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Employee share ownership in Germany: A cluster analysis of firms' aims**

Politicians and scholars alike praise the significant benefits associated with employee share ownership (ESO). However, little is known about the concrete motives of firms to provide ESO to their employees. In particular, it is unknown how these motives correlate with firms' contexts. Drawing on an institutional theoretical framework, this article examines what aims firms pursue through the provision of ESO. The data originate from a survey of firms in Germany. The cluster analytic findings indicate distinctive patterns of relationships between aims and firm characteristics. Aims related to employee performance are most important to foreign-owned firms, financial aims are most important to non-public small and medium-sized firms and aims related to corporate image are most important to big firms and to firms that do not provide profit sharing. Aims related to employee attraction and retention are almost equally important to all kinds of firms.

Key words: financial participation, employee share ownership, firms' aims, cluster analysis, human resource management
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Introduction

Employee participation in a firm's capital stock is one of the most important forms of financial participation. Stock option plans, stock bonus plans or direct accounts of a firm's shares are different kinds of employee ownership. Throughout this article we will refer to these kinds of financial participation as employee share ownership (ESO). Both academics and political actors have highlighted the significant benefits associated with ESO for employees, employers and the state (e.g., European Commission, 2014; Lampel, Bhalla, & Jha, 2012; Pendleton, Poutsma, van Ommeren, & Brewster, 2001). However, ESO still is not very common in Germany. For instance, according to most recent establishment data from Germany, in 2011 only 2 per cent of all employers provided ESO (Möller, 2013). These numbers remained stable throughout the last years (Czaya & Matiaske, 2017).

Against this background, during the past two decades the body of literature on the prevalence of ESO and associated benefits has been constantly growing. Thereby, a common research approach is to estimate regression models of the incidence of an ESO scheme – i.e., the fact that a firm provides ESO – on a set of explanatory variables. However, empirical evidence is restricted by data availability, as such research typically uses data from secondary sources. Hence, these studies allow only indirect inferences about firms' aims through the provision of ESO. The following example illustrates this prevalent research approach. According to agency theory, monitoring costs increase with firm size. Larger firms are expected to adopt an ESO scheme with higher probability as compared to smaller firms, since the provision of ESO is supposed to contribute to an alignment of employees' with employers' interests and hence, will decrease monitoring costs. Thus, if research findings suggest a positive impact of firm size on ESO incidence, it can be inferred from this result that a firm's motivation to adopt an ESO scheme rests on the aim of reducing monitoring costs.

However, this research approach has not remained uncriticised. As Ben-Ner and Jones (1995) put it already twenty years ago, "Ignoring the reason for adoption of an employee ownership scheme ... leads to confounding the effects of employee share ownership schemes with the reasons for their adoption" (Ben-Ner & Jones, 1995, p. 552). Specifically, we see the following two shortcomings. Firstly, from a methodological point of view, measuring the motives of organisational decision makers through directly asking these individuals about their aims would imply higher validity as compared to inferring these aims from regression models. In general, without exploring individual reasoning, rational choice theories remain infallible (Popper, 1994), and the theoretically derived assumptions are rather speculative. Secondly, there is a logical gap concerning smaller firms, since the reasoning based on monitoring costs can only explain why larger firms more often than smaller firms provide ESO. In contrast, the question why smaller firms provide ESO – what actually happens – remains unanswered.

Our research approach seeks to overcome these shortcomings. In line with extant literature, we investigate firms' aims through providing ESO. Yet different from previous studies we use primary data gathered through interviews with decision makers of firms that provide ESO. Furthermore, we take firm context into account, since firms

may pursue different aims through ESO, according to certain firm characteristics such as size or legal form.

Therewith we respond to a call by Poutsma, Blasi and Kruse (2012) for a more intense consideration of contextual factors that affect organisational decisions and for “bringing agency back into our analyses of adoption and diffusion” (Poutsma et al., 2012, p. 1514). Within an exploratory approach we examine the aims that different kinds of firms pursue through ESO.

In our research, we apply cluster analysis methods to identify patterns of empirical prevalence, thereby using firm-level data gathered through telephone interviews with CEOs and heads of HR departments of firms in Germany. By explicitly focusing on the rationales of decision makers within firms, we contribute to knowledge on the business reasons for financial participation of employees. An analysis of employers’ rationales first hand is crucial for understanding dissemination patterns of financial participation. In addition, knowing employers’ rationales is a necessary precondition for designing effective policy measures.

This article is organised as follows. Section 2 describes the theoretical approaches used in the literature to explain why firms adopt ESO schemes. In addition, it summarises studies on the aims firms pursue through the provision of ESO. Section 3 introduces the data used and the applied cluster analysis methods. Section 4 presents the results. Finally, Section 5 discusses the findings and presents our conclusion.

