Employee-owned firms

Pros and cons

Niels Mygind and Thomas Poulsen

Draft

- January 2021 -

Foreword

After a call from the Trade Union Confederation in Denmark, we have written this report as a literature study of the pros and cons of employee-owned firms. When making the overview, it has been necessary to be concise in some places and selective elsewhere. These choices have been made to present a reliable portrait of the literature.

In the following, we present some general principles for how employees can be organized and specify pros and cons. We also present some barriers for making employee ownership more widespread. We review a large number of recent empirical studies and introduce experience from other countries.

In general, there are many promising results. However, this does not mean that it is an appropriate form of ownership for all firms. It is important to read the report with the limitations of literature in mind, while being aware that results from other countries may not be directly transferrable to the Danish context. The positive effects of increased employee ownership may not have the same improvements in Denmark. The framework conditions are different and to some extent Denmark is already more employee-oriented than the countries included in the selected literature.

The focus should be to ensure a level playing field for the different forms of ownership in relation to taxation, access to capital, advice, etc. A determined effort to make the opportunities for employee ownership more flexible and to remove barriers can contribute to a more level playing field.

The report includes first an overview of the main points. The large middle part of the report deals with the background behind these points. Finally, there is a summary of the effects of employee ownership along with a review of possible societal effects and some bids for possible models to facilitate the establishment of employee ownership.

We have made this English version primarily to get feed back from our international peers in the field. The report is still a draft and we welcome suggestions for improvements.

Please, do not cite or refer without consent of the authors.

Copenhagen, January 2021

Niels Mygind and Thomas Poulsen

nm.egb@cbs.dk tpo.ccg@cbs.dk

Niels Mygind is a professor at CBS, and Thomas Poulsen is an associate professor at CBS.

The work on this report has not involved CBS, and only the authors are responsible for the content.

Content

Employee-owned firms - the most important points 4
1. Introduction 6
2. Different types and degrees of employee ownership 7
3. Effects of employee ownership - theory and empirical evidence 8
3.1 Theory – Effect on productivity and economic performance 9
Higher identification leads to higher motivation and productivity - intermediate mechanisms 11
Modifying mechanisms - the free-rider problem and collective decision-making 11
Motivational effect – difference between full and partial employee ownership 12
3.2 Empirical evidence – identification, motivation and productivity 13
Productivity and economic returns 13
Intermediate and modifying mechanisms 15
3.3 Theory - effects of employee control - changed goals and behaviors 19
Employee control - changed goals and behavior - short term 19
Employee control - changed goals and behaviour - long term 20
3.4 Empirical evidence - employee control - changed targets and behaviors 21
More wage equality 21
More flexible pay and more stable employment 21
Level of investment and capital per employee 22
Survival 23
4. Why so few? - Barriers to employee ownership 24
4.1 The organization problem 24
4.2 The start-up problem 25
4.3 The problem of entry and exit of employee owners 26
4.4 The capital problem 27
4.5 The risk problem 27
5. Overview of employee ownership in a number of countries 29
5.1 Denmark 29
5.2 France 31
5.3 Italy 32
5.4 Mondragon - Spain 34
5.5 UK 36
5.6 USA 37
6. Summary of the effects of employee ownership 39
6.1 Productivity and economic returns 39
6.2 Specific objectives and behavior 42
7. Society level effects 43
7.1 Productivity, competitiveness and employment 43
7.2 More equal income distribution 44
7.3 More equal wealth distribution 44
8. Solutions - how to promote employee ownership 45
References 47
Appendix 1. Full employee owned firms in Europe 55
Appendix 2. Overview over key empirical studies 56
Appendix 3. Countries with a high number of employee owned firms 59

Employee-owned firms - the most important points

This report reviews a wide range of scientific studies of employee ownership. The theoretical arguments and empirical results vary with the underlying assumptions. The empirical studies are based on different types of data from different countries and with varying basis of comparison. They cover different periods and different statistical methods have been used. There are often conflicting results, yet some advantages and disadvantages emerge clearly:

Pros:

- Employee ownership leads to greater identification with the firm and increases productivity.
- This is reinforced by increased participation; but the effect is greatest when a broad group of employees own the majority of the company and thus have control.
- Employee-owned firms have greater mutual control between employees and fewer middle managers
- Employees have stronger intentions for staying in the workplace. They are more interested in continuing training in relation to the company's special needs.
- When employees are in control, the company gives greater priority to:
    - A more equal distribution of wages
    - More stable employment, which may be combined with more flexible pay

Cons:

- The positive motivation effects may be less for large firms
- The flip side of stable employment is less short-term flexibility
- Lack of capital may lead to lower levels of investment and capital per employee

Employee ownership can be measured in two dimensions: *the breadth* - how many of the employees are owners, and *the depth* – how large a proportion is owned by the employees.

Pros and cons increase both with breadth and with depth.

Foreign experience: Reducing barriers leads to greater spread of employee ownership

Barriers to entry are a major reason why there are so few employee-owned firms in Denmark. In France, Italy and the Basque Country in Spain, these barriers are limited, and employee ownership in the form of worker cooperatives much more widespread. In UK and USA there is a high prevalence of firms owned by employee funds. There are nearly 500,000 employees employed in worker cooperatives in Italy, and about 14 million American employees have ownership through employee funds. Most are employed in large firms with minority employees; but about 2 million are employed in firms with a majority stake. In 2016 there were 365 Danish firms with partial employees and about 54,000 of the 624,000 employees in these firms were included in the programs. However, only in 13 firms did they own more than 15% of the capital.

Barriers to the creation of employee-owned firms – and possible solutions

- **Problem of organization** – missing a model or company format with guidelines
  - Some countries have special models or legal formats for employee ownership
- **Start-up problem** – hard to bring together a group of entrepreneurs and employee owners
  - Possible solution are organizations with special incubator functions for start-up
  - Start of employee ownership through takeovers of existing businesses
- **Entry and exit** of employees may dilute employee ownership
  - Rules can ensure that new employees become owners and retiring employees give up ownership. New employees may be able to build ownership gradually
- **Capital problem** – the typical employee has limited capital to invest in the company and access to loans may be particularly limited for an unknown ownership format.
  - Some countries have special financial institutions serving employee owned firms
- **Risk problem** - an employee owner is at risk of losing both jobs and owner's capital
  - An employee's stake in the company must complement, not replace, retirement savings

Societal effects: A greater uptake of employee-owned enterprises can increase productivity and provide more stable employment and a more equitable distribution of income and wealth. However, these positive effects may not have the same strength in Denmark because the framework conditions are different and already more employee-oriented than in the countries included in the selected literature. In Denmark, the focus should be to ensure a level playing field for the different forms of ownership in relation to taxation, access to capital, advice, etc. Some possibilities are listed below:

How can the barriers be removed - three possible models of employee ownership

Model Barriers	Worker cooperative	Mondragon Model	ESOP model
Organizing/Booting Generally for all three: - Special arrangements for change of ownership - Tax benefit to both buyer and seller	- Special legal form - Cooperative principles: * One vote per employee * Open membership * Collective reserves	Type of worker coop * One vote per employee * Open membership * Collective reserves, individual accounts, annual profit shares	- All employees are owners through employee fund - Share of profits distributed equally or like wages yearly added to individual accounts - Valuation on withdrawal - Control follows ownership or one vote per employee
Entry/withdrawal of employees	- Open membership - Low entry fee	- Deposits on entry repayment scheme	- No entry fee, account built up during employment
Capital problem	- Share of profits for reserves, start-loans	- Special financial institution	- Loans to a fund with security in the company
Risk problem	- Limited individual savings	- Supplement to other pension	- Must be in addition to other pension

1. Introduction

The purpose of this report is to provide a brief review of the existing knowledge of employee-owned enterprises. What are the pros and cons of this type of firms? Why are there so few, and is it a problem, that there are no more? What are the barriers to setting up employee-owned firms?

There are many theories with different predictions of the economic behavior and performance of employee-owned firms. Predictions vary with the assumptions behind it. In Denmark, there are very few employee-owned enterprises, but in countries such as the US, UK, Spain, France and Italy they are more widespread and a large number of studies have been carried out on their performance in terms of competitiveness, productivity, wages and employment, etc.

We will first define different types of employee ownership: There is great variation, both in *the depth* of employee ownership, from partial employee ownership with small minority positions to full employee ownership, and in the *breadth* of the group of employees who are co-owners. Next, we will review some theories about the effect of employee ownership on productivity and company performance. What it the effect of the employee control - setting the goals of the company. What does this mean for the company's short and long-term behavior? Then we will provide some answers as to why there are so few employee-owned firms, especially in some countries. Why does employee ownership not become widespread if they have productivity advantages? What are the barriers for employee-owned firms in terms of start-up/change of ownership, entry and exit of employee owners, capital inflows and risk concentration? In some countries, employee ownership is quite widespread, but there is a wide variation in the prevalence of different types, also in terms of size, capital intensity and industry, and there are differences in how barriers are overcome in different countries.

We will review the most important theoretical predictions, but also pay close attention to the actual observed effects of employee ownership. In the last 20-30 years, a large number of studies have been carried out. They have improved over time in their penetration rate, representativeness and reliability. We will therefore focus on newer scientific literature after the year 2000. However, the pioneering theoretical contributions go further back in time and some empirical contributions from before 2000 will also be involved. Most empirical studies are based on data from France, Italy, Spain, UK and US – countries, which in their overall political and economic governance are relatively close to Denmark. However, the Danish model differs in relation to the depth of the welfare state and in relation to occupational pensions. Therefore, the experience from other countries may not easily be passed on to Denmark.

In the aforementioned countries, there are a significant number of employee-owned firms. This is also the case in one of the most developed countries in South America, Uruguay, where significant studies of worker cooperatives have been carried out in later years. In Eastern Europe, many employee-owned enterprises were created during privatization; but they quickly transitioned mainly to manager-owned firms because employees sold their shares during the crisis, which marked the early transformation (Mygind, 2012). The experience from Eastern Europe is not included in this overview.

The empirical studies vary – as do the theoretical predictions – in relation to the assumptions behind it. The empirical studies are based on data from different countries and different periods. They also vary in their basis of comparison and use different statistical methods. For the sake of clarity, we will not engage in a deeper discussion of the comparability and validity of these studies; but we have reviewed the literature according to strict criteria, and we refer almost exclusively to research-based literature, which is peer-reviewed and published in recognized scientific journals. See overview of the most important studies in Appendix 2.

2. Different types and degrees of employee ownership

Different types of employee ownership can be defined based on the three ownership rights: to control, to profits and to capital gains. This is illustrated in Figure 1.

In the typical limited liability company, shareholders have a proportional share of all three ownership rights. The emphasis of this report is on *full* employee-owned firms, where the majority of employees own the majority of the company fairly equally; that is, both *deep* and *wide* employee ownership. There are two main types: *individual* employee ownership, where each employee can sell his/her shares upon withdrawal and realize any capital gain, and *collectively* ownership, where any increase in equity remains in the company as indivisible reserves. The latter is the typical *worker cooperative model*. In both models, the table indicates that employees can exercise democratic control at the general meeting, including elections for a possible board of directors, and this right is fairly evenly distributed – in the worker cooperative by one vote per employee.

Figure 1. Types and degrees of employee ownership related to the three owner rights

Type Right to	Control	Profits	Capital
Broad individual majority stake	**+**	**+**	**+**
Worker cooperatives (collective ownership)	**+**	**+**	**Limited**
ESOP with democratic majority ownership	**Often limited**	**+**	**+**
Partly employee ownership, minority employee shares/ESOP	**Limited**	**(+)**	**(+)**
Partnership of small group of employees	**(+)**	**(+)**	**(+)**
Profit sharing	**0**	**(+)**	**0**
Employees in the company board	**(+)**	**0**	**0**
Employee funds (Economic Democracy model)	**Centralized**	**Across Firms**	**Across businesses**
Pension funds	**Often unions**		

Note to Figure 1: + employees have the rights. 0 employees do not have rights. (+) employees have partial rights or small group of employees have rights (Mygind, 2019).

The US Employee Stock Ownership Plan *(ESOP)* is included because it is one of the most widespread forms of majority employee ownership of medium-sized enterprises in the UK and US. Here, the company is owned by an *employee fund.* All full-time permanent employees have a share of the fund, and the yearly distribution to their individual accounts cannot exceed the pay gap between them.

In many ESOPs, especially in large US firms, the ESOP Fund has only a small ownership share. This type belongs to minority employee ownership in the lower part of the table. This also applies to nearly all the larger Danish firms with employee shares, which typically represent less than 5% of the share capital (Mathieu, 2019).

We have included various types of partial employee ownership in the lower part of the table, because the gap to deep and wide employee ownership is often fluid. Different types of employee shares can result in a wide group of employees owning shares, but often the total is only a small part of the total share capital. It is therefore a matter of wide but not deep employee ownership. Conversely, there are deep but narrow employees in many partnerships, which are widespread in professions such as lawyers, architects, engineers and consultancies. They usually have 100% employee ownership, but typically, only a small group of senior partners is owners.

Wide profit sharing and employee representatives on the board are examples of employees having only a small part of only one of the ownership rights. The Danish proposal for Economic Democracy was also not full employee-owned, because the ownership rights were grouped together in centralized funds that exercised the right of control and pooled financial rights across firms. Each employee had an account in the central ED-fund. The model was never implemented, but the Danish pension fund system contains many overlapping elements in relation to the ED model.

In the following, we will focus on the top three types in the table; but often the theoretical predictions and empirical studies also cover different forms of partial employee ownership, and there may be a developments back and forth between partial and full employee ownership.

3. Effects of employee ownership - theory and empirical evidence

What does employee ownership mean for productivity, competitiveness, employment, wages, etc.? There is a comprehensive literature on this, both theoretically and empirically. The effects in relation to the employees are first reviewed – their motivation and productivity. The theory predicts positive motivational effects and thus increased productivity for both minority and majority ownership; however, the effects are expected to increase with deeper employee ownership and control. Figure 2 gives an overview of the theoretical predictions.

Next, we deal with the effect on the company's behavior. Here it is particularly important whether employees have a majority in relation to the right of control and thus the ability to define the company's goals. Do employee-controlled firms have a different behavior from those controlled by

external owners? We look at both the more short-term adjustment of production, employment and wages, and the longer-term level of investment.

The start of employee-owned firms, their development, and possible closure/shift to other ownership are central to understanding the spread of this type of business. How is start-up and development financed? Do they arise particularly in certain industries with lower capital input requirements? Do they arise especially in times of crisis as a defensive tool against unemployment? Does employee ownership terminate due to bankruptcy and closure, or because employees can realize a capital gain from the sale of a successful company?

In this context, we can identify significant barriers for employee-owned firms in relation to financing, risk concentration for employees, problems in the entry and exit of employee owners, and the very organization of start-up/employee takeovers. In countries such as France, Italy, Spain, UK and US, these barriers are limited in different ways and this has led to a greater uptake of employee ownership in these countries compared with Denmark. We will therefore look at international experience in relation to how specific actions have facilitated employee ownerhsip/worker cooperatives. Finally, we address some possible societal effects of a greater uptake of employee-owned enterprises in terms of productivity, employment and distribution of income and wealth.

3.1 Theory – Effect on productivity and economic performance

Many theories in human resource management are about motivating employees to achieve the company's objectives. Some forms of management seek to give employees so-called "psychological ownership" to the company (Pierce et al. 2001). The idea is that everyone is in the same boat - the employees should work for the same goals as the owners of the firms. There are indeed many situations where employees and owners have common interests in developing the company and ensuring competitiveness and employment. However, there are also contradictions e.g. in the distribution of the value added of the company between wages and profits, and in matters relating to the choice of technology, the location of production, employment, etc. When the employees themselves have ownership, these conflicting interests will disappear. In the case of full employee ownership with the distribution of ownership proportional to the salary, it will not matter to the individual employee whether the value added is paid as salary or profit (Mygind, 1987). However, there may be conflicts between different groups about the distribution between employees and about how much should be paid now and how much to save/invest in the company, choice of technology, etc. – see below. In general, however, it can be assumed that it is easier to create a sense of co-ownership when employees actually have ownership of the company; however, it will remain a management task to define the interests of the whole enterprise across different employee groups.

An important part of psychological ownership is the creation of a common identity in relation to the company. An employee can define his work identity primarily as belonging to a particular trade group, which through the union ensures the pay and working conditions or an employee can primarily see his identity in relation to the company. If conditions are considered to be bad or the company closes or reduces employment, some will seek employment in other firms. If the connection with the

company is weak, it can be assumed that employees will be less motivated to make an extra effort, develop new ideas for products and production processes, and to improve their skills in relation to the specific needs of the company.

