profiles and general increases (probit regression, reporting marginal effects)

	General increases	General increases for managers	General increases for non-managers
Profit-sharing policy:			
Minimalist	Ref.	Ref.	Ref.
Cash-based profit sharing	0.069**	0.031	0.079***
Deferred profit-sharing stimulation	-0.033	-0.065	-0.018
Ubiquist	0.082**	0.042	0.088***
Listed on the stock exchange	-0.018	-0.047	-0.021
Main shareholder:			
Industrial company	Ref.	Ref.	Ref.
Financial company	-0001	0.006	-0.016
Family	0.025	0.117*	0.027
Employees	0.002	0.194	0.003
Workforce under 50	Ref.	Ref.	Ref.
Workforce between 50 and 200	0.025	0.145	0.049
Workforce greater than 200	0.162*	0.081	0.184**
Weak profitability	Ref.	Ref.	Ref.
Moderate profitability	0.032	-0.043	0.047
High profitability	0.051	-0.041	0.058
High training expenditures	0.001	-0.083*	0.001
Type of organization:			
Taylorist organization	Ref.	Ref.	Ref.
Simple structure	0.007	-0.051	0.031
Learning organization	0.074**	0.026	0.068**
Lean production	0.045	-0.112**	0.036
Workforce structure:			
% skilled and unskilled workers	Ref.	Ref.	Ref.
% top managers	2.486	4.652	2.051
% engineers and managers	-0.402***	-0.276**	-0.401***
% first line managers and technicians	-0.284***	-0.192	-0.272***
% office and clerical workers	0.012	0.167	-0.014
% women	0.164**	-0.072	0.143*
% of employees under 30	Ref.	Ref.	Ref.
% of employees between 30 and 40	-0.001	0.001	-0.001
% of employees between 40 and 50	0.001	0.002	0.001
% of employees over 50	0.002	0.001	0.001
Union representative	-0.004	0.048	0.023
Industry controls	yes	Yes	Yes
Number of observations	661	661	661
Pseudo R^2	0.214	0.106	0.209

***, **,* indicate that coefficients are significant at 1%, 5% and 10%, respectively. All control variables and their calculated coefficients are not presented here, but can be obtained on simple request from the authors.

Firms that stimulate deferred profit sharing, that have no voluntary cash-based PS plan but savings plans with employer's and employees' additional contributions over the median, as well as ubiquist firms, have significantly higher wages compared with minimalists (that is the model reference). In contrast, wages in cash-based profit-sharing-oriented policy firms, which all have voluntary cash-based PS plans but no savings plan or "weak" savings plan, are not significantly different from minimalists' wages. The difference between, on the one hand, minimalists and firms with a cash-based profit-sharing-oriented policy, and on the other hand, deferred profit-sharing stimulators and ubiquists is related to the development of deferred profit sharing. Consequently, significantly higher wages are found in firms with higher levels of deferred profit-sharing practices, with additional employer and employee contributions. Not only does a substitution of wages by PS not exist, although there are tax benefits in France, but there is also a positive relationship between wages and high savings-plans practices. Cash-based PS policies, which depend on collective results, do not seem to have any significant relationship with wages. In general, PS plans do not pursue a wage-flexibilization goal, in contrast with Weitzman's theory. Hypothesis H1 (the more intense PS plans are, the lower wages are), based on Weitzman's theory and the French fiscal framework, is therefore not supported by our results.

Additionally, Table 4 shows general increases are more likely in firms that have developed cash-based PS policies (profile 2: Cash-based PS policies and profile 4: ubiquist policies). In contrast, no significant relationship exists between general increases and firms that have developed deferred PS plans without voluntary cash-based PS. A general increase would be more likely as a compensation measure when there are variable compensation practices. Refined results indicate in both cases (profiles 2 and 4) that these significant general increases concern not managers but non-managers. This may be explained by the fact that non-managers' wages are lower and consequently more risk sensitive and more flexibility adverse. The compensation measure for variable income through cash-based PS plans would be more relevant for non-managers. As for H1, hypothesis H2 (the more intense PS plans are, the lower is the likelihood of general wage increases) is not supported.