Literature review

In extant ESO literature, several theoretical perspectives have been applied to study the aims firms pursue through providing ESO to their employees. The most prevalent approaches include agency/contract, human resource management and institutionalist perspectives. Whereas the first two perspectives in particular are applied to study the relation of financial participation with employee attitudes and behaviour as well as firm performance, the institutionalist perspective is typically applied to comparatively study international contexts. In addition, several survey studies seek to empirically identify and categorise firms’ aims through ESO. These studies are mainly empirically driven with only weak theoretical grounding.

Agency/contract perspective

Literature based on agency theory in the tradition of Jensen and Meckling (1976)¹ states that ESO is an effective instrument to control employee behaviour in two distinctive ways (Holmstrom & Milgrom, 1994; Pendleton, 2006; Poutsma, Lighthart, & Schouteten, 2005). First, while the interests of firm owners and their employees basically diverge, becoming co-owners of the firm will lead the employees to align their interests to those of their employer. Since the income of an employee directly depends on the success of the firm, employees will adopt their employer’s interests to ensure their own welfare. That is, ESO fosters employee attitudes and behaviour that maxim-

¹ Though this reasoning gained prominence in the last decades, it should be noted that Jensen and Meckling were highly critical about employee owned companies (e.g., Jensen & Meckling, 1979).

ise the profits of the firm on a long-term basis (Sengupta, Whitfield, & McNabb, 2007).

Second, according to Alchian and Demsetz's (1972) incentive contract theory, goal alignment of employers and employees is important, because a firm's management and the employees have different information about the employees' individual productivity. Employees can use this information advantage to shirk at work, in particular in jobs where performance is difficult to monitor due to task complexity (Jirjahn, 2000) or big firm size (Jensen & Meckling, 1992; Kruse, Blasi, & Park, 2008). Goal alignment through ESO decreases monitoring costs and the employees' propensity to shirk due to effective self- and peer-monitoring (Alchian & Demsetz, 1972). As a means to combat shirking, ESO is superior to individual incentive systems, since the latter require monitoring routines that are costly and potentially create a climate of distrust (Gibbons, 1998). However, ESO does not necessarily enhance goal alignment, but it also can have opposite effects. In particular in big firms, the relationship between individual performance and ESO – or: financial pay-offs based on ESO – is only weak, since increasing firm size is associated with growing 'free rider' or '1/N' problem (Kandel & Lazear, 1992). In addition, it is not clear and has been subject of much debate, how the alignment of interests happens in practice (Pendleton, 1997). Mere ESO – through an additional reward – does not seem to have the potential to do so. Thus, we agree with Weitzman and Kruse (1990) who stated that "something more may be needed" (Weitzman & Kruse, 1990, p. 100).

However, this theoretical reasoning related to both the determinants and the outcomes of ESO is highly questionable. In the words of Blair (1999, p. 72): "If firm-specific human capital is an important input in corporate enterprises, however, the classical principal-agent model may be too one-sided to describe the fundamental features of the employment relationship." Although several studies reveal a relationship between ESO and employee attitudes and behaviour, the reasoning concerning an alignment of interests is too simplistic and purely economically based. Motivation, satisfaction and commitment are multifaceted constructs that emerge from different sources. The theoretical reasoning fails as long as the firm's reasons for providing ESO and employees' preferences are unknown.

Human resource management perspective

Human resource management scholars emphasise the positive effects of ESO on employee outcomes and overall firm performance. For instance, the concept of high performance work systems (Becker & Huselid, 1998) considers ESO as one of the key elements of a firm's personnel policy. According to the proponents of this concept, financial participation enhances employee identification with the employing firm and consequently performance. A prevalent theoretical approach linked to this reasoning is Klein's (1987) satisfaction model. According to this model, ESO impacts employee attitudes and behaviour by means of three distinctive routes. First, the *intrinsic route* refers to a direct relationship between ESO and employee commitment. Second, the *instrumental route* refers to an interaction of ESO with employee participation in decision-making at all levels of the firm (Ben-Ner & Jones, 1995). Third, the *extrinsic route* also refers to an indirect relationship, thereby highlighting the importance of the fact that

employees perceive their work-effort to be connected to financial rewards (Buchko, 1993; Pendleton, 2001).

Previous research shows that increased employee commitment through ESO may lead to lower absenteeism (Brown, Fakhfakh, & Sessions, 1999) and reduced turnover (Buchko, 1992a, b; Festing, Groening, Kabst, & Weber, 1999; Poole & Jenkins, 1990). Further evidence suggests that ESO triggers employees to develop psychological ownership (Pierce, Rubenfeld, & Morgan, 1991; Pendleton, Wilson, & Wright, 1998), which in turn increases individual commitment, job satisfaction and organisational citizenship behaviour (Pierce, Kostova, & Dirks, 1991). In addition, there exists evidence that ESO enhances employer attractiveness of firms (Core & Guay, 2001).