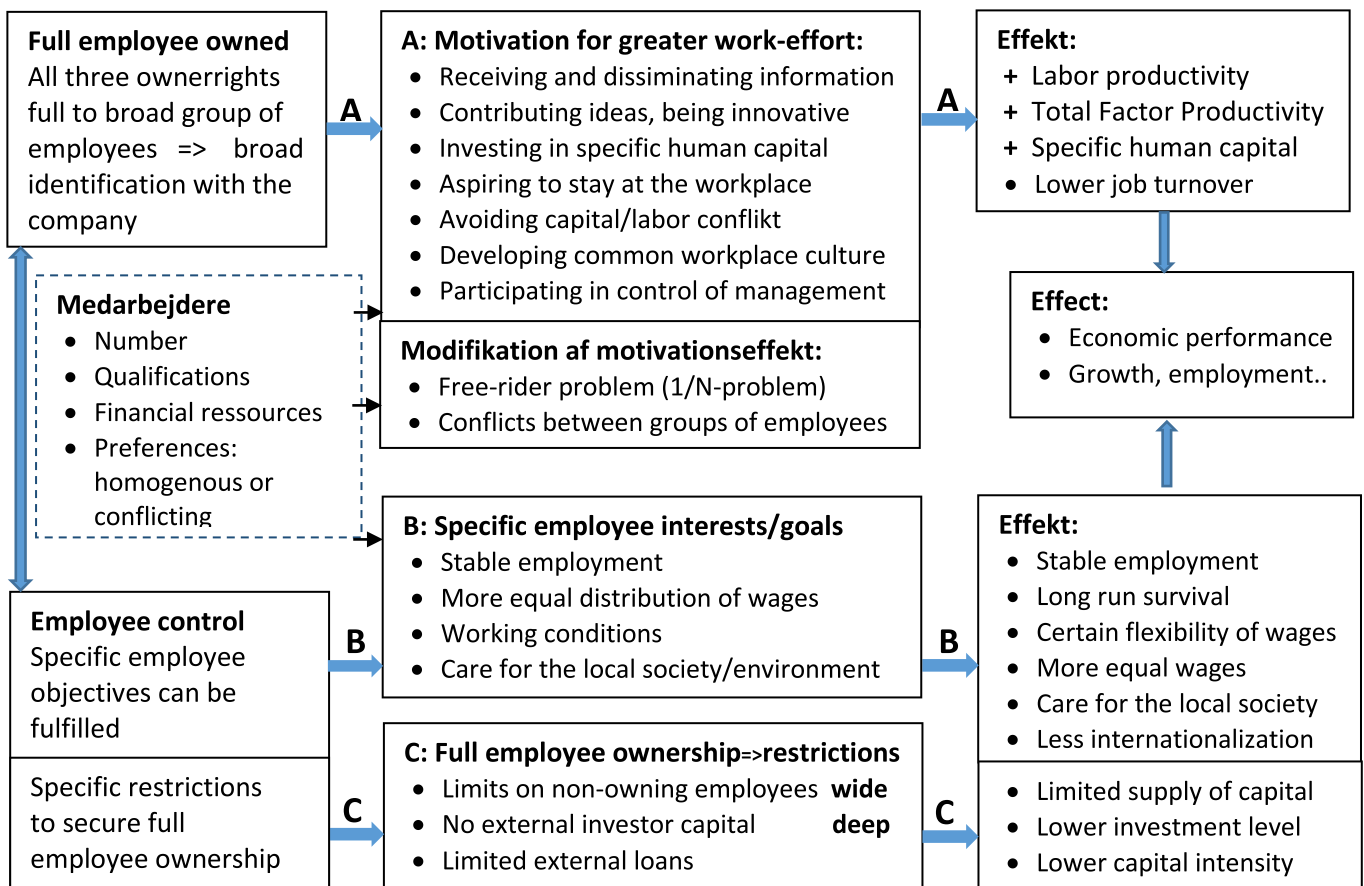
Figure 2 indicates three essential channels for employee ownership's impact on the company's performance:

A. Employee ownership provides stronger *identification* with the company, and this provides a number of positive motivational effects and thus higher productivity.

B. Full employee ownership gives employees control, and therefore it can be expected that the employees' specific objectives will influence the company's financial behavior.

C. In order to ensure wide and deep employee ownership, there are restrictions on the number of non-owning employees and on the share of external ownership.

Figur 2. Overview of theoretical predictions for full employee ownership



We first look at the stronger identification and the effect on motivation and productivity – A-arrows. Secondly, we see that, particularly for empirical studies, there is no clear separation between A, B and C.

Higher identification leads to higher motivation and productivity - intermediate mechanisms

The theoretical literature predicts that employee ownership gives employees a stronger identification with the company. This leads to greater effort and commitment from employees, as shown with the A arrows and the middle box in Figure 2, which includes the intermediary mechanisms. The arrow to the box at the top right indicates the final effects on productivity:

Employees are more motivated: to receive and disseminate information and to come up with innovative ideas for products and production process. They become more likely to participate in training in specific skills related to the specific company and they generally gain greater attachment and desire to stay in the company. The traditional employee role means that a worker seek the optimal job by moving to another company with pay and working conditions that better match the employee's preferences. In the employee-owned company, the employee may instead use his/her voice to change the working conditions to better match the employee's preferences. This means less change of jobs, lower job-turnover, which in turn strengthens interest for both the employee and the company in internal training in company-specific skills. With full employee ownership, the contradiction between capital and labor disappears, and the employees have a strong interest in building a common corporate culture. At the same time, their insider knowledge provides a good basis for a strong and constructive counterpart to management. The individual employee, the group of employees and the company therefore can make better use of the employees' potential, in terms of the individual's work productivity, the productivity of teams and the overall productivity of the company.

Modifying mechanisms - the free-rider problem and collective decision-making

There are theories predicting that the incentive effect of profit sharing and employee ownership will decrease with the number of employees, because the individual's efforts are drowning in relation to a large number of employees in the company. This is the so-called "free-rider problem" or 1/N problem (Jensen and Meckling, 1979). This ratio is considered to be a possible modification of the motivational effect at the bottom of the A box in Figure 2. As will be shown in the review of the empirical studies, the problem can be solved or delimited by a greater degree of mutual control between employees. The group of employees loses if some of them do not perform their best. In practice, this is indicated by a lower number of middle managers in employee-owned firms because less managers are necessary for such control tasks. The elimination of the conflict between capital and work also leads to greater and more reliable flows of information between the different layers of the company (Conte and Svejnar, 1990).

Reservations have been raised about the decision-making process in employee-owned firms regarding the time taken and possible internal conflicts related to the wide involvement of employees in decision-making – see at the bottom of the A-box in Figure 2 (Jensen and Meckling, 1979). Hansmann (1990, 1996) has also argued that it is relatively easy to unite different shareholders

on a common goal of maximizing share returns, but that it may be harder to unite different groups of employees around common objectives.

Motivational effect – difference between full and partial employee ownership

The arguments for identification with the company and higher motivation are also likely to apply to *partial* employee ownership. This is specified in Figure 3. Employee share schemes, where a broad group of employees own smaller stakes, can increase identification with the company even if employees do not have majority control. Another type of partial employee ownership is partnerships where a small group of employees have controlling ownership; but here only these "partners" combine the interests as both employees and owners.

Figure 3. Overview of combinations of employee ownership with varying depth and breadth
Pros and cons in relation to *identification/motivation and various restrictions*

Employee share of ownership **Share of employee owners**	**Low:** **Minority - Not control**	**Deep:** **Majority - Control** **Restriction:** **limited external owner-capital**
Narrow: **small group of employees are owners**	**Traditional ownership:** **small group of employees with minority ownership** **Benefits:** Increased motivation for small group of employee owners **Cons:** Partial identification for some, but no identification for large group of employees	**Partnership/majority ownership** **control by small group of employees/partners** **Benefits:** Identification and motivation for small but often homogeneous group of employees/partners **Cons:** No motivating effect for large group of employees
Broad: **all employees are owners** **Restriction:** **No non-owning employees**	**Minority employee ownership for broad group of employees** **Benefits:** Increased motivation of a broad group of employees **Cons:** Identification tempered by limited ownership and lack of influence/control	**Full employee ownership with control** **Benefits:** Identification and motivation for all employees **Cons:** No external ownership capital => capital inflow limitation No non-owning employees => less job flexibility Possible contradictions between employee groups

It must be assumed that the broader and deeper the employee ownership, the greater the motivation and identification with the company for the employees. This also applies to the extent to which the three ownership rights are covered. As will be shown in the empirical review, several studies indicate that the productivity effect is greatest when financial ownership rights are combined with actual control rights (see Conte and Svejnar, 1990; Levine and Tyson, 1990; Ben-Ner and Jones 1995). This can be explained by greater identification when employees are directly involved in the decision-making processes, and the company therefore gives particular weight to the employees' objectives of employment, safety, pay and other working conditions. This is illustrated with the vertical double arrow on the left in Figure 2.

Figure 3 indicates some important differences between full and partial employee ownership. As mentioned above, in order to ensure full employee ownership, there are restrictions on external ownership and the number of non-owning employees. If the majority is taken over by external capital, or if the number of non-owning employees increases, there will be only *partial* employee ownership. However, motivational effects can still be expected; but they would cover either only the minority group of partners, or have less effect in cases of minority employee ownership. On the other hand, partial employee ownership do not have any restrictions on access to external capital and in relation to entry and exit of non-owning employees.

3.2 Empirical evidence – identification, motivation and productivity

In the following overview, the emphasis is on different measures of productivity, but we will also address other indicators of company performance. We look first at more general studies, and then at studies that look at the specific intermediate mechanisms indicated in the top A box in Figure 2.

Productivity and economic returns

Kaarsemaaker, Pendleton and Poutsma (2010:328) summarize 70 studies on employee-owned firms' performance and various overviews: "Consensus for this literature can be formulated as follows: Employee ownership has positive effects on company performance (especially productivity), but these results are often quite small and/or not significant. Positive effects tend to be bigger and stronger for firms with majority employee ownership compared to minority employee share schemes". Perotin and Robinson (2003:31) conclude after a comprehensive review of studies of employee ownership and productivity: "One of the clearest conclusions of international empirical research into financial participation (full and partial employee ownership) is the solid evidence of a positive or neutral effect on productivity."

The exception to the general trend is a study by Faleye et al. (2006), which examines listed firms in the United States in 1995-2001. In this study, a company is characterized as employee-owned when employees through different types of employee ownership own at least 5% of the stock. They find a

negative correlation between such partial employee ownership and productivity as well as market value (relative to firms without employee ownership). They explain this by “labor voice” displacing traditional shareholder interests. However, the governance elements are not specified and much of the ownership included as labor voice are diversified holdings related to different types of employee ownership plans rarely giving votes to employees.

O'Boyle, Patel, and Gonzalez-Mulé (2016) are a more recent contribution to the literature and already one of the most cited. It is a so-called meta-analysis of results from previous studies, which in this way can be brought together across time and place into a single result, which in addition to being easy to communicate also seems to be very robust. Based on results from 102 empirical studies, they find that, on average, there is a positive and statistically significant correlation between the existence of employee ownership and a company's financial returns. It makes no difference whether a company is listed or private. They also find that this correlation has increased over time. The study finds no correlation between the depth of employee ownership – the share owned by the employees – and the financial return. In this respect, however, it should be noted that only 37 of the 102 studies have specified the ownership share, and fewer observations make it more difficult to find statistically significant correlations. The breadth of co-ownership is not investigated.

Other studies find that there is a correlation between financial returns and both breadth and depth: thus, Blasi, Freeman, and Kruse (2016) find that there is a positive and significant correlation between the depth of employee ownership and the return on equity. Based on questionnaire data, Sengupta (2008) finds that labor productivity – self-determined by respondents – is higher when employee ownership is broader. Kramer (2010) combines depth and breadth by examining what happens to productivity (measured as turnover per employee) in firms with broad employee ownership when the depth changes. The study covers 331 U.S. majority ESOPs compared to a similar number of traditionally owned firms. He finds that ESOPs have higher labor productivity, and it increases with both the depth and breadth of ownership. It is debatable whether the majority ESOP is full employee-owned because they do not normally pass the control right on to the group of employees. However, Kramer (2010) shows that increased employee participation in control increases productivity.

Blasi, Kruse, and Weltmann (2013) have data that allow them to do pre-post analyses of the financial performance of traditionally owned firms that introduce ESOPs. This type of analysis is particularly good at clarifying causality because it makes it possible to examine the same company under two different forms of ownership instead of comparing different firms across ownership forms. The results are therefore not affected by the basis of comparison - they compare the company with itself. They consider that these new ESOP firms increase productivity more than comparable firms that maintain external ownership.

One of the most interesting contributions to recent empirical literature is Fakhfakh, Pérotin, and Gago (2012), which compare all French worker cooperatives over 20 employees with the group of traditionally owned French firms for the period 1987-2004. Their conclusion is that the worker cooperatives in the different industries have the same or higher total factor productivity, TFP, than

they traditionally owned. (Labor productivity measures value added per employee, while TFP measures value added relative to all factor inputs.)

In addition to the strong data, the study is interesting because of its counterfactual design, which examines how a company with a particular ownership form will perform if it sticks to its ownership, but uses production technology including the motivation effects of a company with a different ownership form. Their analysis shows that employee-owned firms make no advance in efficiency by adopting conventional firms' manufacturing technology, but that conventional firms can achieve efficiencies by using the technology of employee-owned firms. The main difference lies in the positive motivation effects of increased employee involvement. Employment is slightly more stable in the working-class cooperatives, but the difference is only marginally significant and there is no indication, that it is the different composition of the labor force that explains the productivity differences. The difference is due to the fact that they work differently because of the different levels of participation and participation.

Intermediate and modifying mechanisms

As indicated in the A-box in Figure 2, the increased motivation of employees can lead to different types of employee behavior that increase productivity and which often act mutually reinforcing, but there may also be modifying elements. In the following, we will look at various studies that address one or more of these intermediate factors. We start with the most discussed modifying element, the free-rider problem, then we review studies that highlight the importance of involving employees in the decision-making process.

The free-rider problem

There is no consensus in the literature about the existence of the free-rider problem, which should be increasing with the number of employees. O'Boyle, Patel, and Gonzalez-Mulé (2016) find in their meta-analysis no correlation between the effectiveness of employee ownership on financial returns and the number of employees at the company.

Kim and Ouimet (2014) analyze the impact of ESOPs in large U.S. publicly traded industrial firms. They divide this group into the 25 % largest firms in terms of number of employees and the remaining group with a lower number of employees. These groups are divided again, according to whether their ESOP owns less than 5 % or more than 5 % of the share capital – small and large ESOP programs respectively. There will continue to be a typical minority ownership of the "large" ESOPs in listed firms, but the authors do not accurately state this. They find that small programs in firms with the lower number of employees imply the greatest productivity gains measured as total factor productivity (TFP). There are minor gains from large programs in firms with the relatively lower number of employees, but no productivity effects for firms with the most employees (more than 15,000 employees) where the free-rider problem is thought to be insurmountable. It could be argued

that the negative results for employee ownership in the study of Faleye et al. (2006) could also be related to the large size of the listed firms with some employee ownership – the average for the firms with more than 5% employee ownership is 6940 employees.

Another result can be found in Kramer (2010), where the advantage of employee ownership is also greatest in firms with relatively few employees. Furthermore, productivity gains are increasing with deeper employee ownership.

The main argument against the free-rider problem is the increased mutual control between employees of employee-owned firms (Perotin and Robinson, 2003). This is demonstrated, by the fact that the number of middle managers is typically lower in these firms because there is no need for a management-layer primarily with control tasks. (Bradley and Gelb, 1981; Fitzroy and Kraft, 1987; Pencavel and Craig, 1992; Fakhfakh et al. 2012). This mutual control is documented in the large NBER and GSS studies of Freeman, Kruse and Blasi (2010) and Blasi, Freeman, Mackin and Kruse (2010). They show that financial participation, and in particular employee ownership, results in each employee having greater identification with the company and a greater tendency to control the employee group's efforts.

Conflicts between employee groups

We have not found empirical analyses of the effect of the theoretically expected modification in relation to conflicts between different employee groups. However, to illustrate the issue, we can refer to Danish case studies that showed that some employee-owned firms spent relatively much time on discussions and decision-making processes involving broad groups of employees; however, once the decision had been taken, the implementation process was considerably faster because the employees were already sufficiently informed (Ingerslev et al. 1984). The daily newspaper, "Information", had full employees during the period 1971-1990. There were often conflicts between two large groups of employees, typographers/printers on the one hand, and journalists on the other (Westenholz and Mygind, 1982). This was at a time when major technological changes led to a sharp reduction in the typographer/printing group in all newspapers, and led to long labor disputes. However, unlike most other newspapers, there were no strikes on Information, but a lot of time was spent on discussions between the two groups. Information's economy, as with most other newspapers, was squeezed throughout the period. Many traditionally owned newspapers closed or changed owners. In the 1990s, Information's ownership changed to fund ownership.

The importance of participation

Participation are a recurring theme in the empirical literature. This can be implemented in many ways, from newsletters and staff meetings to representative systems such as employee-elected board members. Many studies point out that the productivity effect is greatest when financial

ownership rights are combined with actual control rights. Previous studies include Conte and Svejnar (1990), Levine and Tyson (1990), Ben-Ner and Jones (1995) and Doucouliagos (1995).

Whitfield et al. (2017), stresses the importance of supplementing employee ownership with other practices of inclusion and participation when the free-rider problem may be a threat. It is an essential element of a corporate culture in which employee ownership is seen as more than an attempt to transfer some of the financial risk to employees without involving them. Likewise, Kaarsemaker and Poutsma (2006) argue that firms with practices for information sharing and participation in employee decision-making processes perform better because such practices signal that employees deserve to be co-owners. "An employee cannot be a real owner if he or she has no say, if he or she does not share in the returns, if he or she has no information about the business" (Kaarsemaker and Poutsma 2006:679).

Other and more direct studies of participation confirm this result. We have mentioned participation in relation to the free-rider issue and highlighted involvement as an intermediate mechanism for co-worker monitoring. According to Fuller et al. (2006), there is a positive link between involvement and identification, which can lead to both more monitoring and more cohesion. Kim and Han (2019) take this lead and show that the combination of broad employee ownership and employee participation creates cohesion that improves work productivity. Robinson and Wilson (2006) find, that independently of other factors, employee ownership has a positive and statistically significant correlation with productivity and that this link is strengthened by different forms of involvement and information sharing.