4. Conclusion and discussion

According to our results, profit sharing does not seem to be considered as a way to reduce wages. These results are similar to other analyses of the relationship between PS and wages (Kraft & Ugarkovic, 2005; Kruse et al., 2010). Thanks to our typology, we not only focused on one PS mechanism, as is often the case in previous studies, but also considered a mix of PS plans, including cash-based PS, and deferred PS, and the intensity of deferred PS plans (additional employer and employee contributions). This approach facilitates comparing global policies (practices and strategies).

Cash-based PS-oriented and high-deferred PS policies are significantly different in terms of wage practices. Neither of these profiles is significantly linked to lower wages, but only firms with high-deferred PS policies are related to significantly higher wages. Wages are highest in firms without voluntary cash-based PS but with deferred PS plans with the highest level of additional employer and employee contributions (profile 3). Many explanations can be given.

The first argument explains why PS plans in general do not induce substitution but are a supplement to base pay. Profit sharing falls within the efficiency wages theory (Leibenstein, 1987). According to this approach, firms are induced to offer higher compensation than the market level to attract the best employees and stimulate their productivity. Subscribing to the efficiency wage theory, PS, as a complement to base pay, can be used as a means to retain highly qualified employees for whom firms have invested in training (Green & Heywood, 2011; Gielen, 2011). This is congruent with the fact that deferred PS stimulators have a high proportion of engineers and managers. Profit sharing and even more employee saving is part of an overall policy of higher wages, investment in the firm's human capital and employee retention.

Additionally, efficiency wages respond to agency problems (Shapiro & Stiglitz, 1984). As individual productivity is difficult to observe, employers develop global remuneration contracts to attract and retain the best employees and motivate them to do their best. They send out a signal to employees by offering higher wages and supplementary advantages, such as profit-sharing plans, and make the threat of termination credible (Shapiro & Stiglitz, 1984) because of the risk of losing all of these advantages on leaving the firm. Ubiquists and deferred PS stimulators, which have significantly higher wages, are mostly large firms, so that the agency argument for high wages and additional advantages may be relevant.

The third argument addresses PS tax advantages in France. The French regulations provide tax advantages for deferred PS to encourage employees' saving. Therefore, tax benefits are even more important when employees are able to save part of their income because they have higher wages. In view of the progressive income tax, the benefits are all the more important when wages are high. In other words, top managers, managers and engineers obtain the most benefit from tax reduction.

This can explain the positively significant relationship between wages and developed savings plans with important employer and employee contribution levels. Thus, the causality would be reversed, compared with our initial predictions: higher wages would induce the development of PS, particularly deferred PS.

Our results suggest not only a supplement dimension but also a complement effect. According to the compensation approach (Delahaie & Diaye, 2008; Kraft & Ugarkovic, 2005; Kruse et al., 2010), wages are higher when profit-sharing plans are more developed because employees should be compensated for sharing risk with the firm. Listed firms are used to sharing risks with their employees by improving the funding of employee shareholdings from savings plans. Indeed, employee share ownership (mostly based on savings plans in France) is a means of stabilizing the ownership structure when faced with the rising power of institutional funds on the French listed market (Pugh, Oswald, & Jahera, 2000; Delahaie & Diaye, 2008). Higher wages would also compensate employees for their willingness to invest in the firm and for their loyalty, particularly in listed firms. This would explain why profiles 2 and 3 (deferred PS stimulators and ubiquists firms), which are mostly listed companies, develop profit-savings plans and have higher wages.

Another compensation aspect of our results is about general increases, particularly for non-managers, in firms that have developed cash-based PS (profiles 2 and 4).

This type of profit-sharing practice implies sharing risk and consequently induces variability in global remuneration. Employees, in particular those who have lower wages (non-managers), should be compensated for this through general increases (Delahaie & Diaye, 2008; Kraft & Ugarkovic, 2005; Kruse et al., 2010).

In conclusion, this study goes against both Weitzman's analysis and a substitution theory relationship between profit sharing and wages. Even when tax advantages exist, as in France, there is no substitution effect. This offers an answer to governments who, as does France's, wonder whether taxation of profit sharing and profits-savings induces lower wages or encourages additional remuneration and savings. This can also reassure unions, which are against PS because of the risk of wage flexibilization and reduction. France presents some specificities because of regulation, but, as PS is particularly developed in France with a wide range of practices, it is truly relevant to examine the French case. Further studies could research in more detail how wages and PS are related in practice, for example, based on case studies. Future studies should specifically examine the direction of the causality. Moreover, the external and internal determinants of PS strategies related to wage practices should be analysed (Heywood & Jirjahn, 2009; Kroumova & Lazarova, 2009; Poutsma, Kalmi, & Pendleton, 2006; Magnan, St-Onge, & Cormier, 2005; Pendleton, Poutsma, Van Ommeren, & Brewster, 2003). For example, the implications of unions would be interesting to clarify (Kroumova & Lazarova, 2009). The relationship between mixed PS strategies and other pay strategies (individual increase, collective and individual bonuses, employee share ownership, etc.) or investments in human capital would be an appropriate extension of this paper, in a configurational sense (Delery & Doty, 1996; Balkin & Gomez-Mejia, 1990).