However, as Kaarsemaker and Poutsma (2006) emphasise, it is not sufficient that a firm just provides ESO. Rather, the firm's management needs to have a corresponding human resource philosophy and to implement other personnel practices that fit together. This reasoning is in accordance with human resource management literature stressing that firms deploy bundles of interrelated practices which also include financial participation schemes (Gooderham, Parry, & Ringdahl, 2008). It also resembles the already quoted proposition by Weitzman and Kruse (1990, p. 100) that "something more may be needed" – not a single practice, but a bundle of several complementary personnel practices appears to be needed to increase firm level outcomes.

Extant research indicates a positive impact of financial participation on firm performance (Gooderham et al., 2008). Pendleton and Robinson (2011) show for British firms the benefits of a combination of ESO and personnel training. A coincidence of ESO and training opportunities is also found for U.S. firms (Kruse, Blasi, & Park, 2008). In addition, the simultaneous provision of other forms of employee participation and voice systems plays an important role for the effectiveness of ESO, especially in firms where only a minority participates at ESO (Pendleton & Robinson, 2010). These empirical findings are also in line with Weitzman and Kruse (1990), since the findings indicate that providing ESO without accompanying practices may be ineffective.

Institutionalist perspective

From an institutionalist perspective in the sense of Scott (2001), certain legal regulations foster – or hinder – firms to provide ESO. In particular, law concerning taxes and social insurance contributions enable firms to pursue financial aims through ESO (Kabst, Matiaske, & Schmelter, 2006). Other relevant institutions relate to the well-functioning of the capital market. Since this article focuses on Germany, it should be noted that although German legislation and capital market institutions are tailored to facilitate ESO, there exist much stronger barriers than in other European countries (Kabst et al., 2006; Pendleton et al., 2001; Poutsma, 2001; Poutsma et al., 2012) and in the U.S. (Bernhardt & Witt, 1997). One of these barriers can be attributed to the insignificant tax incentives for ESO offered even under the Law on Capital Participation of Employees from 2009. Another reason is that labour unions have been sceptical towards employee financial participation in the past decades (Lowitzsch & Iraj, 2014).

Neo-institutional perspectives in the sense of Meyer and Rowan (1977) as well as DiMaggio and Powell (1983) additionally stress the importance of legitimacy given by

a firm's social environment. Thus, firms may aim at creating a positive image of themselves through ESO. A positive image is particularly important to firms that are under public observation – i.e., larger firms and stock-listed public firms – whereby this importance varies across countries (Kabst et al., 2006). With respect to Germany and taking both facets of institutionalism into account, Sanders and Tuschke (2007) demonstrate the difficulties associated with the adoption of stock-based incentives for top managers within an institutional environment that was not in line with the principles of stock option pay.²

Furthermore, previous research indicates that firms in their institutional context learn from each other and imitate personnel practices they observe as successful in other organisations, especially within their own industry (Poutsma et al., 2005; Haipeter, 2016). At the same time, these learning and imitating processes contribute to homogenisation of practices within a business field. In addition, according to neo-institutionalist reasoning, once an ESO scheme has been implemented, it will be maintained. This reasoning also explains why multinational firms often transfer their human resource practices to subsidiaries abroad (Gooderham, Nordhaug, & Ringdal, 1998). Likewise, Kabst et al. (2006) in their comparative study identify standardised practices concerning ESO among British, French and German firms.

Categorizations of firms' aims through ESO

Research that directly addresses the aims that firms pursue through the provision of ESO is scarce. However, in Germany the topic has a long-standing tradition. Since the 19th century, there has been a political debate on employee financial participation. Interestingly, back then the debate highlighted the same aims of firms as those currently discussed, including: improvement of firm productivity, increase of profits remaining within the firm, increase of employee motivation and identification with the organisation, stimulation of employees' economic thinking and behaviour as well as increase of employee retention (Gaugler, 2002 for an overview).

For the German context, Guski and Schneider (1983) provided an influential systematisation of firms' aims through ESO. The authors identify the following seven aims: employee motivation, human resource policy, business financing, partnership, employee potential, social policy and capital formation. Based on two surveys of firms in Germany, Guski and Schneider (1983, 1995) show that the two most important aims are employee motivation and business financing. Scholand (2001) surveyed 97 boards of directors of listed companies in Germany and found that aims related to personnel, such as employees' identification with the firms' goals, were rated as most important. Drawing on an in-depth analysis of the discourse on ESO in Germany, Hartz, Kranz and Steger (2009) identify two additional interrelated aims: ESO contributes to reconciliation between capital and labour and facilitates the privatisation of formerly state-owned firms.

² Although stock option schemes for top managers differ from ESO in several ways, the findings from Sanders and Tuschke (2007) principally may hold true for ESO, too, in particular concerning challenges associated with tax and pension legislation.