Lampel, Bhalla, and Jha (2014) examine the importance of employee finance for the stability of financial returns over the recession following the financial crisis. Their results indicate that employee ownership is not sufficient in itself to achieve greater resilience, but that employee ownership must be combined with participation in order to achieve this result.

Kruse, Blasi and Park (2010) and Blasi, Freeman, Mackin and Kruse (2010) show the positive correlation between employee ownership and the package of participation, identification and common identity based on the survey of 40,000 employees of 14 large U.S. firms with ESOPs or ESOP-like schemes. This underlines the intermediate mechanisms in relation to productivity and other performance targets.

Kalmi, Pendleton, and Poutsma (2005) use questionnaire data from employees at large listed firms with employee shares (partly employees with very low ownership) and profit sharing. They find a positive connection between employee ownership and the perceived performance, and it increases with breadth. This is similar to most other studies, but unlike many others, Kalmi et al., considers that neither direct nor indirect involvement has an impact on increased performance. They explain this by saying that the low ownership does not give a sense of ownership. Employee ownership is primarily seen as an addition to the employees' pay package. Therefore, synergies with other forms of inclusion are less important. Whitfield et al. (2017) also uses qualitative performance estimates

from questionnaires to business leaders, distinguishing between downward and upward communication, finding (somewhat surprising) that it is only inclusion based on downward information such as staff meetings or newsletters, which, together with partial employee ownership, correlate positively with performance. Upward communication through quality circles or proposal collection has no synergies with partial employee ownership.

Participation in training and training

Figure 2 illustrates how employee identification with the company can lead to a greater tendency to participate in continuing training including training in specific skills associated with the specific company. But the demand for continuing training is only one side, the other is supply, and it is studied in Pendleton and Robinson (2011). They examine the link between employee ownership and employee training based on two hypotheses: 1) There is a greater propensity for continuing training in employee-owned firms and 2) The probability is increasing with the depth of ownership. Employee ownership itself is insufficient to ensure further training, which only seems to become reality when there is a high share of employee ownership. According to Pendleton and Robinson (2011), this is because high ownership rates mean that employees stay longer at the company, which therefore benefits more from continuing training.

Identification

Sengupta, Whitfield, and McNabb (2007) first show that there is a positive and statistically significant correlation between employee ownership and perceived productivity. Next, they find that firms with employee ownership have lower voluntary shifts to other employment outside the company, and this may explain the high productivity. They do not find increased employee obligation – identification with the company. However, these results are challenged by Whitfield et al. (2017), which uses data from the same workplace employment relations study, but covering some later years. Unlike Sengupta, Whitfield, and McNabb (2007), they find that there is no statistically significant correlation between partial employee ownership and employee turnover; but there is a correlation between employee ownership and intermediate mechanisms related to employee identification. The most robust study of the effect of employee ownership on the desire to stay in the workplace is the large US NBER/GSS study published in 2010. Based on a large and broad survey, they find that significantly more employees with ownership in their company respond positively to the fact that they want to stay in the workplace rather than change of job (Blasi et al. 2010).

Innovation

Another important result in (Blasi et al. 2010) is that employees at firms with employee ownership are significantly more likely to believe that there is a strong tendency for employees to come up with innovative ideas. On a similarly solid data base, Harden et al. (2010) shows that employee ownership

creates an innovative workplace culture and significantly promotes "the willingness of employees to come up with innovative ideas for the company" (p. 238). It is also noteworthy that employee ownership and other forms of financial participation are highest in some of the most innovative sectors in the United States, including computer service (Kruse et al. 2010b).

3.3 Theory - effects of employee control - changed goals and behaviors

Employee control - changed goals and behavior - short term

Full employee ownership means that employees gain control of the company, and they can therefore pursue specific objectives – indicated by the B arrows in Figure 2. At the same time, the full employee ownership imposes some restrictions on the number of non-owning employees and restrictions on external owner-capital – indicated by the C-arrows. This is the background for specific theories for full employee-owned business goals and behaviors in both the short and long term.

Since Ward (1958), criticism has been levelled at the adjustment behavior of the employee-owned company. The starting point has typically been collectively ownership, and it was assumed that the employee-owned company, instead of maximizing profits, would maximize the average income per employee (Domar, 1966; Vanek, 1970). This means that, contrary to the traditional firm, the employee-owned firm would respond to a demand increase with a decrease in supply. In the traditional company, pay is assumed to be constant, but for the employee-owned company, the income per employee increases with the output price, making an additional employee more expensive, and it can therefore in principle pay for the employee owners to reduce production and employment while at the same time obtaining a higher remuneration per employee. However, there are many objections to the realism of this model. It has therefore been modified to allow employee-owned firms to have a slower adjustment of supply and more stable employment, but more volatile remuneration than traditionally owned enterprises (Vanek, 1970; Bonin, Jones and Putterman, 1993). If the model allows temporary employees without ownership, the theory predicts that this labor is used as a buffer, just like in the investor-owned company (Dow, 2018).

If the starting point is instead the individually owned company and the objective is assumed to be maximizing the value of the employees' ownership shares, the economic adjustment mechanism will correspond to the traditionally owned company (Sertel, 1982; Mygind, 1987; Dow, 2018). However, for both collective and individual ownership, it can be assumed that employees follow more advanced objectives, where their particular preferences for, e.g. a good working environment and stable employment will outweigh those of the traditionally owned company (see Figure 2). A longer period of employment can be expected, both because the company places more emphasis on stable employment and because the individual employee is more satisfied by staying in the company rather than switching to another workplace. In this context, it can also be expected that the links with the local community will prevail and the relocation of production to other areas and countries will occur to a lesser extent. In addition, the more equal distribution of ownership suggests a more equitable

distribution of pay. The lowest paid group will have relatively high wages and the highest paid relatively low pay compared to traditionally owned firms (Dow, 2018).

The change in behavior presupposes that employee control of the company results in a change in prioritization of the objectives and that all employees are owners. In the case of partial employee ownership, where employees only own minority positions and the dominant ownership lies with external capital or with a smaller management team, theory will predict traditional behavior in both the short and long term. This also applies if the company can hire non-owning employees who can act as a buffer against market fluctuations.

Employee control - changed goals and behavior - long term

The *long-term* adjustment, involving investments and the adjustment of the capital stock, will be similar in the individually owned enterprise to the traditionally owned company. For the collectively owned company, the classic theory predicts underinvestment because employees cannot extract their share of the accumulated values when they leave the company. The timeframe for the investment will be relatively short if a dominant group of employees expects to leave the company before the investment has paid off (Furubotn and Pejovich, 1970). But according to Bartlett and Uvalic (1986), the time scale is an empirical question. They assume that the average employee expects longer employment in the employee-owned company than the typical time horizon for investments in a traditionally owned company.

Similar arguments for collective employee ownership mean that the existing group of employees will be reluctant to share the benefits of accumulated capital with new employees if the new ones do not pay compensation to the existing group upon joining the company. This problem can be "solved" in two ways: in the case of individual ownership, incoming employees pay the market price for their share upon entry, and existing and outgoing employees are compensated for the accumulated values. Alternatively, it can be assumed that the employee group does not follow a narrow individual maxim, but instead has more collectively oriented goals around the company's long-term development. Thus, a combination of collective ownership and collective objectives may also result in no underinvestment in the employee-owned company (Mygind, 1992). There may also be, as in Italy and France – see below, special savings requirements in the company that contribute to a higher level of investment (Perotin, 2016).

In this context, however, there may be a significant barrier to the financing of major investments in the employee-owned company. External ownership will dilute employee ownership, and additional loan capital may be limited if lenders are skeptical about employee objectives and the ability to repay the loan (Dow, 2003 and 2018). Therefore, it can be particularly difficult for employee-owned firms to operate in industries that require a high capital per employee. This also applies to the start-up phase of an employee-owned company, where outside capital often require co-ownership and thus the possibility of high remuneration as payment for high risk of capital injection.

3.4 Empirical evidence - employee control - changed targets and behaviors

More wage equality

A characteristic of the specific objectives of full employee-owned enterprises is a significantly smaller spread of wages. It is documented by Bartlett et al. (1992) for Italian cooperatives, Craig and Pencavel (1995) for the Plywood cooperatives in the United States, and Magne (2017) for worker cooperatives in France. Based on extensive data comparing the salaries of worker cooperatives with traditionally owned firms in Uruguay, Burdin (2016) finds that wage inequality is significantly lower and pay levels slightly higher in worker cooperatives. At the same time, he considers that the lowest earners, who thus have the greatest wage benefit, also have the lowest voluntary termination rate.

Sengupta and Yoon (2018) examine whether pay inequality between different employee groups affects the productivity effect of employee ownership as measured by sales per employee. They find that less inequality has a positive effect on productivity, and they explain this by saying that high wage spreads are poorly suited to employee-owned egalitarian principles.

Arando et al. (2015) investigates the Mondragon cooperatives in Spain, which include various types of employee ownership, and there are even firms affiliated without employee ownership. Based on econometric case studies, they find that employees in firms with more employee ownership have more egalitarian wage distribution. Mondragon cooperatives have in principle a maximum wage spread of 1:6 between the lowest paid and highest paid in a cooperative, although there are a few exceptions. According to Dow (2003), this means that CEO salaries are 70 % of the level of comparable traditionally owned firms.

More flexible pay and more stable employment

In line with the theoretical predictions, empirical evidence shows that, unlike externally owned firms, employee-owned enterprises have a clear tendency for wage levels to vary, while employment is relatively stable over the business cycle. Pencavel and Craig (1992, 1994) have over a number of years compared Plywood cooperatives with traditionally owned firms in the industry. Their results show a clear trend towards more flexible pay and more stable employment in cooperatives. Pencavel et al. (2006) shows for Italian worker cooperatives more flexible and lower wages, but more stable employment compared to traditionally owned firms

Burdín and Dean (2009) also find more flexible pay and more stable employment in Uruguay. Here, worker cooperatives can have up to 20% non-owning employees. Burdin and Dean show that these non-owners also have higher job security than their counterparts in conventional firms. Their explanation is that daily interaction with each other increases the reciprocity and solidarity between both groups of employees.

Studies of widely held firms in the United States also suggest that employee ownership leads to more stable employment. These studies also cover minority ownership, but show that the effect increases with employee ownership. Blair et al. (2000) surveyed US firms with broad employee ownership

schemes and more than 17% employee ownership between 1983 and 1995 and compares with similar traditionally owned firms in the same industry. They found higher employment stability with no worse performance for the share price. Park et al. (2004) found similar results for employment stability through the 2001 crisis and Blasi et al. (2013) found that unlisted ESOPs had greater employment stability in the period 1988-2001 than comparable traditionally owned firms.

One of the most recent and comprehensive studies for the United States is Kurtulus and Kruse (2018), which looks at developments for 1999-2011 including the two crises starting 2001 and 2008. They include all listed firms and analyze the impact of employee ownership schemes - including both depth and breadth. In general, they find more employment stability in firms with employee ownership. Greatest effects are related to the average value of each employee's shares (depth) and the proportion of owning employees (breadth). The ESOP model has a stronger stabilizing effect than other types of employee ownership that are narrower and more individually oriented.

Kurtulus and Kruse argue that employees build long-term cooperative relationships, and increase employee efforts and their willingness to accept adjustments in times of crisis. It can increase productivity and reduce the need for redundancies. For a smaller group of the investigated firms, they show that these positive effects occur when a company changes ownership – both to deeper and broader employee ownership. This result supports the existence of a causal relationship from employee ownership to more emphasis on specific employee objectives.

Data for broad ESOP schemes in the US indicate that wage developments are higher or the same as for traditionally owned firms. There are a few examples where the introduction of ESOP took place in the context of a certain pay restraint from the employees (Blasi and Kruse, 1991). However, a study covering the period 1982-2001 for listed firms found that the salary, without ESOP contributions, increased for ESOPs with less than 5 % ownership and was constant for ESOP's over 5 % ownership compared to similar traditionally owned firms (Kim and Ouimet, 2014). This tendency for ESOP contributions to be added to wages has also been confirmed by Kardas, Scharf and Keogh (1998) and Scharf and Mackin (2000). The NBER study indicates that employee shares are associated with higher wages (Kruse et al. 2010; Kruse et al 2010b), while Blasi et al. (1996) shows the same level of pay.

Level of investment and capital per employee

The relation between employee ownership and the level of investment is an important subject in the theoretical literature. Do the special restrictions on the inflow of capital for full employee ownership mean that this form of business has a lower level of investment and lower capital per employee? There is no clear answer to this question in the empirical studies:

Bartlett et al. (1992) and Jones (2007) found lower capital per employee in Italian worker cooperatives; but later Bartlett (1994) found higher capital intensity, while Pencavel et al. (2006) found no significant difference between the capital of cooperatives and traditionally owned enterprises per employee in the same industries. In the United States, Berman and Berman (1989) found lower capital intensity in Plywood cooperatives. Fakhfakh, Pérotin, and Gago (2012) found that

the average capital intensity is the same for employee ownership and traditional ownership in 5 of 8 industries. However, it is higher for traditional ownership in the two most capital-intensive industries: the production of capital goods and transport, as well as for consumer services. The authors conclude that employee-owned firms adjust their capital intensity with the same frequency and to the same extent. Thus, they find no evidence of underinvestment in the worker cooperatives.

The question is whether worker cooperatives are mainly found in low-capital-intensity-sectors ? Pérotin (2016), following a review of other similar studies of worker cooperatives in France, Spain, UK and Uruguay, concludes that they have roughly the same industry distribution. Thus, the sectoral distribution does not provide evidence that they exist in the least capital-intensive industries. She also concludes that they withhold a larger proportion of their profits than other firms, but points out that for France and to some extent for Italy and Spain, this is also linked to specific regulatory requirements, tax advantages and provisions for collective reserves. In France, worker cooperatives have to reinvest at least 25% of profits, but the average is 45%.

Podivinsky and Stewart (2009) analyze the start-up of new employee-owned firms in the UK in different industries. They find relatively fewer start-ups of worker cooperatives in industries with high capital intensity and high risk (high variation in profits). In the 1980s there was a cluster effect of new cooperatives in footwear and clothing as well as in paper, printing and publishing.

Survival

A crucial test of a company's ownership, management and operation is its survival. Pérotin (2004) examines all start-up labor cooperatives in France between 1977 and 1993. She points out that start-up conditions determine the relationship between the company's age and the risk of closure, and therefore examines both firms that were born employee owned and firms that were taken over by employees. For worker cooperatives, the risk of closure is increasing in the first three years of life, but in the fourth year the curve breaks and then the risk decreases. For non-employee-owned enterprises, there is a monotonous decrease in the risk of closure from the very beginning. Initially, the risk of closure is highest among traditionally owned firms, but decreases in the early years of life, while it increases for employee-owned firms. The two types converge against the same long-term risk. The risk of closure is greater for start-ups than for those who are converters to employee ownership. This is supported by a report by CECOP-CICOPA (2013), which specifically compares French worker cooperatives set up through a change of ownership with traditionally owned firms, which have also been taken over by new owners. After three and five years, survival rates are highest for worker cooperatives.

The higher stability of employment, especially in times of recession, is likely to be reflected in the long-term survival of employee-owned enterprises. Blair et al. (2000) follows 27 large listed ESOPs with depth of around 20-50% over the period 1984-1997 and finds a significantly higher survival rate compared to similar firms without ESOPs.

Blasi, Kruse, and Weltmann (2013) build on the combined group of unlisted ESOPs in 1988 plus new ESOP up to 1994 – a total of just over 1500 firms. Each of these is matched with a twin company (size, industry, state in the United States) with traditional ownership, and they investigate the risk of bankruptcy or closure in the following decade. They find that in 1988 employee-owned enterprises had only half the risk of bankruptcy or closure (acquisitions not included) over the period 1988-1999 compared to other undertakings. Burdin (2014) shows that worker cooperatives in Uruguay have a better survival rate than similar traditionally owned firms and that the difference is greater for service than for industry and transport. The difference may be due to lower capital requirements in the services sector.

There can be several reasons for the termination of employee ownership. As with traditionally owned firms, technological and market shifts combined with a lack of competitiveness can lead to closure. Sales to external owners can take place both in the event of economic crises, but also in the case that the employees of a successful company get a good offer for their shares. This was the case for a Danish advanced metal tool making company with about 550 employees, Unimerco, which in 2011 was sold to a large Japanese company. About half of its employees received each over USD 0.2 mill. for their shares; the average was USD 0.7 mill. (Berlinske 29-06-2011; Zetland 30-08-2019).

4. Why so few? - Barriers to employee ownership

Given the productivity benefits of employee ownership, why are there relatively few of these types of firms? This can be explained in particular by problems in the establishing phase.

The main barriers to employee-owned enterprises can be summarized as follows:

- *Organization problem* – if a special model/company format is missing for organizing the employee ownership
- *Start-up problem* – difficult to organize a group of employees around start-up
- The *entry/exit problem* of employee owners – especially in the case of individual employee ownership, it is difficult to ensure that the retiring employees give up and the new coming employees obtain ownership
- *Capital problem* – difficult to raise enough capital for start-up and later development
- *Risk problem* – employees are at risk of both losing their jobs and their owner-capital

As we shall see in the following review, there is some overlaps between these problems, especially between the first three and the last two.