References

Adams, T., & Sumner, H. (1905). *Labor problems: A textbook*. The MacMillan Company.

Balkin, D.B., & Gomez-Mejia, L.R. (1990). Matching compensation and organizational strategies. *Strategic Management Journal*, 11, 153-169.

Black, S.E., & Lynch, L.M. (2004). What's driving the new economy? The benefits of workplace innovation. *The Economic Journal*, 11, 4(493), 97-116.

Burritt, A.W., Dennison, H.S., Gay, E.F., Heilman, R.E., & Kendall, H.P. (1918). *Profit sharing, its principles and practice: A collaboration*. New York: Harper & Brothers.

Chaput, H., Delahaie, N., & Diaye, M.A. (2010). L'épargne salariale en France: Quels enjeux pour les politiques de rémunération et les performances des entreprises? Miméo.

Coutrot, T. (1992). L'intéressement: Vers une nouvelle convention salariale? *Travail et Emploi*, 53, 22-39.

Coyle-Shapiro, J.A.M., Morrow, P.C., Richardson, R., & Dunn, S. R. (2002). Using profit sharing to enhance employee attitudes: A longitudinal examination of the effects on trust and commitment. *Human Resource Management*, 41(4), 423-439.

Delahaie, N., & Diaye, M-A. (2008). L'épargne salariale entre transfert des risques de stabilisation du capital : Examen à partir d'un groupe français de matériaux de construction. *Rapport du Centre d'Etudes de l'Emploi*, 84.

Delery, J.E., & Doty, D.H. (1996). Modes of theorizing in strategic Human Resource Management: Tests of universalistic, contingency, and configurational performance predictions. *The Academy of Management Journal*, 39(4), 802-835.

Doucouliagos, C. (1995). Worker participation and productivity in labor managed and participatory capitalist firms: A meta-analysis. *Industrial & Labor Relations Review*, 49(1), 58-77.

Fitzroy F.R., & Kraft K. (1987). Cooperation, productivity and profit sharing. *The Quarterly Journal of Economics*, 102(1), 23-35.

Florkowski, G.W. (1987). The organizational impact of profit sharing. *Academy of Management Journal,* 12(4), 622-636.

Gielen, A.C. (2011). Profit sharing for increased training investments. *British Journal of Industrial Relations*, 49(4), 643-665.

Green, C.P., & Heywood, J.S. (2011). Profit sharing, separation and training. *British Journal of Industrial Relations*, 49(4), 623-642.

Guery, L., & Stévenot, A. (2006). *Epargne salariale et stratégie syndicale: Une analyse des représentations des syndicats à partir des discours.* 17ème Congrès de l'AGRH, Reims, 16-17 nov.

Heywood, J.S., & Jirjahn, U. (2009). Profit sharing and firm size: The role of team production. *Journal of Economic Behavior & Organization,* 71(2), 246-258.

Kraft, K., & Urgakovic, M. (2005). *Profit sharing: Supplement or substitute?* Working Paper, Dortmund University, Department of Economics.

Kroumova, M.K., & Lazarova, M.B. (2009). Broad-based incentive plans, HR practices and company performance. *Human Resource Management Journal,* 19(4), 355-374.

Kruse, D.L., Freeman, R.B., & Blasi, J.R. (2010). *Do workers gain by sharing?* National Bureau of Economic Research, WP 17745.

Lazear, E.P. (2000). Performance pay and productivity. *American Economic Review*, 90(5), 1346-1361.

Leibenstein, H. (1987). *Inside the firm. The inefficiencies of hierarchy*. Harvard University Press.

Lowitzsch, J., & Hashi, I. (coord.) (2014). *The promotion of employee ownership and participation*. Study prepared by Inter-University Centre for European Commission's DG MARKT, Final report, October.