Studies in other countries than Germany revealed similar findings. In an early study in the U.S., 60 per cent of the firms with a stock exchange listing and with ESO stated that they aimed at achieving some form of attitude change among employees (Dewe, Dunn, & Richardson, 1988). This attitude change referred to employee involvement, commitment, co-operation, loyalty, participation, communication and sense of belonging. The change processes intended to encourage employees to more strongly identify with the aims of the firm and to align interests of employees and shareholders. A large-scale survey among Australian firms identified three broad categories of aims (House of Representatives, 2000, cited by Barnes, Josey, Marshall, Mitchell, Ramsay, & Rider, 2006): ownership (e.g., securing employee engagement), remuneration (e.g., the financial value of shares) and workplace change (e.g., reduce industrial disharmony). In an Austrian survey firms rated the increase of employee identification and strengthening of their entrepreneurial attitude as important aims (Vevera, 2005). Schwarb, Greiwe and Niederer (2001) find similar results for Switzerland. The surveyed firms stated that ESO had a positive impact on employee motivation/improved performance and entrepreneurial attitude.

To summarise, extant evidence indicates that there is a wide spectrum of aims that firms pursue through the provision of ESO. Thereby, firms simultaneously pursue a bundle of aims, rather than single ones. However, while in the ESO literature the same aims are continuously repeated, we maintain that the relevance of these aims is context sensitive. By the term “context” we refer to the institutional framework, i.e., legislation – in particular, tax legislation –, the viewpoints of social partners and the prevalence of certain legal forms of firms’. In the German context, over a long period legislature has been following the reserved stance of the social partners. In particular, labour unions opposed employee financial participation in favour of wage and social policy (Bontrup & Springob, 2002; Tofaute, 1998). Against the background of European policy initiatives promoting employee financial participation, the attitude of German policy makers changed. Within tax legislation they induced minor reliefs, such as increasing tax exemptions for employees. However, German legislation is still less supportive of ESO as compared to other countries (Lowitzsch & Iraj, 2014). A further characteristic of the German context is the comparatively small share of public firms, i.e. firms with those kinds of legal forms that facilitate ESO (The World Bank, World Development Indicators, 2016).

Altogether, whereas the bundles of firms’ aims seem to be well known, scientific knowledge on their prevalence – especially in light of the fact that their relevance is context specific – is limited. In the following, within an exploratory approach we seek to empirically identify such patterns of firms’ aims, thereby taking account of a set of firm characteristics.

Methods

Data and sampling procedure

The data used in this article originate from a larger project on financial participation. They were gathered via standardised, fully structured, computer-assisted telephone interviews (CATI) with CEOs and heads of personnel of private sector firms located in Germany. A professional market research firm conducted the interviews during No-

vember 2007. Although the interviews date back to several years ago, we suppose the findings to be still valid. This position is supported by Bellmann and Möller (2016) as well as by Czaya and Matiaske (2017) who find that during the past years neither the financial crisis nor changes in law altered the prevalence of financial participation in Germany. The sampling procedure was based on an industrial premises directory and considered only medium-sized and large firms with at least 150 employees.

A total of 1,201 firms were interviewed. The response rate was 18.2 per cent, which is satisfactory.³ The average interview duration was 22 minutes. Of the 1,201 firms that had responded, 57 firms (4.8 per cent) indicated that they provide ESO.

Table 1: Measures

Variable	Measure
1. ESO	Employees directly participate at shares/equity: 0 = no; 1 = yes
2. Profit sharing	Employees directly participate at profit: 0 = no; 1 = yes
3. Direct decision participation	Employees participate at decision-making, e.g., decentralised responsibilities, autonomous work groups; 0 = no; 1 = yes
4. Indirect decision participation	Index: sum of the following variables concerning the ways of employee participation at decision-making: a) delegation of responsibilities and decision-making to lower hierarchical levels; b) implementation of autonomous work groups; c) formal feedback, management by objectives; d) quality circles; e) participation at planning and implementation of new technologies; f) routine employee surveys; g) other: 0 = no; 1 = yes
5. Firm size	For regression analysis: log number of employees; for cluster analysis: variable "large firm" with 0 = no; 1 = yes
6. Foreign parent company	0 = no; 1 = yes
7. Region	0 = West Germany; 1 = East Germany
8. Legal form	Dummy variables for: a) GmbH/GmbH & Co.KG; b) AG/KGaA; c) other (Ref.)
9. Industry	Dummy variables for: a) manufacturing–basic products processing; b) manufacturing–producer goods; c) manufacturing–consumer goods; d) energy, mining; e) banking, insurances; f) other services; g) construction, retail, transport, communication (Ref.)
10. Aims	Categorical variable: 1 = improvement of work motivation and performance; 2 = improvement of corporate climate; 3 = improvement of corporate image; 4 = enhancement of recruitment chances; 5 = entrepreneurial behaviour of employees; 6 = reduction of employee absences; 7 = reduction of employee turnover; 8 = improvement of employee retention; 9 = pay flexibilisation; 10 = enhancement of liquidity; 11 = enhancement of equity capital; 12 = employees become co-owners

³ The population comprises 24,933 firms with at least 150 employees (special analysis of the Establishment History Panel of the Federal Employment Agency). Target figure of the net sample were 1,200 conducted interviews. Of 6,589 selected firms, 13.5 per cent could not be reached (target person or firm). The remaining 68.3 per cent refused to participate or did not finish the interview.