4.1 The organization problem

A common feature of countries with a high prevalence of employee-owned enterprises is that there is specific legislation defining the framework for this type of business. In countries with many worker

cooperatives, such as France, Italy and Spain, there are rules on the right to control – one vote per member and rules for open membership, often combined with a cap on the number of non-members and special restrictions on members' capital injections and their remuneration. In the UK and USA, different types of employee fund ownership, ESOPs, have been developed with the requirement of broad employee ownership. All employees have, in principle, an account in the employee fund as and each year the fund is attributed part of the profits. The individual account depends on the annual attributions and thus the period of employment in the company. The control rights are exercised by the ESOP Fund, which can grant democratic rights to employees. However, the right of control is often exercised by trustees appointed by the company without employee involvement. The organization problem is linked to the problems of employee entry/exit and the start-up problem.

The importance of employee ownership models is underpinned by the existence of clusters of employee-owned firms. Early examples of successful employee-owned firms have served as models for creating new ones. There are many examples of such clusters, geographically or in specific industries. The experience and knowledge of this particular and quite rare form of ownership, often produce a positive self-reinforcing effect when local promoters, employees, banks, advisers are inspired by positive examples (Dow, 2003, Perotin, 2006 and 2016, Podinskyiv and Stewart (2009), Arando et al. 2012).

4.2 The start-up problem

It is difficult to assemble a group of employee owners to start a new employee-owned company. The typical start-up occurs by one or a few partners setting up a business and then gradually hiring employees without ownership. The question is whether the entrepreneurs are willing to share the value of the business idea with future employees, and whether future employees can and are willing to pay an "entrance fee" for co-ownership as compensation to the initiators (Dow, 2003, 2018). Often the risk is very high in the difficult start phase.

There are many examples of employee-owned firms emerging as *defensive* takeover of companies threatened with closure, with the primary purpose of preserving jobs. More *offensive* acquisitions by the employees can occur in connection with change of ownership, especially when the owner of an owner-led company wants to retire. The question is whether employees as a group can and will inject sufficient capital to finance the takeover. Here, the capital and risk problem, discussed in more detail below, plays an important role in achieving a deep and broad employee ownership.

Can the establishment rate of employee-owned firms match the traditionally owned ones? Perotin (2006) examined both the creation and exit of French worker cooperatives. She found, in contrast to traditional firms, that the creation of worker cooperatives is countercyclical. They start especially during periods of high unemployment because employees have employment as a major driver. In addition, in Italy, France and Spain there are special schemes where unemployed people can finance part of the initial capital for new cooperatives or takeovers with money set aside for unemployment

benefits. At the same time, the closure of cooperatives follows traditional enterprises over the business cycle

Perotin (2016) refers aggregated data from the French workers' cooperative organization, CG Scop, showing that worker cooperatives have a relatively high birth rate between 1979 and 1998 and at the same time the same exit rate as similar traditionally owned firms. There was therefore a relative growth in the number of worker cooperatives during this period. For the period 1993-2009, worker cooperatives and traditionally owned the same starting rate, while the exit rate could not be calculated. French worker cooperatives have been around for over 100 years, see below. Their numbers and employment have increased for some periods, and some years they have declined relatively. The balance between start and exit has shifted over time, but although they are much more widespread than in Denmark, they represent less than one percent of private employment.

In Italy, France and Mondragon, the start-up problem is largely solved by the cooperative organizations helping to bring together business ideas and groups of employees for starting new enterprises. This is combined with consulting, exchange of experience, economic analysis, education and access to loans, in this way they overcome the important barriers for start and take-overs.

4.3 The problem of entry and exit of employee owners

If there is no mechanism for the co-ownership of new recruits and the withdrawal of employees from ownership, the employee ownership may be gradually diluted as the employee group is replaced. This is a limited problem in collectively owned worker cooperatives because the individual employee's deposits and the corresponding withdrawal payment are typically quite limited. At the same time, there are rules in the legislation that require membership of all permanent employees and there is a limit to the number of temporary staff. For individual employee ownership, the problem is, on the one hand, the valuation of the employee shares and, on the other hand, that employee ownership cannot be separated from the actual supply of labor. In the capital-owned company, ownership in the form of shares may be sold together or in smaller parts on the market. In the case of employee ownership, jobs and capital contributions are linked. The employee-owned company hires the new employee, and the value of the shares is determined by special rules, possibly by an independent assessor.

Full employees can "degenerate" through the sale of all or part of the business to external owners, and by retiring employees continuing their ownership. Degeneration can also happen if new employees do not become owners. For most worker cooperatives, there are strict rules for open membership and it is cheap for new employees to become members. Moreover, most of the equity is tied up in collective owned reserves. The individual employee cannot extract significant values when selling the company like with individual employee ownership. In the earlier mentioned case of Unimerco, and as in US ESOPs, there are cases of sales of successful employee owned firms. The latest example is "New Belgium Brewing" (see https://coloradosun.com/2019/12/18/new-belgium-sale-employee-ownership/). Here, the employees decided to accept an offer from a foreign company. The

American Plywood cooperatives also had individual ownership and there were examples of thinning of the employee ownership because new employees did not become members and because of takeovers by external owners (Craig and Pencavel, 1992). After many years of success another important reason for the elimination of the Plywood-coops was also, that the natural resources of timber were exhausted in the geographical cluster and the employees did not want to leave their local society.

As a counterweight against such a development the institutional barriers including collective ownership and rules for open membership have been import for the low exit-rates of worker-coops in France, Italy and Uruguay (Perotin 2006, Fakhfakh et al. 2012, Burdin and Dean 2009).

4.4 The capital problem

The typical employee has relatively little free capital to invest in his or her company compared to the typical external investor. There can be large differences between employees, which can lead to a skewed distribution of co-ownership. External capital will often request ownership and/or high interest rates on the loan capital. The risk of loans to the employee-owned company is often considered to be extra high because this form of ownership is unknown and/or is considered to be particularly high risk because employees are expected to pursue objectives other than profit maximization (Dow, 2003, 2018). The problem is particularly high for fixed investments, which do not have significant value in alternative uses and therefore cannot act as collateral for a loan. Therefore, it can be expected that employee-owned firms will arise mainly in industries with relatively low capital per employee and that employee owners choose low capital-intensive technological solutions.

However, as showed above, there is little evidence of the existence of this problem. It is difficult to document lower capital intensity in employee-owned enterprises, or that they should arise and develop in less capital-intensive industries. The main reason is probably that in countries with a high prevalence of employee ownership, special financing opportunities have created by special banks linked to parent cooperative organizations.

4.5 The risk problem

When employees invest individual capital in their company, they are exposed to the risk of losing capital, which comes on top of the risk of loosing employment and company-specific human capital (Meade, 1972). However, this can be modified if employee control means a lower risk of firing employees (Dow, 2003). In collectively owned worker cooperatives, the possible loss of capital for the individual employee is often very limited, so the overall personal risk of losing financial plus human capital will also be limited. In individually employee-owned firms, in addition to the human capital, each employee may lose significant amounts. The capital problem combined with the concentration of risk is often regarded as a major barrier for employees (Vanek, 1971; Bowles and Gintis, 1993b, 1994; Bonin, Jones and Putterman, 1993). If the problem is not resolved only wealthier

employees become co-owners in partnerships or external investors take over dominant ownership positions.

In practice, various solutions have been used, which have significantly reduced the risk problem. In most types of worker cooperatives, there is no or only limited individual ownership of the accumulated assets in the company. In France, employees can own more shares and in Italy employees can lend to the company; but these employee deposits are capped and do not vary with the market value of the company. The majority of the company's equity is collectively owned. In the Mondragon cooperatives there is a combination of individual and collective ownership, and an employee who has spent many years in a successful cooperative can have a significant amount in his individual account. The same may be true for employees of ESOPs in the US and in the UK. The question here is whether employees have too high risk concentration?

For the United States, this issue is recently addressed by Kruse et al. (2019) based on data from annual surveys of consumers' economic conditions 2004-2016. The analysis shows that 15% of families with at least one privately employed family member have employee-owned assets as part of their assets. 19% of these families have over 15% of the assets in employee ownership assets and thus a possible critical risk concentration. However, as mentioned earlier, employee-owned firms have a lower risk of layoffs in times of crisis (Kurtulus and Kruse, 2017). Concentration of 10-15% of the wealth of a business is no problem if the rest of the family's fortune is well diversified (Markowitz, Blasi and Kruse, 2010). In the majority ESOPs, in particular, the employees can own significant assets. Otherwise the most widespread risk concentration of employee ownership is in connection with individual share and pension schemes. This is in US the case for employee shares in so-called 401(k) schemes (Pozen and Liu, 2018) and in the UK in connection with the so-called Save-As-You-Earn schemes (Pendleton and Robinson, 2018). The characteristics of these schemes is that employees pay for the shares themselves. This is a crucial difference from the ESOP model, where contributions come from the company. There is therefore no deducting from salary and the individual employee's savings in the ESOP will be in addition to other personal savings and pension schemes.

In the large NBER survey, involving 40,000 employees in 14 large firms in the United States, Blasi, Kruse and Markowitz (2010) found that 40% of employees replied that the total value of their employee shares exceeded the said critical 15% level. This analysis also showed that an additional dollar of employee ownership resulted in 94 cents of additional total wealth for the average employee. Thus, employee shares are not not a substitute for other assets (Buchele et al. 2010). As mentioned earlier, ESOP schemes are generally linked to the same or better wage development. This does not necessarily mean that employees get a bigger share of the pie, because as mentioned, ESOP usually results in higher productivity and better financial results, so that the total cake becomes bigger and both external investors and employees get a share of it. The distribution depends on the negotiating position of the employees, which can give a greater or lesser share to the employees, however, so that neither the external owners nor employees are expected to lose out on the introduction of ESOPs (Kim and Ouimet, 2014). In the longer term, the ownership of broader groups

of employees must mean that they receive a share of the return on capital and thus, all else being equal, a greater share of both income and wealth.

Employees are exposed to greater risk by co-ownership because they have more to lose. But that's the risk of losing the extras - not a risk of losing other accumulated assets or other diversified retirement plans. Indeed, some studies show that other diversified and thus less risky pension schemes are more common in firms with ESOPs than in other firms (Rodgers, 2010). Blasi, Kruse, and Weltmann (2013) find that employees-owned firms are four times more likely to offer their employees a diversified retirement program. In the Mondragon cooperatives, which typically have a significant individual employee savings in the firms, the group has set up a special pension company to ensure a diversified retirement savings for all the workers in the group.

5. Overview of employee ownership in a number of countries

After a brief description of the situation in Denmark, in this section we will examine how the various barriers have been overcome or limited in the countries where employee-owned firms have become widespread. The purpose is to identify general trends for the development of employee ownership and at the same time show how different rules of the game (institutions) can promote specific types of employee ownership. Unlike Denmark, worker cooperatives have become quite widespread in countries like France, Italy and Spain and employee ownership through ESOP-type company funds has in recent decades gained popularity in the UK and in particular in the US, yet, full employee-owned ESOPs with employee control constitute a minority of ESOP firms. See the overview of majority ownership in Europe for firms with 100 or more employees in Appendix 1.

We shall be looking at the spread of employee ownership and what have been the driving forces in these countries:

5.1 Denmark

There are many democratic firms in Denmark, but they are virtually all consumer- or supplier-owned (The Think Tank Democratic Business, 2019). The report shows that democratic firms together account for more than 5% of employment and more than 8% of turnover. Employee-owned firms make up only 54 of the 18,605 firms registered in the survey. Worker cooperatives never became widespread. Early in the Social Democratic Party's history, the main strategy was to improve the working class's conditions through the trade union movement and through state intervention. The "third" leg, the worker cooperatives, had a minor role. The exception was some bakeries and dairies in the major cities, the brewery "The Star" and individual construction firms. The largest prevalence was in the 1930s (Grelle 2012). These firms – unlike worker cooperatives in other countries – were not owned and managed by the employees themselves, but by the trade union movement.

Within construction, there are a few larger companies associated with the Labor Cooperative Movement with significant elements of employee ownership. The JBH Group A/S is owned by three

collective employee funds: Jorton 31.8%, Hustømrene 20.6% and Boligbeton 20.6%, with 429, 222 and 328 employees (2019), respectively (27% is owned of social housing companies). The JBH Group A/S functions as a holding company with control over the three construction companies. There is thus a certain distance in relation to the right to control, profit and collectively owned net worth. Employees automatically become members after 5 years tenure. They do not have to pay any membership fee and they cannot withdraw savings from the company when they leave, but the employee funds provide support for retired employees and for social events. A similar fund scheme exists for the cooperative companies: Murersvendenes Aktieselskab and the construction company Christiansen and Essenbæk with around 35 and 170 employees.

Since 1987, there have been a number of qualifying schemes for individual employee shares (Nørgaard et al. 2019). About half of the large Danish listed firms have different types of employee shares, but this covers only 1.4% of the share capital and 6% of the employees (Mathieu 2018). In small businesses, employee ownership is less common, with the exception of professional partnerships owned by a small group of key employees. In the 1980s, researchers from CBS (Business the daily newspaper "Information" with collective ownership and direct democracy in the period 1971-1990 (Ingerslev et al., 1984; Mygind 1987). The "Unimerco" mentioned earlier is a later example of a major Danish company that was individually owned by the majority of around 550 employees. The company started by introducing profit sharing and then gave employees the opportunity to obtain employee shares. In this way, employees came to own 50% of the company. Since the sale in 2011, there have been no Danish firms on Mathieu's list of European firms with more than 100 employees and majority employees – see Appendix 1.

Torp (2016) is the only recent study in an international scientific journal that examines the spread of employee ownership in Denmark. Torp conducted a survey among the 500 largest Danish firms in 2009 and received useful responses from 297 firms. 103 of these had some form of employee ownership. 75 of the 103 firms had narrow employee ownership, with only management taking part. 28 firms had broad employee ownership, defined as including the majority of top and middle managers and at least half of other employees. The depth of employee ownership was not examined; but according to Mathieu (2019), there are no large majority employee-owned firms in Denmark. Moreover, firms with broad co-ownership are at the same time characterized by a high level of employee involvement.

Most recently, a register-based survey of distribution of wealth in Denmark has been carried out covering employee share programs (Think Tank Democratic Business & Folke Henriksen, 2020). It maps 365 Danish firms with employee share programs. These firms employ a total of 624,123 people, of whom 53,580 have employee shares. In 2016, the total assets of this type of stock amounted to just under DKK 3.4 billion (USD 500 mill.) Managers and academics have about half the total wealth of employee shares. Almost half the assets in employee shares are owned by employees in the financial sector, while a third is owned by industrial employees. The survey shows that the vast majority of the employee share capital and employees owners are located in firms with broad programs where over 35% of employees own shares. The study also supports the results from Torp

(2016) and Mathieu (2019) that employee stock programs in Denmark do not provide depth of ownership. The report finds only 13 firms where employees own more than 15% of equity.

In Denmark, there is no comprehensive law on employee ownership, as there is, for example, a law for commercial foundations. Instead, there are a number of more isolated laws, which allow the establishment of employee ownership in various ways. Three schemes described in Cevea (2019) are: employee stock programs, employee investment firms and the possibility to invest in unlisted shares with pension savings. The general rules for A.M.B.A. and F.M.B.A. can also provide a basis for employee ownership – as well as other occupational legislation.

5.2 France

The cooperative sector in France dates back to the revolution of 1848 and the Paris commune in the 1870s. According to Bartlett and Uvalic (1986), there were about 1300 worker cooperatives in 1984 with around 40,000 employees. Fakhfath et al. (2012) indicates for 2011 around 2000 with 46,500 people employed. This is less than 1% of all French firms with more than one employed. The latest inventory for 2018 shows 3311 worker cooperatives with 60,400 employees and 33,000 members (https://www.les-scop.coop/sites/fr/les-chiffres-cles/).

The first support organization was established in 1884. From 1937 it has the name SC Scop. Measured as a share of cooperatives/employees in SC Scop respectively, services are health and training: 58/51%, construction: 15/20%, industry: 12/16%, trade: 9/4% and transport 2/5%. This differs only to a lesser extent from the distribution of traditionally owned firms and their employees, albeit with slightly higher emphasis on construction and construction in the works cooperatives.

There is quite strict regulation of cooperatives in France. This ensures a high level of collective ownership and hinders the transition to traditional ownership. At least 25% of the profits shall be allocated to collective reserves, though on average, 45% was allocated in the years up to 2011 and the accumulated collective reserves per employee were 27,900 Euro in 2006 (Fakhfakh et al., 2012). In general, the principle of one vote per member applies. Despite open membership, the average membership rate was only 55% of the workforce in 2018, and for the median of cooperatives it is 75% (SCOP). However, excluding a trial period of 6-12 months, the membership rate was 80% in 2011 (Fakhfakh et al. 2012).

The co-operative law makes it very difficult to convert worker cooperatives into traditional ownership. Each member must buy at least one share and a member may be required to buy shares for up to 10% of salary each year, often related to profit-sharing. The average accumulated share value per employee in 2006 was 6,400 Euro (private sector median monthly salary was 1,555 Euro). At least 25% of profits are shared between all employees, regardless of membership. This profit sharing averaged 4,500 Euro in cooperatives, compared with 2,300 Euros in traditional enterprises. Here, SCOPs and traditionally owned firms have the same tax advantages (Fakhfakh et al. 2012).