Mabile, S. (1998). Intéressement et salaires: Complémentarité ou substitution? *Economie et Statistique*, 316-317, 45-61.

Magnan, M., St-Onge, S., & Cormier, D. (2005). The adoption and success of profit-sharing plans in strategic business units: Opportunism or contingency? *International Journal of Productivity and Performance Management*, 54(5/6), 355-369.

Pendleton, A., Poutsma, E., Van Ommeren, J., & Brewster, C. (2003). The incidence and determinants of employee share ownership and profit sharing in Europe. *Advanced in the Economic Analysis of Participation & Labor-Managed Firms*, 7, 141-172.

Poutsma, E., Hendrickx, J., & Huijgen, F. (2003). Employee participation in Europe: In search of the participative workplace. *Economic and Industrial Democracy,* 24(1), 45-76.

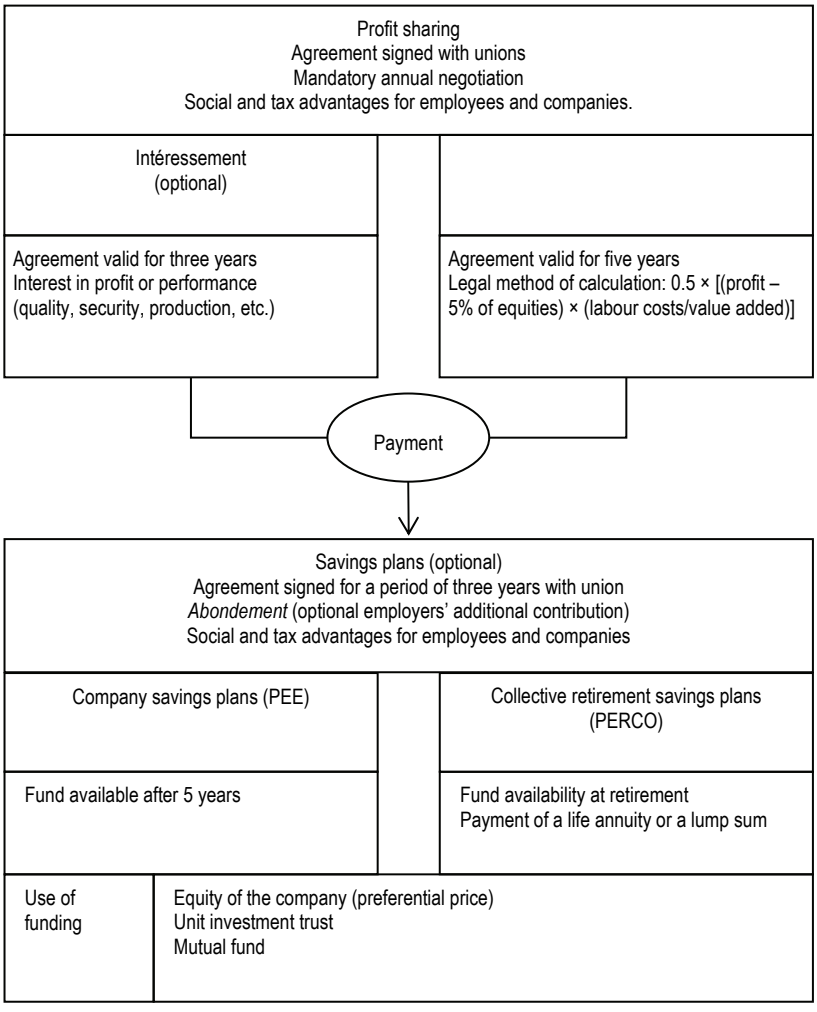
Poutsma, E., Kalmi, P., & Pendleton, A.D. (2006). The relationship between financial participation and other forms of employee participation: New survey evidence from Europe. *Economic and Industrial Democracy*, 27(4), 637-667.

Pugh, W.N., Oswald, S.L., & Jahera, J.S. Jr. (2000). The effects of ESOP adoptions on corporate performance: Are there really performance changes? *Managerial and Decision Economics*, 21, 167-180.

Shapiro, C., & Stiglitz, J.E. (1984). Equilibrium unemployment as a worker discipline device. *American Economic Review,* 74(3), 433-444.

Weitzman, M. (1984). *The share economy. Conquering the stagflation*. Cambridge, Harvard University Press.