The average firm size was 2,184 employees (standard deviation = 4,505; minimum = 150; maximum = 23,000; median = 480). Regarding industrial sectors, 47.1 per cent operated in manufacturing of basic products, producer goods or consumer goods, 7.0 per cent in energy and mining, 5.3 per cent in banking and insurance, 15.8 per cent in other services and 21.1 per cent in construction, retail, transport and communication. Within the 57 firms that provide ESO, the coverage of the ESO schemes in terms of the share of entitled employees averages 82.7 per cent, and the firms' shares held by the employees average 15.4 per cent.

Measures

We measured the incidence of ESO, related aims and firm characteristics through self-developed single-item questions. In addition, we consider several control variables following Poutsma, Kalmi and Pendleton (2006). Table 1 presents the variable names, items and response scales.

Analytical procedure

Because we are mainly interested in specific empirical distribution patterns, we chose a cluster analytical approach to identify subsets of similar firms and the aims these firms pursue through ESO. Cluster analysis also suits our purposes because of the exploratory nature of our research and the small sample size. We applied the hierarchical cluster analysis method that identifies homogeneous subsets within the data – i.e., specific clusters of cases – according to several predefined criteria (e.g., Hair et al., 2010). This method groups cases in such a way that it maximises homogeneity within clusters while at the same time maximising heterogeneity between clusters. As agglomeration method we applied the Ward algorithm that at every stage puts together two clusters, thereby minimising the square sums of the considered variables within all clusters. As proximity measure we chose the binary Euclidean distance.

To determine the criteria that are supposed to define the clusters we draw on the results of a logistic regression analysis of the incidence of ESO, based on the complete data set. That is, prior to the cluster analysis of the 57 firms that actually provide ESO we estimated a regression model of the probability that a firm does so.

After we have identified the firm clusters, we examine the relations of the firm clusters with specific patterns of aims pursued by firms through ESO. We will analyse these relations primarily through visual inspection of a graph. Since our interviews addressed twelve different aims and this number seems to be too large to be related to only a few clusters, we condensed these twelve aims into a smaller number of bundles of aims. To this end we applied a principal component (factor) analysis with Varimax rotation.

Results

Determining the criteria for the cluster analysis

The first stage of the empirical analysis comprised a regression analysis that aimed at identifying those firm characteristics that affect the probability of a firm to provide ESO. Table 2 presents the descriptive statistics and correlations for the variables considered in the regression analysis.

Table 2: Means, standard deviations and correlations^a

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. ESO (1=yes)	.056	.231	-													
2. Profit sharing (1=yes)	.352	.478	.197***	-												
3. Direct decision participation (0-7)	-.084	4.745	.010	.081**	-											
4. Indirect decision participation (1=yes)	.841	.366	.023	.067**	.048	-										
5. Firm size (number of employees)	5.999	.914	.157***	.129***	.052	.178***	-									
6. Foreign parent company (1=yes)	.103	.304	.084***	.072**	-.017	.050	-.034	-								
7. Region (0=West Germany, 1=East Germany)	.141	.348	-.024	-.054*	-.006	-.061*	-.035	-.083***	-							
8. Legal form: GmbH/GmbH & Co.KG (1=yes)	.760	.427	-.122***	-.045	-.112***	-.104***	-.170***	.133***	-.010	-						
9. Legal form: AG/KGaa (1=yes; Ref.=other)	.105	.307	.219***	.164***	.061*	.080**	.283***	-.036	-.039	-.613***	-					
10. Industry: manufacturing-basic products (1=yes)	.204	.403	-.027	.020	-.031	.081***	-.057*	.038	-.040	.141***	-.022	-				
11. Industry: manufacturing-producer goods (1=yes)	.231	.422	.017	.101***	.053*	.082***	-.003	.157***	-.075**	.099***	.067**	-.277***	-			
12. Industry: manufacturing-consumer goods (1=yes)	.101	.301	-.027	-.098***	-.032	-.034	-.080	-.007	-.032	.061*	-.042	-.169***	-.186***	-		
13. Industry: energy, mining (1=yes)	.036	.187	.044	.032	.036	.055*	.086***	-.049	.043	-.000	.069**	-.098***	-.108***	-.066**	-	
14. Industry: banking, insurances (1=yes)	.054	.227	-.001	.082***	.088***	.078**	-.060*	-.081**	-.083***	-.400***	.060*	-.119***	-.131***	-.080**	-.046	-
15. Industry: other services (1=yes; Ref.=construction, retail, transport, communication)	.269	.444	-.023	-.070**	.055*	-.059*	.029	-.096***	.127***	-.308***	-.037	-.305***	-.335***	-.204***	-.118***	.392***

^a n = 992 firms. Correlation coefficients are Pearson's or Spearman's, according to their level of measurement.