The minimum size of a SCOP cooperative is 2-7 members depending on the particular company form. Therefore, there are few very small enterprises, so the number of employees per cooperative is on average greater than in traditionally owned enterprises. Worker cooperatives have a relatively high proportion of medium-sized enterprises and the same proportion of enterprises over 500 employees (Fakhfakh et al. 2012, Perotin 2016). However, leaving aside the smallest firms, cooperatives tend to be slightly smaller than the traditionally owned.

Legislation in France provides a defined model for worker cooperatives in France, guaranteeing the principle of one vote per member of staff. SC Scop, the cooperative organization, advises on establishment and development. The entry/withdrawal of co-owners is secured through open membership, which requires only a small deposit. Members can buy more shares, but it doesn't give more votes. There are special financial institutions to limit the capital problem and there are regulatory requirements for a certain amount of savings for collective reserves. The risk problem is limited because the individual co-owner's shareholding for withdrawal is relatively small.

Various forms of partial employee ownership and financial participation are widespread in France (Lowitzsch and Hashi (2014). This applies in particular to profit-sharing, which covers the majority of private firms, but ESOP-like schemes with certain tax advantages have also developed in recent years.

5.3 Italy

According to Dow (2018), Italy has the highest prevalence of full employee-owned firms - worker cooperatives with one vote per employee. For 2015, Borzaga et al. (2019) lists 29,414 worker cooperatives with 486,241 employees. However, in the EFES inventory, Italy lower than France in the number of full employee-owned firms with more than 100 employees – see Appendix 1.

The first labor cooperatives date back to the 1850s, and a few years later an association, Lega, was formed to coordinate cooperation, lobbying, consultancy, audit, support for start-ups, financing, etc. Lega has roots in the labor movement associated with communist and socialist parties. In 1919, a Catholic-conservative wing broke out and formed Confederazione, and in 1952 a center-oriented group, Associazione, was formed (Bartlett and Uvalic, 1986). There has thus been close interaction between different parts of the political spectrum and the cooperative movement in Italy. During the fascist rule, Lega was banned. Some control was taken over by the state and the number of worker cooperatives fell. After 1945, the number of worker cooperatives increased again. At the local level, there was often close interaction between politicians and cooperatives, and many public works were carried out by cooperatives. After a series of corruption scandals and the general weakening of many of the traditional parties in Italy, in recent years there has been a greater distance between politicians and cooperative organizations.

Labor cooperatives remain strong in construction, transport and light industry (Pencavel et al. 2006). Since the beginning of the 1990s, there has been a particularly strong development of social cooperatives in the care sector, children's institutions, etc. (Eurisce, 2017b). In 1996, cooperatives had 4% of total private sector employment. As in France, there are relatively few micro-enterprises

defined as worker cooperatives, but otherwise the size distribution follows the traditionally owned (Pencavel et al. 2006).

Italy has been characterized by a wide-ranging state regulation of worker cooperatives combined with various forms of support. The Italian Constitution after World War II made the state responsible for the promotion of cooperatives (Dow, 2003:69). The 1947 Basewi Act established a number of cooperative principles: one vote per member; open membership, at least 50% of employees as members, (average for Emilia-Romagna in the mid-1980s was 85% (Bartlett et al., 1992); limited capital injection per member and limited return on that capital; a minimum of 20% of profits for collective reserves, maximum 20% as a wage supplement. Upon dissolution, reserves must go to the public or for benevolent purposes. Profits for saving in collective reserves are tax-free, and there are also tax breaks on other taxes mostly for high-labor-intensive cooperatives (Pencavel et al. 2006). In recent years, there has been some softening of capital restrictions to ensure more capital for cooperatives: an increase in member deposits, the possibility of member loans to cooperatives with a tax advantage on interest income and tax-free profits for collective reserves. Employee take-overs are supported by legislation, amended in 2014.

The establishment of employee ownership is countercyclical in Italy. There was a close correlation between rising unemployment and employee takeovers for the period 1979-2014 (Borzaga et al. 2017:45). Since 1985, the Marcora Act allowed job-threatened employees to use their compensation for layoffs for acquisition and/or the start of new worker cooperatives. Employees must have the first takeover offer. There are special financing funds, Fincooper (1969) and CFI to support start-ups and employee takeovers. They have been expanded in recent years, most recently with additions to the Law in 2014 (Vieta et al. 2017:55). Legacoop, Confederazione and Associazione are also active in relation to employee takeovers and the start-up of worker cooperatives.

To sum up, the various cooperative organizations and various forms of State aid have helped to overcome the obstacles to the start-up and development of worker cooperatives in Italy. The low membership fee and open membership requirements and the limitation of the group of non-co-owners are dampening the problem of the entry/withdrawal of employee owners, and the co-operative organizations' coordination of the start-up of worker cooperatives and support for employee acquisitions has increased the possibility of starting employee-owned firms. At the same time, the requirements of the legislation and the rules of the cooperative organizations have limited the scope for the organizational and ownership variation of employee ownership. Italian worker cooperatives typically operate in industries with relatively low capital inputs per employee, and in recent years special legislation has mainly led to start-up of social enterprises in the health and care sector. The capital and risk problem is mitigated through different financing schemes and the risk problem is limited by the requirement of collective ownership, where the value of each employee's ownership is limited.

Italy has only to a limited extent promoted different types of partly employee-owned enterprises, profit-sharing, employee representatives on the board of directors and employee share schemes (Lowitzsch and Hashi 2014).

5.4 Mondragon - Spain

Five young engineering students established Ulgor, the first cooperative in Mondragon in 1956. Part of the company, Fagor, developed into Spain's largest white goods manufacturer. (Where nothing else is provided, the information is based on www.mondragon-corporation.com). Other cooperatives were set up according to the same model, and during the group's development a range of important support entities were established: a bank, Laboral Kutxa (earlier Caja Laboral Popular); an insurance/social security company, Lagun Aru; a science centre, Ikerlan; a company for the development of new cooperatives, Saiolan; technology centers; a university; and various support organizations for consulting, management development, auditing, etc. The Mondragon Group also developed a retail cooperative that combined consumer and some employee ownership, Eroski, which is now one of the largest retail chains in Spain.

The industrial cooperatives in Mondragon are fully owned by employees with a mix of collective and individual ownership. After a trial period of 6-12 months, an employee can become a member by depositing a certain amount, 15,000 Euro (2015). Loans and/or repayment schemes are available. Each member shall have a vote at the general meeting. The individual account is attributed a part of the surplus each year or deducted a part of the deficit. Upon withdrawal, this savings are paid out to the individual employee. Part of the profits go to collective reserves in the company, a certain share to the entire Mondragon group, and 10 % goes to social purposes in the area. Each cooperative is independent, but there is formalized cooperation in related groups and in the Mondragon group as a whole, led by a congress with representatives from all the cooperatives. This includes, among other things, the bank and the pension company. The group's pension scheme was started because its members were considered self-employed in Spanish law. In general, the Spanish cooperative legislation has not been a decisive aid for the cooperatives. The overall support structure and the principles/rules of the group and the individual cooperative are structured and adapted in line with the development and needs within the Mondragon Group. Job stability, security and the environment, and some levelling of pay gaps are high priorities.

Mondragon has developed into the largest group of firms in the Basque Country with over 100 cooperatives, and rapidly increasing employment: 20,000 in 1988, 40,200 in 1998, 68,200 in 2003 and 93,800 in 2007. Then came the financial crisis. Both Fagor and Eroski had invested heavily in increased capacity in the years leading up to the crisis, and suffered a sharp setback in the subsequent years. In the global white goods industry there was a strong concentration. Fagor had sought to cope with the competition through international expansion with acquisitions of firms and competitors in France, Italy and Poland and the start-up of subsidiaries in China and Morocco (Errasti et al. 2016). In 2006, the Fagor group employed 11,000 people - about half in the Basque Country. Over the following years, there was a sharp reduction in employment falling the steep fall in demand. But the operation failed. At the final closure in 2013, there were 2,000 jobs left in the Basque Country and 3,500 abroad. Most employees in the Basque Country got jobs in other cooperatives. In the industrial part of the Mondragon Group, there were 44,280 employed in 2007, of which 16,580 were in foreign

subsidiaries. At the end of 2018, there were 38,722 in industry, of which 14,455 were abroad. The entire Mondragon Group employed 81,837 at the end of 2018. Retail had the most, with 39,723 employed.

In the Basque Country, the proportion of members in 2018 was around 80%, but in the rest of Spain it was significantly lower and in the foreign subsidiaries, only a few managers had membership of the cooperatives. This shows a significant limitation of the Mondragon cooperatives in relation to the internationalization process, which in some industries is essential for competitiveness.

According to (Dunning 1981), when a company establishes a subsidiary abroad, it must have special ownership advantages, i.e. technological and managerial forces which it can exploit in another country. At the same time, there must be market or other location advantages in the host country which cannot be achieved through contracts with other firms, but only through direct ownership. The challenge for an employee-owned company is that the full involvement of the employees of the subsidiary as owners can result in these employees gaining control of the parent company and thus taking over the special ownership advantages that were the driving force behind the internationalization. Therefore, Fagor retained the central ownership on behalf of the parent company's employees, who tried to develop and secure their jobs by buying/starting the subsidiaries.

However, According to Errasti et al. (2016) it was not this dilemma, but the unfortunate timing in relation to the financial crisis combined with the intensified international competition that was the reason for Fagor's closure. The development also affected a large number of traditionally owned firms. The crisis in Fagor is therefore not proofing that employee-owned firms are doing poorly in international competition.

In the years following the financial crisis, total employment in the Mondragon cooperatives fell to around 74,000 in 2014-16 before rising again. The report for 2018 shows 81,800 employees, of which 46% in industry, 50% in trade and 3% in the financial sector. Of this, approx. 44% is in the Basque Country, 40% in the rest of Spain and 16% abroad. The membership rate is around 75% in the Basque Country, but low in the rest of Spain, and there are virtually no members in the foreign subsidiaries.

The Mondragon group has a clearly defined model for a democratic workers' cooperative with a certain individual element in ownership. The cooperation between the cooperatives and their overall joint organizations plays a major role in the start-up of completely new firms and the transformation of externally owned firms into cooperatives. The entry/exit of members is defined in the overall model, but in connection with expansion to other parts of Spain and abroad, they have set up a large number of subsidiaries without employee ownership. The capital problem is solved by a combination of collective reserves and individual investments. In successful cooperatives, the individual employee can save significant values for payment upon retirement. This involves some risk, but at the same time there is an independent pension scheme that ensures a good pension.

5.5 UK

The cooperative idea dates back to Rochdale, UK, 1844 with the principles of open membership, one vote per member, etc.; but the number of worker cooperatives peaked in the 1890s (Jones, 1975). There was a new wave of small cooperatives from the mid-1970s to the mid-1980s, supported by the rules of the Industrial Common Ownership Movement, ICOM, and in 1984 there were 911 worker cooperatives with around 9,000 employees (Bartlett and Uvalic, 1986). In addition, the Government supported a number of defensive employee takeovers, the Benn co-operatives, including closures threatened Scottish Daily News, KME and Meriden Motorcycles. Employment was maintained for some years, but leaving a negative perception of employee ownership when they finally closed down.

The largest employee-owned company in the UK is the John Lewis Partnership – one of the largest chains of department stores in the UK. The company was gradually taken over by an employee fund between 1929 and 1950. Each year, a significant part of the profits are distributed to employees, but they have no rights in relation to the company's own funds. John Lewis is owned by a foundation run by a board with a minority of employee representatives. It is therefore debatable whether it is fully employee-owned, but many regard it as the world's largest employee-owned company. After strong growth over many years, the number of employees/partners peaked at 93,800 in January 2015. In June 2019, there were 81,500 employees/partners. The decline is due to subdued demand in recent years, partly related to Brexit and the transition to online commerce.

In the UK, support for employee ownership across the political spectrum has been growing in recent years. The Conservatives see it as popular capitalism, and the Labour Party and trade unions support the "right of ownership" of employees. This has led to a wide range of arrangements for partial employee ownership and opportunities to create broad ESOP-type employees.

Although the Conservatives prefer profit-sharing without control to employees, some of Thatcher's privatizations in the 1980s was taken over by employees, and in the 1980s the Conservatives implemented a series of laws that, in addition to profit-sharing, also allowed the creation of ESOPs. In 2014, an EOT, Employee Ownership Trust, was implemented, largely following the John Lewis partnership model. If a departing owner sells a controlling stake to the employee fund, no 10 % capital gains tax shall be payable. The fund can pay out an employee bonus each year that is tax-free up to £3,600. This is a broad employee scheme in which the fund is to "serve" all employees on an equal basis. Employees can have a decisive influence, so the model allows for full employee ownership. The EOT model is based on collective reserves; but it can be combined with individual employee shares, which have also been promoted in UK in recent years.

These measures have led to a rapid increase in the distribution not only of different forms of profit-sharing, but also of different ESOP schemes and, after 2014, in particular EOT schemes with broad employee ownership and the possibility of majority ownership of employee control. In the last 10 years, therefore, there has been a significant increase in the number of both fully and partially employee-owned firms in the UK, but there are no precise figures on the number.

To sum up, there are few worker cooperatives in the UK, but in recent years there has been a significant increase in different types of employee ownership including different ESOP and EOT types. There is both government and private advice for start-up and development. The capital problem has been solved only to a limited extent, so that employee ownership is developed especially in less capital-intensive firms, especially in the service sector. As in the United States, the risk problem is limited by the fact that ESOPs savings are complementary to other retirement savings or, as in the EOT, by the capital being tied up in collective reserves.

5.6 USA

The American history of employee ownership dates back to independence. Some of the signatories of the Declaration of Independence were proponents of profit-sharing. The first wave of worker cooperatives arose during tradesmen's protests against the introduction of paid work in 1791. In the 1880s, the largest trade union had worker cooperatives as their main strategy rather than strikes (Blasi, Freeman and Kruse, 2013). "Self-help" cooperatives were set up under the New Deal in the 1930s. During the Cold War, however, there was a reaction against "socialist" ideas and a decline in cooperatives. In the 1960s and 1970s, a new wave emerged, particularly in food retailing organized as a combination of consumer and worker cooperatives. According to Curl (2012), in 1979 there were about 1000 small cooperatives with 17,000 employee-members, but the number fell and, according to Palmer (2017), in 2015 there were only 323 worker cooperatives with about 6000 employees.

The first Plywood cooperative was established in 1921 and formed a model for the start of new worker cooperatives. Between 1949 and 1956, about 20 were created, gathered in a cluster in the northwestern United States. According to Berman (1967), the cooperative plywood production peaked around 1950 with a market share of 20-25 %. In 1964, the cluster comprised 24 cooperatives with a market share of 14% and a typical employment of 2-300 employees per cooperative. They followed the principle of one vote per member, but at the same time they had a high level of individual ownership. There were problems in maintaining employee ownership because many incoming employees did not become co-owners. From 1960 to 1992, most of the production moved to the southern United States, and there was a general decline in production for both the cooperatives and the traditionally owned producers in the northwestern United States (Dow, 2003).

The bulk of employee ownership in the United States is found in the widely used ESOPs, Employee Stock Ownership Plans, which were initiated in connection with pension legislation, ERISA, Employee Retirement Income Security Act, from 1974. This law provided the framework for ESOPs and at the same time conferred significant tax advantages. The ESOP model allows an employee fund to take ownership of the company in whole or in part. This can be done gradually through contributions from the company, or in one step financed through a loan to the employee fund with collateral in the company - leveraged ESOP. The entity may deduct contributions/repayments/dividends to the ESOP Fund from the taxable profit. Employees do not pay any contributions and they do not have to pay tax until the value of their shares is paid. The loan is paid back through contributions and/or dividends

from the company. Over time, the employee fund's assets increase and are distributed in the individual accounts of each employee. The annual distribution must not be more unequal than the distribution of wages and there is an absolute maximum for the highest earners. All permanent employees own a share of the ESOP Fund.

When employees leave the company, they can extract the value of their share (Rosen, 2017). In the case of an employee takeover of at least 30 % of ownership in un-listed firms, capital gains taxation for the previous owner could be eliminated altogether. This was in force in the 1980s, but has since been tightened, so there are instead good opportunities to defer this tax. For large listed firms, in the latter half of the 1980s and early 1990s there were special tax advantages for banks and the like for loans to ESOP's takeovers of 5-20 % of the ownership capital. In general, tax benefits have been limited somewhat in recent years (Blasi, Kruse and Freeman, 2018).

According to Kruse, Freeman and Blasi (2010), the United States is now leading in what they call "Shared Capitalism." 53.4 million, or 47% of private employees, are covered by at least one form of financial participation. 38% have profit sharing, 27% capital gain-sharing and 18% shareholding in their company. These are mainly different types of partial employee ownership, and the ESOP model has been expanded with more individual forms of share ownership – 401(k) plans, often in the form of so-called "KSOPs" combined with ESOPs especially in large firms with minority employees.

In 2016, according to the National Center for Employee Ownership (NCEO), there were 6624 ESOPs with assets of $1.4 billion covering 14 million employees. The majority cover minority holdings in very large firms, while 6000 SMEs with ESOPs had two million employees. According to Rosen (2017), about half of these have majority employee ownership (often 100%). However, employees must also have the right of control, and most ESOP have a board of trustees that is not directly elected by the employees, but is instead self-supplementing or chosen by the company. However, it is possible to create democratic rules where employees elect this ESOP board. In a survey of 319 ESOPs, the NCEO found that in 15% of these, employees elected the board. If this is representative, it can be assumed that there are approximately 1000 full employee-owned ESOPs in the United States.