Appendix 1: Profit sharing in France



Appendix 2: Anova analyses and Bonferroni multiple-comparison tests: comparison of median and mean wages by PS profiles

Anova analyses: median wages

	Partial SS	df	Mean Square	F	Prob > F
Profit sharing policy	1196.40	3	398.80	28.83	0.0001
Residual	15644.34	1141	13.83		
Total	16840.74	1142	14.85		
Number of observations	1143				
Adj. R-squared	0.068				

Anova analyses: mean wages

	Partial SS	df	Mean Square	F	Prob > F
Profit sharing policy	1698.02	3	566.00	31.27	0.0001
Residual	20456.84	1141	18.10		
Total	22154.87	1142	19.55		
Number of observations	1143				
Adj. R-squared	0.074				

Bonferroni multiple-comparison tests

Comparison of median wages by PS profiles

	(1)	(2)	(3)
(2)	0.543 0.235		
(3)	2.798 0.000	2.255 0.000	
(4)	2.367 0.000	1.824 0.000	-0.431 1.000

Comparison of mean wages by PS profiles

	(1)	(2)	(3)
(2)	0.395 1.000		
(3)	3.204 0.000	2.809 0.000	
(4)	2.748 0.000	2.353 0.000	-0.455 1.000

(1) Minimalist policy
(2) Cash-based profit-sharing oriented policy
(3) Deferred profit-sharing stimulation policy
(4) Ubiquist policy

Appendix 3: Sample characteristics depending on PS profiles

	Minimalist policy	Cash-based profit-sharing-oriented policy	Deferred profit-sharing stimulation policy	Ubiquist policy	Whole sample
Listed company	32.38%	49.64%	59.74%	65.23%	47.96%
Main shareholder					
Industrial company and others	44.48%	50.54%	48.57%	51.52%	48.57%
Financial company	16.28%	21.39%	30.00%	31.44%	22.52%
Family	37.21%	26.47%	12.86%	13.97%	26.35%
Employees	2.03%	1.60%	8.57%	3.06%	2.56%
Profitability					
Weak (roa < 0.104)	36.45%	30.24%	39.66%	31.50%	33.23%
Moderate (0.104 < roa < 0.313)	36.14%	35.70%	20.69%	35.50%	34.90%
High (roa > 0.313)	27.41%	34.06%	39.65%	33.00%	31.87%
Size					
Under 50 employees	5.18%	1.22%	1.12%	0.79%	2.40%
50 to 200 employees	14.76%	12.44%	6.46%	5.12%	11.19%
More than 200 employees	80.05%	86.34%	92.42%	94.10%	86.41%
High training expenditures (more than 3% of payroll)	32.79%	43.00%	60.28%	62.91%	45.27%
Presence of a union representative	73.91%	83.13%	81.81%	91.37%	80.72%
Work organization					
Taylorist organization	22.22%	14.61%	18.57%	14.09%	17.41%
Simple structure	21.93%	25.28%	28.57%	37.73%	27.13%
Learning organization	19.30%	29.49%	35.71%	26.82%	25.81%
Lean production	36.55%	30.62%	17.14%	21.36%	29.66%
Workforce structure					
Pct. top managers	0.39%	0.22%	0.26%	0.18%	0.27%
Pct. managers and engineers	15.63%	15.99%	29.09%	23.58%	18.47%
Pct. first line managers and technicians	22.70%	23.43%	23.81%	29.90%	24.66%
Pct. office and clerical workers	19.70%	18.35%	14.36%	15.73%	17.95%
Pct. skilled and unskilled workers	41.58%	42.01%	32.48%	30.61%	38.64%
Pct. women	38.39%	35.95%	30.26%	35.74%	36.35%
Pct. employees under 30 years	23.10%	22.57%	22.85%	21.12%	22.44%
Pct. employees between 30 and 40 years	30.17%	30.96%	29.82%	28.68%	30.10%
Pct. employees between 40 and 50 years	27.71%	27.86%	27.51%	28.06%	27.83%
Pct. employees over 50 years	19.02%	18.61%	19.82%	22.14%	19.63%
Industry					
Manufacturing	40.92%	52.78%	55.85%	52.92%	48.96%
Retail	14.07%	14.22%	7.79%	9.34%	12.63%
Services	38.88%	25.54%	29.87%	34.64%	32.45%
Transport	6.14%	7.47%	6.49%	3.11%	5.96%