* p < .10 ** p < .05 *** p < .01

Table 3 presents the results of a logistic regression. The model estimation explains about 16 per cent of the variance concerning the provision of ESO ($Pseudo R^2 = .164$, $\log Likelihood = -180,130$, $LR = 54.27$ with $p < .01$).

Table 3: Results of the logistic regression of the provision of ESO^a

	Marginal effect	# s.e.
Constant	-.163***	
Profit sharing (1=yes)	.048***	.010
Direct decision participation (0-7)	-.001	.001
Indirect decision participation (1=yes)	-.006	.015
Firm size (log no. of employees)	.008*	.004
Foreign parent company (1=yes)	.037***	.013
Region (0=West Germany, 1=East Germany)	-.002	.016
Legal form: GmbH/GmbH & Co.KG (1=yes)	-.008	.020
Legal form: AG/KGaa (1=yes)	.041*	.021
Industry: manufacturing-basic products (1=yes)	-.017	.016
Industry: manufacturing-producer goods (1=yes)	-.011	.015
Industry: manufacturing-consumer goods (1=yes)	-.007	.021
Industry: energy, mining (1=yes)	.013	.022
Industry: banking, insurances (1=yes)	-.008	.025
Industry: other services (1=yes)	-.011	.016
<i>n</i>	992	
Log Likelihood	-180,130	
LR	54.27***	
Pseudo R^2	.164	

^a Coefficients are marginal effects whose size can be compared across the explanatory variables within the estimated model.

* $p < .10$ ** $p < .05$ *** $p < .01$

According to Table 3, four coefficients are statistically significant. The following explanatory variables relate to the provision of ESO: (1) provision of profit sharing ($marginal\ effect = .048$, $p < .01$), (2) foreign parent company ($m.e. = .008$, $p < .01$), (3) firm size ($m.e. = .008$, $p < .10$) and (4) legal form is public firm, i.e., AG/KGaa ($m.e. = .041$, $p < .10$). All coefficients have positive signs, indicating a higher prevalence of ESO within big firms that also provide profit sharing, that are a subsidiary of a foreign company and that have the legal form of an AG/KGaa.

At the next stage of the analysis, we fed these four variables into the cluster analysis of those 57 firms that actually provide ESO.

Identifying the clusters

As described in the methods section, we applied a hierarchical cluster analysis, thereby using the Ward algorithm and the Euclidean distance measure. The four predefined criteria are binary dummy-coded variables with “1”, if a firm has the respective characteristic, and “0” otherwise. This procedure yielded an optimal solution that comprises four clusters. Table 4 displays the characteristics of the four clusters.

Table 4: Results of the cluster analysis^a

	Cluster 1 (n = 13)	Cluster 2 (n = 22)	Cluster 3 (n = 11)	Cluster 4 (n = 11)	Total (n = 57)
Foreign parent company	0	1 (5%)	0	11 (100%)	12 (21%)
Public firm (legal form = AG/KGaA)	7 (54%)	13 (59%)	0	2 (18%)	22 (39%)
Large firm (≥ 500 employees)	0	22 (100%)	0	6 (55%)	28 (49%)
Profit sharing	13 (100%)	17 (77%)	0	11 (100%)	41 (72%)
Short label	“SME w/ pr.sh.”	“Big w/ pr.sh.”	“SME non-pub no pr.sh.”	“Foreign w/ pr.sh.”	

^a n = 57 firms. Values represent counts and shares of firms to which the respective characteristic applies within the respective cluster.

Drawing on the findings in Table 4, we characterise the four clusters as follows.

Cluster 1: “German small and medium-sized firms with profit sharing (SME w/ pr.sh.)”

Cluster 1 comprises 13 small and medium-sized firms (150-499 employees) whose headquarters are located in Germany. All firms provide profit sharing, and nearly half of them are public firms (legal form is AG/KGaA).

Cluster 2: “German big firms with profit sharing (Big w/ pr.sh.)”

Similar to Cluster 1, almost all of the 22 firms within Cluster 2 are German and the majority of these firms provide profit sharing. Yet in contrast to Cluster 1, Cluster 2 comprises only big firms employing at least 500 persons and a comparatively large number of public firms.

Cluster 3: “German small and medium-sized, non-public firms without profit sharing (SME non-pub, no pr.sh.)”

The 11 firms within Cluster 3 are characterised by maximum homogeneity. Neither of them belongs to a foreign parent company nor do they provide profit sharing. In addition, Cluster 3 comprises only small and medium-sized firms employing 150-499 persons and no public firms.

Cluster 4: “Foreign firms with profit sharing (Foreign w/ pr.sh.)”

The most salient characteristic of the 11 firms within Cluster 4 is that all of them are subsidiaries of foreign parent companies. All firms provide profit sharing. Slightly more than the half of these firms are big and the majority are non-public firms.