It can be concluded that ESOPs are widely distributed in the US and, although democratic ESOPs represent only a small proportion of them, it provides a significant number of full employee-owned firms creating a "critical mass" of employee-ownership. The ESOP model has become a well-known "corporate form" and thus a realistic option for both existing owners and employees. A well-functioning consultant network has been built up. There are good financing opportunities, and in particular with the leveraged ESOP model, *the capital problem* has been solved especially for small and medium-sized enterprises. *The risk problem* for the individual employee is limited because the contributions are not deducted from the individual employee's salary. The savings come on top of other savings. However, there are trends towards high concentration of risk when individual employees also save up in 400(k) plans and invest it in their own workplace), but this only covers a small group of employees (Kruse et al. 2019). *The entry/exit of employees* is resolved by the ESOP Fund being linked to all permanent employees. *The start-up problem* is partially solved by the use of ESOP for takeovers with related favorable tax rules for both the previous owner and the employees.

6. Summary of the effects of employee ownership

The theory of employee ownership produces varying predictions depending on the precise assumptions, and the empirical results also vary somewhat depending on the type and degree of employee ownership and the context in which they occur: differences in institutional framework between countries, differences in technology, different economic conditions over the business cycle, etc. Empirical studies are increasingly taking account of such differences, and in many areas the trends are so clear that fairly safe results can be inferred, while in other areas uncertainty remains. This is summarized in Figure 4.

6.1 Productivity and economic returns

More than 100 empirical studies have been conducted on different types of employee-owned firms compared to traditional firms and their productivity and economic. Although there is disagreement on the scale, there is quite a broad consensus that employee-owned firms have the same or mostly higher productivity and economic returns. This is summarized in articles by: Kaarsemaker et al. (2010) and Perotin and Pendleton (2003). A large meta-analysis, O'Boyle et al. (2016), points in the same direction, and the positive result typically applies to both labor productivity and total factor productivity, which also takes into account capital inputs, etc., and this also applies to various other measures for the return on invested capital. Some of these studies distinguish between the degree of employee ownership. Full employee ownership including worker cooperatives have relatively high productivity (Fakhfakh et al. 2012, Burdin 2014). Several studies show that the impact of employee ownership on productivity or other performance measures increases with the breadth and depth of co-ownership, some of the most recent are: (Kruse, Freeman, Blasi 2010; Blasi, Freeman and Kruse 2016; Kramer 2010; Blasi, Kruse and Weltmann 2013 and Sengupta 2008).

An exception is Faleye et al. (2006), which for US listed firms shows lower market value and productivity for partial employee ownership. Another exception is Kim and Ouimet (2014), which are also based on ESOPs in large listed firms. Here, the depth has no effect, and in the largest firms there is no productivity effect of partial employee ownership. This shows a certain "free-rider" effect in the very largest firms. Kramer (2010) also demonstrates trends of "free-riding", but at the same time he shows that for the ESOPs studied, labor productivity increases with depth.

A number of studies show that the "free-rider problem" is addressed through mutual monitoring of employees. This is directly demonstrated in a large survey of ESOPs (Freeman, Kruse and Blasi 2010), and it is also more indirectly demonstrated by the fact that employee-owned firms have significantly fewer middle managers for employee control (Bradley and Gelb, 1981; Fitzroy and Kraft, 1987; Pencavel and Craig, 1992; Fakhfakh et al. 2012).

A classic theoretical objection to employee ownership is that conflicts between different employee groups have negative effects on decision-making processes and motivation and can lead to poorer financial results. However, there is found no empirical evidence for this, and even in the referenced

Danish example, the daily newspaper Information, the level of conflict was lower than in other traditionally owned newspapers.

The reason for the higher productivity of employee ownership can be found in employee identification with their firm, which translates into a number of mechanisms that increase productivity. A number of studies demonstrate several of these intermediate mechanisms, see Figures 2 and 4.

A common result both theoretically and empirically is that different forms of participation increase productivity effects. This is an important explanation behind the positive results for full employee-owned firms. Some of these effects are also found for partial employee ownership (Conte and Svejnar, 1990; Levine and Tyson, 1990; Ben-Ner and Jones 1995; Doucouliagos 1995; Whitfield et al. 2017; Kaarsemaker and Poutsma 2006; Lampel et al. 2014). Some studies of partial co-ownership do not find effects of different forms of involvement. In a number of large listed firms with low employee ownership, employee ownership and profit sharing are seen simply as a wage supplement (Kalmi, Pendleton and Poutsma, 2005).

Several studies emphasise the broader relationship from participation to the development of a common culture – a greater degree of cohesion – as an intermediate mechanism between employee ownership and increased productivity (Fuller et al. 2006, Kim and Han 2019; and Robinson and Wilson 2006, Blasi, Freeman, Mackin and Kruse 2010). Sengupta and Yoon (2018) show a link between less wage dispersion and higher productivity with cohesion as an intermediate mechanism.

Robinson and Wilson (2006) highlight information sharing as an essential part of the mechanism for increased productivity. This is modified by Whitfield et al. (2017), which only finds effects of information from the top down to the employees.

Another intermediate mechanism is increased participation in training and further training. Pendleton and Robinson (2011) find that deep staff ownership is required to demonstrate an effect.

Sengupta et al. (2007) shows a significant positive effect of employees voluntarily quitting their jobs, while giving the increased identification with the company less weight. In a later study (Sengupta et al. 2017) based on later data, there is no significance in terms of job turnover, but rather in terms of identification and participation. However, with the large NBR and GSS studies, Blasi et al. (2010) provides a fairly solid basis for employee ownership to be more willing to stay in the workplace.

This study also provides a solid basis for employee ownership to promote an innovative culture and give employees more incentive to come up with innovative ideas for the company (Blasi, Freeman, Mackin and Kruse (2010); Harden, Kruse and Blasi (2010)

Figure 4. Overview of empirical results for full and partial employee ownership

	Full employee ownership	**Part employee ownership**
Productivity, economic performance		
Labor productivity	Higher or the same level	Less power than full
Total factor productivity (TFP)	Higher or the same level	Less power, single minus
Financial performance targets, roster	Higher or the same level	Less power, single minus
Mechanisms for higher productivity		
Participation and influence	Positive - many studies	Positive - many studies
Mutual control - fewer middle managers	More studies/ countries	Individual studies
Internal training & training, human race		Individual studies
Common workplace culture - cohesion	Positive - individual studies	
Fewer employee terminations	Positive - more studies	Positive - more studies
Innovative culture, employee ideas		Positive - individual studies
Modification - lower productivity		
Free-rider problem - 1/N problem		One study: problem for mega-corporations. Other studies: decreases with depth and breadth
Contradictions between employees	< capital-labor conflict	
Specific goals/behavior short term		
More equitable wage distribution	Result of many studies	
More flexible pay varies with cyclical	Result of many studies	
Pay level	Mostly same or higher	Same or higher
More stable employment	Result of many studies	More with depth & breadth
Specific goals/behavior long term		
Capital intensity	Unclear, same, or lower	
Investment	Unclear, same, or lower	Single study: lower
Survival	Longer	More with depth & breadth
Barriers		
Startup	+ Start-ups in recession and under positive legislation	Establishments in waves, depending on legislation
Entry/exit of employee owners	Easy - collective ownership problem - individual owner	Easy in ESOPs - individual account grows over years
Capital problem	Limited by special funding arrangements	Rarely relevant, ESOP often adds extra capital
Risk problem	Limited v. collectively own problem – individual owner	ESOP => extra savings 400(k) can cause problem

6.2 Specific objectives and behavior

Does employee ownership result in the objectives of firms shifting in the direction of the special interests of the employees? The empirical evidence confirms this both in relation to less wage dispersion and more emphasis on stable employment, often through greater wage flexibility.

Studies of countries with many worker cooperatives show that the disparity in wages - the difference between the lowest and the highest earners is smaller for fully employee-owned firms (Bartlet et al., 1992, Craig and Pencavel, 1995; Magne, 2017, Burdin 2016; Arando et al., 2015). We have not found similar results for partial employee ownership. In line with the theoretical predictions, a wide range of empirical results show that the wage levels of employee-owned firms vary more, while employment is more stable over the business cycle. This applies to full employees (Pencavel and Craig, 1992, 1994; Pencavel et al., 2006; Burdin and Dean, 2009) and also partly employee ownership, but the trend is stronger with greater breadth and depth (Kurtulus and Kruse, 2018).

The stabilization of employment may mean that, in times of crisis, wage levels may be relatively low, but most studies show the same or higher wage levels for worker cooperatives. (Bartlett et al., 1992; Burdin, 2016; Magne, 2017). The same applies to partially employee-owned firms in the US (Blasi et al., 1996; Kardas, Scharf, and Keogh, 1998; Kim and Ouimet, 2014; Kruse et al., 2010; Kruse et al., 2019; Scharf and Mackin, 2000). The exception is Italian workers' cooperatives with lower pay levels for a period examined by Pencavel et al. (2006) and examples of the introduction of ESOPs into crisis-threatened firms in combination with some wage restraint (Blasi and Kruse, 1991).

The theory predicts a trend of underinvestment and relatively low capital intensity in fully employee-owned firms. Empirical evidence does not confirm this. Some studies find lower capital intensity in worker cooperatives (Berman and Berman, 1989; Bartlett et al., 1992; Jones, 2007, while others find higher or the same level (Bartlett, 1994, Pencavel et al., 2006). Fakhfakh et al. (2012) finds lower levels in two very capital-intensive industries and the same level in others, but they do not find evidence of underinvestment. Podivinsky and Stewart (2009) tend to establish worker cooperatives in industries with relatively low capital intensity. Significant differences between countries and periods may be due to differences in legislation and opportunities for the inflow of loan capital. In France, there are special rules for the retained savings of worker cooperatives, and typically the savings are above this limit. At the same time, in Italy, France and Mondragon there are good lending opportunities through special financial institutions for cooperatives. We have found a single study, Faleye et al. (2006), which shows lower levels of investment for listed US firms with partial employee ownership for the period 1995-2001.

The long-term competitiveness of employee-owned enterprises can be assessed on the basis of their rate of survival. Here there are quite clear results showing the same or higher survival rate in the first years of life (Perotin, 2004). The above-mentioned more stable employment is also reflected in higher long-term survival (Burdin, 2014). Blair et al. (2000) and Blasi, Kruse and Weltmann (2013) demonstrate a significantly higher survival for ESOPs than for traditionally owned firms.

7. Society level effects

Employee owned firms have some effects and economic behavior that differs from traditionally owned firms. Therefore, a greater uptake of employee-owned enterprises could have important societal effects. These effects depend on the spread of different types of employee ownership, and this in turn depends on the specific institutional framework in each country.

Examples of large-scale effects of full employee-owned enterprises can be found in particular in connection with the Mondragon cooperatives in the Basque Country and with the large expansion of worker cooperatives in the Emilia Romagna region of northeastern Italy. In the Basque Country, Mondragon cooperatives account for 15% of industrial GDP and 5.4% of total GDP. They account for 16% of industrial employment and 6% of total private employment. At the same time, the Basque Country is the richest part of Spain and has a relatively equal distribution of income (Arresti et al., 2016)

Greater uptake of employee-owned enterprises can lead to increased productivity, better competitiveness and more stable employment. At the same time, more widespread employee ownership can also help to reduce income and wealth inequality. These effects are observed in different countries at different times. The actual effects depend on the framework conditions, which form a complex mix of the different aspects mentioned in this report. It is therefore not certain that the possible societal effects are as great in a Danish context, taking into account the existing systems of occupational pensions and employee participation and the Danish model of labor market organization.

7.1 Productivity, competitiveness and employment

There will be both full- and different types of partial employee ownership, but the effects will typically be greatest with both deeper and broader employee ownership. It is to be expected that firms will make greater use of the potential of their employees in relation to:

- Innovation – employees come up with ideas for improving products and production process
- Development of human capital linked to the individual company – greater interest in training and continuing training
- Mutual control makes the controlling middle management layer unnecessary
- Fewer labor conflicts related to capital-work contradictions, but conflicts between different employee groups may be more important
- More stability in employment through lower termination rates by both employees and firms

The last point is also linked to the specific employee-oriented objectives, which can be expected to be present for the full employee-owned firms. This implies:

- Greater stability in employment at the individual company and thus also in society

- Here, greater consideration of the local community will also play a role – this may, depending on competitive pressure, lead to a lower level of outsourcing
- This is linked to greater flexibility on the part of employees when their company is under pressure – this applies to full and to a lesser extent to partial employee ownership
- Less wage dispersion between low and high earners - the bottom being raised and the ceiling lowered - the overall wage level is likely to increase, but may be lower during recessions

7.2 More equal income distribution

The distribution of income can be expected to be affected in three ways:

1. Wage levelling in employee-owned enterprises will particularly lift the low-paid, while the high-paid group will receive lower wage incomes
2. Lower unemployment will also provide a boost for the lowest earners who are paid wages instead of unemployment benefits
3. Employee owners will receive a share of the return on capital in conjunction with their share of the company wealth

7.3 More equal wealth distribution

An uneven distribution of income typically results in an even more skewed distribution of wealth, because the richest save more and receive the vast majority of the return on capital. Therefore, the takeover by employees of part of the ownership of the company capital will have a major effect on the distribution of assets. It should be noted, however, that in Denmark, among others, employees already have a significant share of business wealth through their retirement savings. It should also be noted that employee ownership relates only to the private sector. Public servants and non-labor people do not get a share in the assets of employee-owned firms.

The effect on wealth distribution is greatest when savings in the company are added on top of employees' other savings. This is the case with most ESOP models in the UK and US and in Mondragon. The effect is less in the typical worker cooperatives in France and Italy because the vast majority of the capital is collectively tied to the company and is therefore not part of the assets of individual employees. Thanks to the broad employee ownership of the ESOP model, the broad group of employees increase their wealth. This is in contrast to many other employee share- and option schemes, which in particular benefit the highest-paid employees (Buchele et al. 2010).

8. Solutions - how to promote employee ownership

In some countries, cooperative organizations have gained such strength that they themselves have created an organizational framework that has promoted worker cooperatives. This is very much the case in Italy, France and Spain (in particular Mondragon). At the same time, these organizations have been part of the political process and have influenced legislation to promote worker cooperatives. A different regulatory framework for cooperatives, special tax arrangements, financing opportunities, etc. has played an important role in the development of worker cooperatives. In the UK and the US, worker cooperatives have been less important, but in particular, various forms of legislation around ESOPs have been crucial to the strong development of employee ownership.

International experience shows that greater dissemination requires legislative initiatives to facilitate the establishment of employee owned firms. The empirical results indicate that there are positive societal effects. As we mentioned at the beginning of section 7, it is not certain that all the positive effects can be realized in Denmark if the framework conditions are different and to some extent already more employee-oriented. In a Danish context, it should be ensured that employee ownership does not have worse framework conditions than other forms of ownership – in relation to taxation, access to capital, advice, etc. For example, family-owned businesses have special advantages that can distort competition between different forms of ownership. This could potentially lead to the loss of some of the positive societal effects mentioned above – because employee ownership is opted out in firms where it would otherwise be opted in under a neutral and level playing field.

International experience does not point to a specific narrowly defined model which, on the basis of objective criteria, can be characterized as the most effective in facilitating the establishment of employee ownership. Instead, we will point to three options that can promote different types of employee ownership: the traditional worker cooperative, the Mondragon model and the ESOP model – see Figure 5 below.

The worker cooperative model based on collective ownership, one vote per employee and open membership requirements are important in countries such as Italy and France. Worker cooperatives, as in Mondragon, are a variant with a larger element of individual ownership that can provide a relatively large individual savings/shareholding in each cooperative.

The start-up problems have been solved by defining a specific form of company and there are cooperative organizations, which provide assistance in organizing the difficult start-up process. This includes special "incubators for newborns" cooperatives. The capital problem can be solved in the overall structure of special financial institutions; however, there will continue to be restrictions on the start-up and development of worker cooperatives in highly capital-intensive industries. The substantial individual savings in the Mondragon model can reduce the capital problem, but it will at the same time exacerbate the risk problem. It should be stressed that in all three models each employee's savings in the company are not supposed to replace but to be complementary to other pension schemes.

The ESOP model also has a collective element because the company is owned by an employee fund. At the same time each employee's ESOP account is an essential individual element which, as in the Mondragon model, can provide a significant boost to the assets of ordinary employees. Therefore, these two models have the greatest effect in terms of levelling out inequality in wealth distribution.

For all three models, employee ownership can be promoted through public support for the construction of advisory centers, including special incubators for the start-up of brand new employee-owned businesses. This may be linked to special financial institutions, with specific expertise and funds allocated for this purpose. Pension funds may also be involved in this financing.

Special tax support for employee takeovers play a major role, particularly in the UK and US.

It is not certain that the positive effects of increased employee ownership will have the same additional strength in Denmark. The framework conditions are different and to some extent, already more employee-oriented than in the countries we have dealt with. In the Danish context, the focus should be to ensure a level playing field for the different forms of ownership in relation to taxation, access to capital, advice, etc. A determined effort to make the opportunities for employees more flexible and to remove barriers can contribute to a more level playing field.