To examine the reliability of the cluster solution, we first inspected the dendrogram. Since the graph showed a considerable jump between the five-clusters solution and the four-clusters solution, the four-clusters solution seems to be the optimum. As an alternative to Ward's procedure, we applied two-step clustering procedures. The two procedures yielded similar results. In this article, we report the results following Ward's procedure, because they are easier to interpret. Overall, the results indicate a good reliability of the chosen cluster solution.

To check the validity of the cluster solution, we conducted Chi-square tests. All of the differences listed in Table 4 are statistically significant ($p < .01$). In addition, we computed bivariate correlation coefficients. None of the correlation coefficients were statistically significant ($p < .05$). Thus, the validity of the cluster solutions seems to be good.

Relating the clusters to aims of ESO

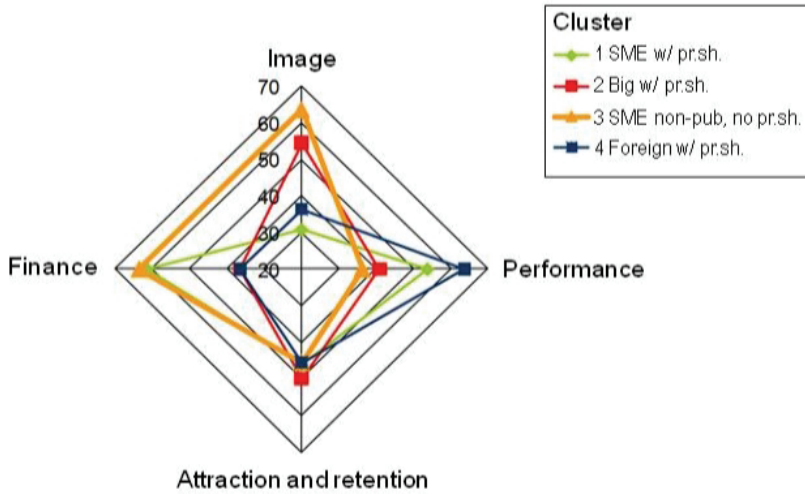
At this stage of the analysis, the question is whether the firm clusters are also related to different patterns of aims that firms pursue through ESO. We considered four different bundles of aims, which we identified based on a principal component analysis of the 12 original variables. As extraction method, we chose principal component analysis. Furthermore, we applied Varimax rotation with Kaiser normalisation. The rotation converged after 5 iterations. Table 5 presents the factor loadings that resulted from this procedure.

Table 5: Results of the principal component analysis of aims pursued by firms through ESO^a

Factor label	Aim	Factor 1	Factor 2	Factor 3	Factor 4
"Attraction and retention"	Recruiting	.76			
	Retention	.63			
	Turnover (low)	.76			
	Absenteeism (low)	.62			
	Corporate climate	.70			
"Performance"	Co-ownership		.88		
	Entrepreneurial behaviour		.83		
	Work motivation		.80		
"Finance"	Equity capital			.94	
	Liquidity			.86	
"Image, no pay flexibility"	Corporate image				.76
	Pay flexibility				-.75

^a $n = 57$ firms. Principal component analysis with Varimax rotation and Kaiser normalisation (5 iterations). Coefficients represent factor loadings. Share of variance explained = 70.1%.

Figure 1: Relation of firm clusters with aims pursued by firms through ESO^a



^a $n = 57$ firms. Data points represent the share of those firms within a cluster whose management ascribes high importance to the respective aim. Thereby, “high importance” means a value above the median value over all firms.

In Figure 1, the data points on the horizontal and vertical lines represent the share of firms within a cluster that ascribe high importance to the respective aim. We classify an aim as “highly important”, if a firm’s value of this variable is larger than the median value of all 57 considered firms.

Figure 1 clearly shows that the aims pursued by firms through ESO differ according to the cluster characteristics. Firms belonging to Cluster 1 – i.e., small and medium-sized German firms that also provide profit sharing – in particular pursue aims related to finance and employee performance, whereas the two other aims play a minor role. In contrast, firms of Cluster 2 – i.e., big German firms that also provide profit sharing – pursue mainly aims related to the attraction and retention of personnel as well as to corporate image. The results concerning Cluster 3 – i.e., small and medium-sized non-public firms that do not provide profit sharing – fit within this picture. Similar to the SMEs of Cluster 1, firms belonging to Cluster 3 in particular pursue financial aims. However, Cluster 3 firms pursue image aims, too, similar to the big German firms of Cluster 2. Finally, as to Cluster 4 – i.e., foreign-owned firms that also provide profit sharing – the high importance of employee performance aims is remarkable. In contrast, the role of image or finance-related aims is negligible. Only one category of aims does not vary across firm clusters. Aims related to employee attraction and retention are of almost equal importance to firms of all clusters.

Discussion and conclusion

Our analysis of the aims that firms pursue through the provision of ESO revealed a distinctive pattern of relationships between the clusters and the aims pursued by firms through ESO. Employee performance aims are most important to foreign-owned firms, financial aims are most important to SMEs and corporate image aims are most

important to big firms and to firms that do not provide profit sharing. However, the importance of aims related to employee attraction and retention does not vary across firm clusters.