Figure 5. How can the barriers be removed - three possible models

Model **Barriers**	**Worker cooperative**	**Mondragon Model**	**ESOP model**
Upstart Generally: Upstart need Support organizations - Special arrangements for change of ownership - Tax benefit to both buyer and seller	- Special form of company - Cooperative principles: * One vote per employee * Open membership * Collective reserves	- Variant of worker cooperative: * One vote per employee * Open membership * Combination of collective reserves, individual accounts, annual profit shares	- Ownership through employee fund where all employees are members - Yearly profits distributed equally or like wages added to individual accounts - Valuation on withdrawal - Control follows ownership or one vote per employee
Entry/withdrawal of employees	- Open membership - Low deposit - cap on non-owners	- Entry fee with repayment scheme	- No entry fee, individual account built up during employment – no tax before withdrawal
Capital problem	- Share of profits for collective reserves - start-up loans	- Special financial institution	- Loans to a fund with security in the company, paid back from annual company contributions
Risk problem	- Limited individual savings	- Supplement to other pension	- Supplement to other pension

References

Arando, Saioa, Monica Gago, Jan M. Podivinsky and Geoff Stewart, 2012, Do labor-managed firms benefit from agglomeration? *Journal of Economic Behavior of Organization* 84(1), September, 193-200.

Arando, Saioa, Monica Gago, Derek C. Jones and Takao Kato, 2015, Efficiency in Employee-Owned Enterprises: An Econometric Case Study of Mondragon, *ILR Review* 68, 398–425.

Basterretxea, Imanol and John Storey, 2018, Do Employee-Owned Firms Produce More Positive Employee Behavioural Outcomes? If Not Why Not? A British-Spanish Comparative Analysis: A British-Spanish Comparative Analysis, *British Journal of Industrial Relations* 56, 292–319.

Bartlett, Will, 1994, Employment in small firms: Are cooperatives different? Evidence from southern Europe, Atkinson, I, J. and D. Storey, eds: *Employment, the small firm and the labour market*, New York, Routledge, 256-287.

Bartlett, Will and Milica Uvalic, 1986, Labour-managed Firms, Employee Participation and Profit Sharing: Theoretical Perspectives and European Experience, *Management Bibliographies & Reviews*, 12(4):3-66.

Bartlett, Will, John Cable, Saul Estrin, Derek, C. Jones and Stephen, C. Smith, 1992, Labor-managed cooperatives and private firms in North Central Italy: An empirical comparison, *Industrial and Labor Relations Review* 46(19), October, 103-118.

Ben-Ner, Avner, 1984, On the stability of the cooperative type of organization, *Journal of Comparative Economics* 8, 247–260.

Ben-Ner, Avner and Derek C. Jones, 1995, Employee Participation, Ownership, and Productivity: A Theoretical Framework, *Industrial Relations,* vol. 34, (4), 532-554.

Berman, Katrina V. 1967, *Worker-Owned Plywood Firms: An Economic Analysis,* Pullman, WA, Bureau of Economic and Business Research, Washington State University Press.

Berman, Katrina V. and Berman, Mathew D., 1989, An empirical test of the theory of the labor-managed firm, *Journal of Comparative Economics*, 13(2), June, 281-300.

Blair Margaret M, Douglas L. Kruse and Joseph R. Blasi, 2000, Employee Ownership: An Unstable Form or a Stabilizing Force? *The New Relationship: Human Capital in the American Corporation*, Margaret M. Blair and Thomas Kochan, (red), Brookings Institution Press, Washington D.C., 241-288.

Blasi, Joseph R. and Douglas L. Kruse, 1991, *The New Owners: The Mass Emergence of Employee Ownership in Public Firms and What It Means to American Business*, New York, HarperCollins.

Blasi, Joseph, Michael Conte and Douglas L. Kruse, 1996, Employee Stock Ownership and Corporate Performance among Public Firms, *Industrial and Labor Relations Review* 50, 60.

Blasi, Joseph R., Douglas L. Kruse, James Sesil and Maya Kroumova, 2003, An assessment of employee ownership in the United States with implications for the EU, *The International Journal of Human Resource Management* 14, 893–919.

Blasi, Joseph R., Richard Freeman, Christoffer Mackin and Douglas L. Kruse, 2010, Creating a bigger Pie? The effects of employee ownership, profit sharing, and stock options on workplace performance. Kapitel 4 i Kruse DL, Freeman RB and Blasi JR eds. (2010) *Shared Capitalism at Work*, Chicago and London: The University of Chicago Press, pp 39-165.

Blasi, Joseph R., Kruse, Douglas L. and Markowitz, Harry M., 2010, Risk and Lack of diversification under employee ownership and shared capitalism, kapitel 3 i Kruse DL, Freeman RB and Blasi JR eds. (2010) *Shared Capitalism at Work*, Chicago and London: The University of Chicago Press, pp 105-137.

Blasi, Joseph, Douglas Kruse and Dan Weltmann, 2013, Firm Survival and Performance in Privately Held ESOP Firms, in Douglas Kruse ed.: *Advances in the Economic Analysis of Participatory & Labor-Managed Firms* (Emerald Group Publishing Limited).

Blasi, Joseph R., Richard Freeman and Douglas L. Kruse, 2016, Do Broad-based Employee Ownership, Profit Sharing and Stock Options Help the Best Firms Do Even Better?: Linkages among Group Incentive Methods of Compensation, *British Journal of Industrial Relations* 54, 55–82.

Blasi Joseph R., Douglas L. Kruse and Richard B. Freeman, 2018, Broad-based employee stock ownership and profit sharing: History, evidence, and policy implications, *Journal of Participation and Employee Ownership*, 1(1): 38-60.

Bradley Keith and Allan Gelb, 1981, Motivation and Control in the Mondragon Experiment, *British Journal of Industrial Relations* 19(2): 211-231.

Bonin, John P., Derek C. Louis Jones and Putterman, 1993, Theoretical and empirical studies of producer cooperatives. Will ever the twain meet? *Journal of Economic Literature* 31(3), September, 1290-1320.

Borzaga, Carlo, Simone Poledrini and Giulia Galera, 2017, *Social Enterprise in Italy: Typology, Diffusion and Characteristics*, Euricse, European Research Institute on Cooperative and Social Enterprises, working paper 96/17.

Borzaga, Carlo, Manlio Calzaroni, Chiara Carini and Massimo Lori, 2019, Structure and performance of Italian cooperatives: a quantitative analysis based on combined use of official data, *Journal of Entrepreneurial and Organizational Diversity* 8(1):65-83

Bowles, Samuel and Herbert Gintis, 1993, A political and economic case for the democratic enterprise, *Economics and Philosophy*, 9(1), April, 75-100.

Bowles, Samuel and Gintis, Herbert, 1994, Credit market imperfections and the incidence of worker-owned firms, *Metroeconomics*, 45(3), October, 209-223.

Buchele, Robert, Douglas, L. Kruse and Richard B Freeman, 2010, Show me the money: does shared capitalism share the wealth? kapitel 11 i Kruse DL, Freeman RB and Blasi JR eds. (2010) *Shared Capitalism at Work*, Chicago and London: The University of Chicago Press, pp 351-375.

Burdín, Gabriel and Andrés Dean, 2009, New evidence on wages and employment in worker cooperatives compared with capitalist firms, *Journal of Comparative Economics* 37, 517–533.

Burdín, Gabriel, 2014, Are worker-managed firms less likely to fail than conventional enterprises? Evidence from Uruguay, *Industrial and Labor Relations Review*, 67 (1), 202-238.

Burdín, Gabriel, 2016, Equality under threat by the talented: Evidence from worker-managed firms, *Economic Journal*, 126(594), August, 1372-1403.

Cevea, 2019, Medeje som vej til øget velstand.

Craig, Ben and Pencavel, John, 1992, The behavior of worker cooperatives: The plywood firms of the Pacific Northwest, *American Economic Review*, 82(3), December, 1083-1105.

Craig, Ben and John Pencavel, 1995, Participation and productivity: A comparison of worker cooperatives and conventional firms in the plywood industry, I Baily M.N., Reiss, P.C. and Winston P.

eds, *Brookings Papers on Economic Activity: Microeconomics*, Washington D.C., Brookings Institution Press, 121-174.

Conte, Michael A. and Jan Svejnar, 1990, The Performance Effects of Employee Ownership Plans, i Blinder, Alan S. (red.) *Paying for Productivity – a look at the evidence*, 1990, The Brookings Institution, Washington D. C., 143-181.

Curl J. 2012, *For All the People: Uncovering the Hidden History of Co-operation, Co-operative Movements, and Communalism in America*. Oakland, CA: PM Press.

Domar, Evsey, 1966, The Soviet collective farm as a producer cooperative, *American Economic Review*, 56(4), part 1, September, 743-757.

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

Dow, Gregory K. 2003, *Governing the Firm – Workers' Control in Theory and Practice*. Cambridge: Cambridge University Press.

Dow, Gregory K. 2018, *The Labor-Managed Firm – Theoretical Foundations*. Cambridge: Cambridge University Press.

Dunning J. H. 1981, *International Production and the Multinational Enterprise*, London: George Allen & Unwin.

Errasti, Anjel; Ignacio Bretos and Enekoitz Etxezarreta, 2016, What do Mondragon Coopitalist Multinationals Look Like? The Rise and Fall of Fagor Electrodomesticos S. Coop. and its European Subsidiaries, *Annals of Public and Cooperative Economics*, 87(3): 433-456.

Faigen, Benjamin, Niels Mygind, Throstur Olaf Sigurjonsson and Audur Arna Arnardottir, 2018, Three dimensions of employees acquiring shares in their firms: personal characteristics, motives and type of ownership, *Economic and Industrial Democracy*, 0143831X1880584.

Fakhfakh, Fathi, Virginie Pérotin and Monica Gago, 2012, Productivity, Capital, and Labor in Labor-Managed and Conventional Firms: An Investigation on French Data, *ILR Review* 65, 847–879.

Faleye, Olubunmi, Vikas Mehrotra and Randall Morck, 2006, When Labor Has a Voice in Corporate Governance, *Journal of Financial and Quantitative Analysis*, 41(3): 489-510.

Fitzroy, Felix R. and Kornelius Kraft, 1987, Co-operation, productivity and profit-sharing, *Quarterly Journal of Economics*, 102:25-35.

Freeman Richard B., Kruse Douglas L. and Blasi Joseph R. 2010, Worker Responses to Shirking under Shared Capitalism chapter 2 in Kruse DL, Freeman RB and Blasi JR eds. (2010) *Shared Capitalism at Work*, Chicago and London: The University of Chicago Press, pp 77-103.

Fuller, Jerry Bryan, Kim Hester, Tim Barnett, Len Frey, Clint Relyea and Danielle Beu, 2006, Perceived external prestige and internal respect: New insights into the organizational identification process, *Human Relations* 59, 815–846.

Furubotn, Eirek G. and Svetozar Pejovich, 1970, Property rights and the behavior of the firm in a socialist state: The example of Yugoslavia, *Zeitschrift für Nationalekonomie*, 30(3-4), September, 431-454.

Gregorič, Aleksandra and Thomas Poulsen, 2019, When Do Employees Choose to Be Represented on the Board of Directors? Empirical Analysis of Board-Level Employee Representation in Denmark, *British Journal of Industrial Relations*, bjir.12490.

Grelle, Henning, 2012, *Det kooperative alternative – Arbejderkooperationen i Danmark 1852-2012*, København, Arbejdermuseet and Arbejderbevægelsens Bibliotek and Arkiv.

Hansmann Henry, 1990, When does worker-ownership work? ESOP, law firms, codetermination, and economic democracy, *Yale Law Journal* 99(8), June, 1749-1816.

Hansmann Henry, 1996, *The Ownership of Enterprise*, Cambridge, MA, Belknap Press of Harvard University Press.

Harden, Erika E., Douglas L Kruse and Blasi, Joseph R., 2010, Who has a better idea? Innovation, shared capitalism, and human resources policies, kapitel 7 i Kruse DL, Freeman RB and Blasi JR eds. (2010) *Shared Capitalism at Work*, Chicago and London: The University of Chicago Press, pp 225-255.

Ingerslev, Poul, Niels Mygind, Hardy Roed-Thorsen, Helge Tetzschner and Ann Westenholz, 1984, *Medarbejderejede virksomheder – det kan lade sig gøre*, Christian Ejlers' Forlag, København.

Jensen, Michael C. and William H. Meckling, 1979, Rights and Production Functions: An Application to Labor-Managed Firms and Codetermination, *The Journal of Business*, vol. 52, (4), 469-506.

Jones, Derek C. 1975, British Producer Cooperatives and the View of the Webbs on Participation and the Ability to Survive, *Annals of Public and Cooperative Economy*, 46(1):23-44.

Jones, Derek C., 2007, The Productive Efficiency of Italian Producer Cooperatives: Evidence from Conventional and Cooperative Firms, *Advances in the Economic Analysis of Participatory & Labor-Managed Firms* (Emerald (MCB UP), Bingley).

Jones, Derek C., Panu Kalmi, Takao Kato and Mikko Mäkinen, 2012, Financial participation in Finland: incidence and determinants, *The International Journal of Human Resource Management,* 23, 1570–1589.

Kaarsemaker, Eric C.A. and Erik Poutsma, 2006, The Fit of Employee Ownership with Other Human Resource Management Practices: Theoretical and Empirical Suggestions Regarding the Existence of an Ownership High-Performance Work System, *Economic and Industrial Democracy* 27, 669–685.

Kaarsemaaker, Eric, Pendleton Andrew and Erik Poutsma, 2010, Employee Share Ownership, i Wilkinson, Adrian, Paul J. Gollan, Mick Marchington and David Lewin (eds): The Oxford Handbook of Participation in Organizations, 315-327.

Kalmi, Panu, Andrew Pendleton and Erik Poutsma, 2005, Financial participation and performance in Europe, *Human Resource Management Journal* 15, 54–67.

Kang, Saehee and Andrea Kim, 2019, Employee stock ownership and financial performance in European countries: The moderating effects of uncertainty avoidance and social trust, *Human Resource Management* 58, 641–655.

Kardas, P., A.L. Scarf and J. Keogh, 1998, *Wealth and income consequences of employee ownership: A comparative study from Washington State*. Washinton State Community Trade and Economic Development.

Kim, Andrea and Kyongji Han, 2019, All for one and one for all: A mechanism through which broad-based employee stock ownership and employee-perceived involvement practice create a productive workforce, *Human Resource Management* 58, 571–584.

Kim, E. Han and Paige Ouimet, 2014, Broad-Based Employee Stock Ownership: Motives and Outcomes: Broad-Based Employee Stock Ownership, *The Journal of Finance* 69, 1273–1319.

Kim, Kyoung Yong and Pankaj C. Patel, 2017, Employee ownership and firm performance: A variance decomposition analysis of European firms, *Journal of Business Research* 70, 248–254.

Kramer, Brent, 2010, Employee ownership and participation effects on outcomes in firms majority employee-owned through employee stock ownership plans in the US, *Economic and Industrial Democracy* 31, 449–476.

Kruse, Douglas L., Richard B. Freeman and Joseph R. Blasi, eds., 2010, *Shared Capitalism at Work: Employee Ownership, Profit and Gain Sharing, and Broad-Based Stock Options*. A National Bureau of Economic Research conference report, University of Chicago Press, Chicago, Ill.

Kruse, Douglas L., Richard B. Freeman and Joseph R. Blasi, 2010, Do workers gain by sharing? Employee outcomes under employee ownership, profit sharing, and broad-based stock options, kapitel 8 i Kruse DL, Freeman RB and Blasi JR eds. (2010) *Shared Capitalism at Work*, Chicago and London: The University of Chicago Press, pp 257-289.

Kruse Douglas L., Joseph R. Blasi and Rhokeun Park, 2010, Shared Capitalism in the US Economy – Prevalence, Characteristics, and Employee Views of Financial Participation in Enterprises, in Kruse DL, Freeman RB and Blasi JR eds. (2010) *Shared Capitalism at Work*, Chicago and London: The University of Chicago Press, pp 41-75.

Kruse Douglas L., Joseph R. Blasi, Dan Weltmann, Saehee Kang, Jung Ook Kim and William Castellano, 2019, *Do Employee Share Owners Face Too Much Financial Risk?* IZA Institute of Labor Economics, Discussion Paper Series, No 12303.

Kurtulus, Fidan Ana and Douglas L. Kruse, 2018, An Empirical Analysis of the Relationship between Employee Ownership and Employment Stability in the US: 1999-2011: Employee Ownership and Employment Stability in the US, *British Journal of Industrial Relations* 56, 245–291.

Lampel, Joseph, Ajay Bhalla and Pushkar P. Jha, 2014, Does governance confer organizational resilience? Evidence from UK employee owned businesses, *European Management Journal* 32, 66–72.

Levine, David I. and Laura D'Andrea Tyson, 1990, Participation, Productivity and the Firm's Environment, i Blinder, Alan S. (red.) *Paying for Productivity – a look at the evidence*, 1990, The Brookings Institution, Washington D. C., 183-243.

Lowitzsch Jens and Hashi Iraj, 2014, The Promotion of Employee Ownership and Participation, European Commision's DG MARKT, http://ec.europa.eu/dgs/internal_market/studies/

Magne, Nathalie, 2017, Wage inequality in workers' cooperatives and conventional firms, *The European Journal of Comparative Economics*, 14(2):303-329.

Markowitz, Harry, Joseph R. Blasi and Douglas L. Kruse, 2010, Employee Stock Ownership and Diversification, *Annals of Operations Research*, 176(1): 95-107.