In contrast to previous studies on ESO that do not distinguish between different kinds of firms, our findings suggest that different kinds of firms pursue different aims. In addition, our findings underscore the importance of taking account of bundles of aims instead of single aims. Since the firm characteristics of Cluster 1 and Cluster 2 are quite similar, with firm size being the main difference, it is interesting to note that the smaller firms (like those of Cluster 3) put more emphasis on the ‘harder’ financial aims, as compared to the larger firms. The aims of equity capital and liquidity are more important to German SMEs than to large German firms, suggesting that SMEs have a different financing need than larger firms. The ongoing major changes in capital supply of German firms affects in particular SMEs. They face an increasing difficulty to get loans from their banks (Söllner, 2011). ESO is one way to satisfy these financing needs. At the same time, the higher importance of aims related to corporate image to firms of Cluster 2 may be traced back to the higher visibility of these large firms by the public.

Furthermore, the firms of Cluster 3 also pursue financial aims, but without providing profit sharing. Instead of offering such an additional financial bonus to their employees, their aims through ESO further include improved corporate image (but not pay flexibility). By contrast, firms belonging to Cluster 4 – i.e., foreign-owned firms that also provide profit sharing – mainly pursue performance aims. This finding is in line with previous research, according to which foreign-owned firms transfer ESO schemes to their German subsidiaries (Gooderham et al., 1998; Kabst et al., 2006). This finding also indicates that the aims through ESO vary according to a firm’s institutional context.

A further interesting finding of our study is that the aims related to employee attraction and retention are fairly equally important to all firms, irrespective of firm size, legal form, whether the firm has a foreign parent company and whether it provides profit sharing or not. Since our sample contains only firms with more than 150 employees, we expect these businesses to have a professional human resource management as well as a strategy to cope with the so-called ‘war for talents’ and to take account of future trends concerning workforce demography. That is, these firms have reached a critical size where such aims are crucial for survival. Furthermore, these findings suggest that firms imitate each other in this regard, as stated by neo-institutionalist perspectives (DiMaggio & Poewell, 1983; Poutsma et al., 2005).

Our findings are also of general theoretical interest, as they unveil problems of rational choice theories. Whenever action theory serves as an argumentative base – as outlined above –, explanations remain ‘meaningless’, as long as the motives or aims behind the action are not observed. If aims are of other than monetary nature – which is an empirical fact that is often ignored by economists – these explanations immunise themselves, thereby resulting in ad-hoc interpretations. Once more taking agency theory as an example, according to which monitoring problems increase with firm size, the fundamental question reads: do firms – no matter what sizes – have monitoring problems at all? As Pendleton (1997) argues, “large firms tend to develop formal con-

trols and performance measures to guide employee behaviour, so the overall quality of monitoring may well be better than in small firms” (Pendleton, 1997, p. 105). Moreover, rationality also means that there are different rationalities of a reason. Thus, exploring these rationales is crucial. Organisational theory – and especially human resource management, where we observe different bundles of firms’ aims – should be careful with hasty conclusions in analogy with economic action logic. Hence, future research on rationales behind management practices is needed in order to improve theorising on organisational decisions.

A further implication of our research findings for future research refers to institutional context. As our study indicates that the importance of firms’ aims vary across firm clusters, and thus, according to the institutional context, country comparative studies are needed. These studies should take account of not only context characteristics but also the reasoning behind ESO. We suggest that for this kind of future research, in contrast to methodological approaches that infer firms’ aims from the mere incidence of ESO, a survey approach that directly captures the aims that firms pursue through providing ESO schemes – as we chose for this study – present a fruitful starting point.

However, despite the methodological advantages of our study, we also see several limitations. For instance, the telephone interviews offered little opportunity to clarify problems of meaning and situational definitions. In addition, we were neither able to obtain detailed descriptions of the ESO schemes – that will differ between firms – nor to get deeper insight into the question why the decision-makers had developed certain motives. Future research adopting a case study design is needed to shed light on these complex processes and political practices underlying the decisions to provide or not to provide ESO.

Moreover, a drawback of our research relates to the date of the survey. Although we maintain that the fact that the prevalence of ESO in Germany did not change during the last years indicates that the studied relationships stayed the same, we cannot be sure that management rationales did not change. Accordingly, a follow-up study is needed to establish potential changes in this regard.

In conclusion, this study offers new insights into motives of firms to provide ESO to their employees. By choosing a methodological approach that directly addressed firms’ aims, as stated by interviewed organisational decision-makers, it overcomes shortcomings of extant research that only indirectly identified firms’ aims through theoretical and statistical inferences. The findings indicate that through the provision of ESO, firms pursue specific patterns of aims, according to several firm characteristics. As institutional context of firms matters for the relative importance of aims related to employee performance, employee attraction and retention, financing or corporate image, this study suggests that future research and policies not only should be interested in the concrete rationales of organisational decision makers, but also in their context.

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