Mathieu M, (2019) *Annual Economic Survey of Employee Share Ownership in European Countries*, EFESO, Brussels.

Meade James E. 1972, The Theory of Labour-Managed Firms and of Profit Sharing, *Economic Journal* 82(325): 402-28.

Mygind Niels, 1987, Are Self-Managed Firms Efficient? The experience of Danish Full and Partly Self-Managed Firms", *Advances in the Economic Analysis of participatory and Labor-Managed Firms* 2(1): 243-323.

Mygind Niels, 1992, The choice of ownership, *Economic and industrial democracy* 13(3): 359-399.

Mygind Niels, 2012, Trends in employee ownership in Eastern Europe. *The International Journal of Human Resource Management* 23(8): 1611-1642.

Mygind Niels, 2019, Drivers and barriers for employee ownership – why is US in a positive circle while Denmark is not? EGB/CBS working paper.

NCEO (2019) Employee ownership by the numbers: Web-article, September: https://www.nceo.org/articles/employee-ownership-by-the-numbers#Methodology

Nørgaard, Asbjørn Sonne, Kasper Fogh and Frederik Lasserre, 2019, Progressiv erhvervspolitik – Medeje som vej til øget velstand, Cevea.

O'Boyle, Ernest H., Pankaj C. Patel and Erik Gonzalez-Mulé, 2016, Employee ownership and firm performance: a meta-analysis: Employee ownership: a meta-analysis, *Human Resource Management Journal* 26, 425–448.

Palmer T.C. 2017, *Worker Cooperatives in the US – 2015 State of the Sector*, Democracy at Work Institute, US Federation of Worker Cooperatives.

Pencavel, John and Ben Craig, 1992, The behavior of worker cooperatives: the plywood firms of the Pacific Northwest'. *American Economic Review*, 82 (5): 1083–1105.

Pencavel, John and Craig, Ben, 1994, The empirical performance of orthodox models of the firm: conventioinal firms and worker cooperatives, *Journal of Political Economy*, 102(4), August, 718-744.

Pencavel, John, Luigi Pistaferri and Fabiano Schivardi, 2006, Wages, Employment, and Capital in Capitalist and Worker-Owned Firms, *ILR Review* 60, 23–44.

Pendleton, Andrew, 2015, *Employee Ownership, Participation and Governance a Study of ESOPs in the UK* (Routledge, London).

Pendleton Andrew, 2010, Employee Participation in Employee Share Ownership: An Evaluation of the Factors Associated with Participation and Contributions in Save As You Earn Plans. *British Journal of Management* 21(2): 555-70.

Pendleton, Andrew and Andrew Robinson, 2011, Employee share ownership and human capital development: Complementarity in theory and practice, *Economic and Industrial Democracy* 32, 439–457.

Pendleton, Andrew and Andrew Robinson, 2018, Employee Ownership in Britain Today, I Michie J.; Blasi J.R. and Borzaga C. eds. *The Oxford Handbook of Mutual, Co-Operative and Co-Owned Business*, 426-442

Park, Rhokeun, Douglas L. Kruse and James C. Sesil, 2004, Does employeee ownership enhance firm survival, in *Advances in the Economic Analysis of Participatory and Labor-Managed Firms,* vol 8, 3-33.

Pérotin, Virginie, 2004, Early cooperative survival: the liability of adolescence, *Advances in the Economic Analysis of Participatory & Labor-Managed Firms* (Emerald (MCB UP), Bingley).

Pérotin, Virginie, 2006, Entry, Exit and the Business Cycle: Are Cooperatives Different? *Journal of Comparative Economics*, 34, 295-316.

Pérotin, Virginie, 2016, What do we really know about workers' co-operatives? in Anthony Webster, in Linda Shaw and in Rachael Vorberg-Rugh ed.: *Mainstreaming co-operation* (Manchester University Press).

Pérotin, Virginie and Andrew Robinson, 2000, Employee participation and equal opportunities practices: Productivity effect and potential complementarities. *British Journal of Industrial Relations* 38(4): 557–83

Pérotin, Virginie and Robinson, Andrew, 2003, *Employee participation in profit and ownership: A review of the issues and evidence*, European Parliament, Director-General for Research, Working Paper, Social Affairs Series, Soci 109 En – 02-2003.

Pierce, J, T. Kostova and K. Dirks, 2001, Towards a theory of psychological ownership in organizations, *Academy of Management Review*, 7 (1), 298-310.

Podivinsky, Jan M. and Geoff Stewart, 2009, Modelling proportions: Random effects model of UK firms entry, *Singapore Economic Review*, 54(3), August, 367-377.

Pozen R. and M. Liu, 2018, Having too much employer stock in your 401(k) is dangerous. Just look at GE, www.brookings.edu/opinions/having-too-much-employer-stock-in-your-401k-is-dangerous-just-look-at-ge/

Robinson, Andrew M. and Nicholas Wilson, 2006, Employee Financial Participation and Productivity: An Empirical Reappraisal, *British Journal of Industrial Relations* 44, 31–50.

Rodgers, L. 2010, Are ESOPs good for employees? *Pension & Benefits Daily*, 100 pp.1-2.

Rosen Corey, 2017, Statutory Employee Stock Ownership Plans in the USA in J. Michis, Blasi J.R. and Borzaga C (eds.): *The Oxford Handbook of Mutual, Co-Operative and Co-Owned Business.* pp. 413-425.

Sengupta, Sukanya, 2008, The impact of employee-share-ownership schemes on performance in unionised and non-unionised workplaces, *Industrial Relations Journal* 39, 170–190.

Sengupta, Sukanya, Keith Whitfield and Bob McNabb, 2007, Employee share ownership and performance: golden path or golden handcuffs? *The International Journal of Human Resource Management* 18, 1507–1538.

Sengupta, Sukanya and Yeongjoon Yoon, 2018, Moderating effect of pay dispersion on the relationship between employee share ownership and labor productivity, *Human Resource Management* 57, 1083–1096.

Sertel, Murat R. 1982, *Workers and Incentives*, Amsterdam, North-Holland.

Sesil, James C., 2006, Sharing Decision-Making and Group Incentives: The Impact on Performance, *Economic and Industrial Democracy* 27, 587–607.

Sesil, James C., Maya K. Kroumova, Joseph R. Blasi and Douglas L. Kruse, 2002, Broad-based Employee Stock Options in US 'New Economy' Firms, *British Journal of Industrial Relations* 40, 273–294.

Scharf, A. and Mackin, C., 2000, Census of Massachusetts firms with employee stock ownership plans (ESOPs). Boston Commonwealth Corporation.

Torp, Simon S, 2016, The prevalence and antecedents of employee stock ownership in Denmark, *Economic and Industrial Democracy* 37, 119–144.

Tænketanken Demokratisk Erhverv, 2019, Danmarks Demokratiske Virksomheder – online: https://demokratiskerhverv.dk/wp-content/uploads/2019/03/Danmarks-Demokratiske-Virksomheder.pdf

Tænketanken Demokratisk Erhverv & Lasse Folke Henriksen, 2020, Medarbejderaktier i Danmark.

Vanek, Jaroslav, 1970, *The General Theory of Labor-Managed Market Economies*, Ithaca NY, Cornell University.

Vanek Jaroslav, 1971, The Basic Theory of Financing of Participatory Firms, Working Paper no. 27, Cornell University, Department of Economics, Ithaca, July 1971 printed in Vanek J (ed.) *Self-Management: Economic Liberation of Man*, Harmondsworth: Penguin, 445-455.

Vieta, Marcelo, Sara Depedri and Antonella Carano, 2017, *The Italian Road to Recuperating Enterprises and the Legge Marcora Framework:Italy's Worker Buyouts in Times of Crisis,* Research Report 15/17, Euricse, European Research Institute on Cooperative and Social Enterprises.

Ward, Benjamin, 1958, The firm in Illyria: Market syndicalism, *American Economic Review*, 48(4), September, 566-589.

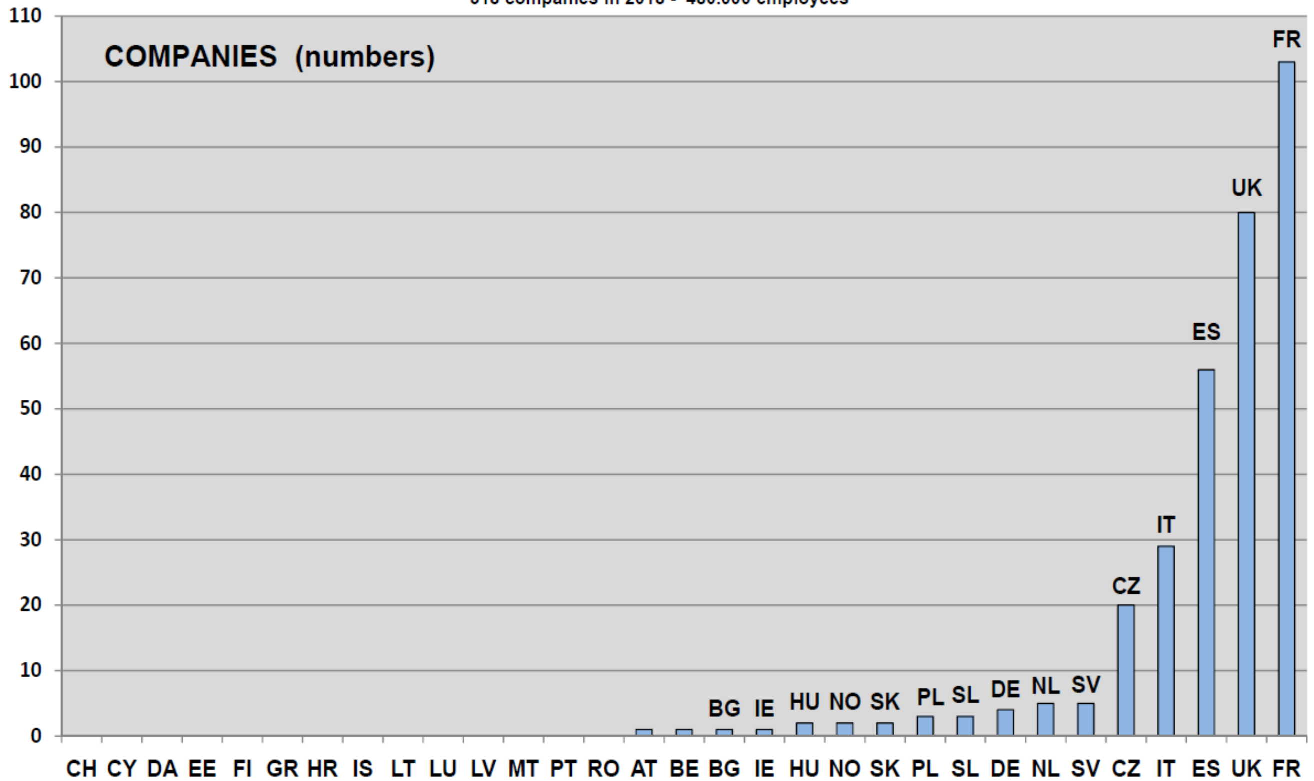
Westenholz, Ann and Niels Mygind, 1982, Information – case studie, Copenhagen Business School.

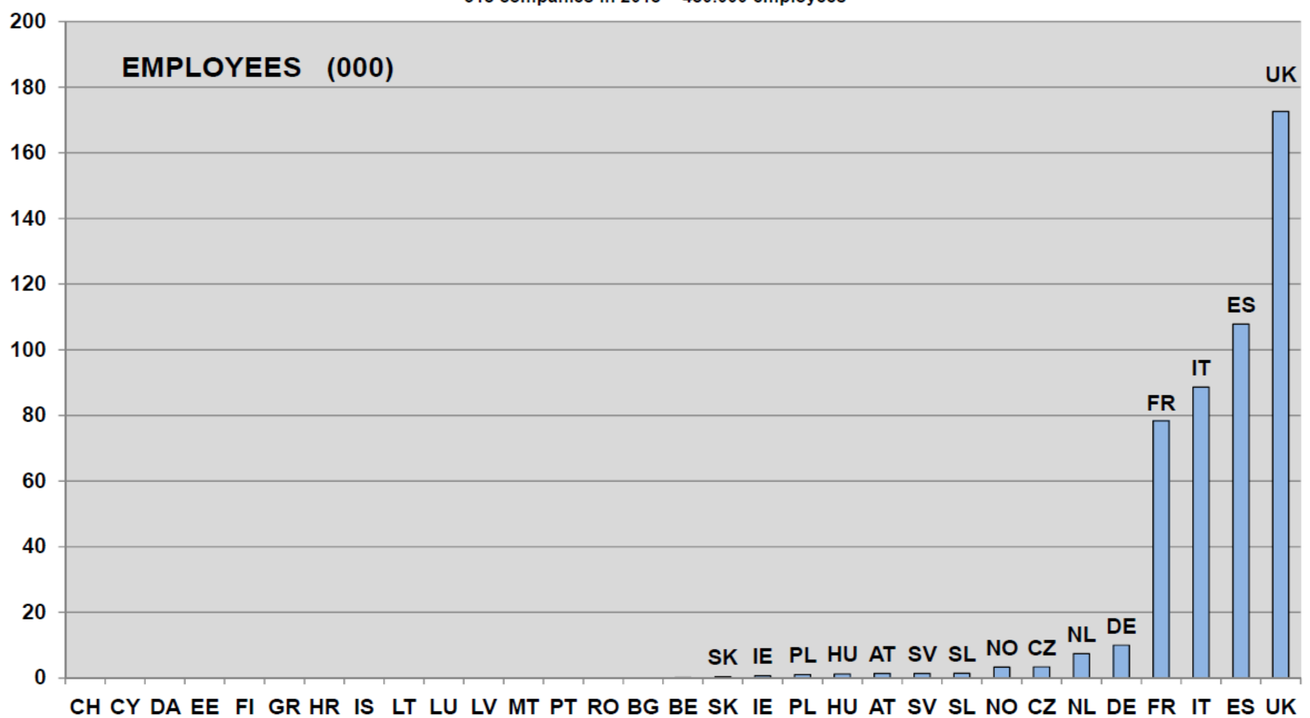
Whitfield, Keith, Andrew Pendleton, Sukanya Sengupta and Katy Huxley, 2017, Employee share ownership and organizational performance: a tentative opening of the black box, *Personnel Review* 46, 1280–1296.

Zattoni, Alessandro, 2011, Who Should Control a Corporation? Toward a Contingency Stakeholder Model for Allocating Ownership Rights, *Journal of Business Ethics* 103, 255–274.

Zetland, 30-08-2019, Mød direktøren, der flyttede topledelsen ud på fabriksgulvet and gjorde 175 ansatte til millionærer, https://www.zetland.dk/historie/s8qD4vA3-aopXLwdn-6f56e.

Appendix 1. Full employee owned firms in Europe





Mathieu (2019) EFES, European Federation of Employee Share Ownership

Appendix 2. Overview over key empirical studies

Study	Peri-od	Firms (observations)	Coun-try	Breadth Depth	Results	Type of data	Matching	Method
Effects on productivity								
Blasi, Free-man, Mackin & Kruse kap. 4 i KFB ed 2010	2001-2006	14 ESOP types 41.206 empl. 2002 GSS 1.145 2006 GSS 1.081 representative	USA	ESOP-types Broad with varying depth => index	Lower absence and lower rate of quitting from employees Increase with breadth and depth – (index)	Survey	None, only employee owned (EO)	Regression cross-section
Blasi, Freeman & Kruse (2016)	2005-2007	780 (1.312)	USA	Breadth ESOP Primarily depth	Higher financial returns with depth	Survey	With investor owned twin	Regression panel
Blasi, Kruse & Weltmann (2013)	1988-1999	343	USA	Breadth	Higher Productivity	Secondary	1:1 Size (labor) industry	Two sam-ple t-test Pre/post
Fakhfakh, Pérotin & Gago (2012)	1987-2004	8.719 (32.987)	FR	Breadth and depth worker cooperatives	Higher productivity	Secondary	With investor owned	Regression panel
Faleye, Mehrotra & Morck (2006)	1995-2001	1888 listed com-panies <5% EO 226 ESOPs/EO >5% EO diff.types	USA	110 ESOP 77 other EO 41 combined	Lower Tobin's Q (valuation of shares)	Secondary	With investor owned twin	Regression cross-section
Freeman, Kruse & Blasi, kap 2 i KFB ed 2010	2001-2006	14 ESOP types 41.206 empl.. 2002 GSS 1.145 2006 GSS 1.081	USA	ESOP-types Broad with varying depth	More mutual control with Depth/Breadth-index	Survey	None, only EO	Regression cross-section
Kang & Kim (2019)	2008	1.741	21 Eu.	Depth	Higher return with increased trust	Secondary	None, only EO	Regression cross-section
Kalmi, Pendleton & Poutsma (2005)	2001	136	FI, GE, NL, UK	Breadth minority	No effect on self-declared economic performance	Survey	None, only EO	Regression cross-section
Kim & Han (2019)	2010; 2011	176	US	Breadth	+ labor-productivity when ownership combined with control	Survey	investor owned twin	Regression cross-section
Kim & Ouimet (2014)	1982-2001	410 Large listed (4.594)	USA	Breadth ESOP Depth	Only higher TFP in group with lower size More positive effect for lower depth	Secondary	1:3 match size, industry year	Regression panel Some pre/post

Study	Peri-od	Firms (observations)	Coun-try	Breadth Depth	Results	Type of data	Matching	Method
Kim & Patel (2017)	2006-2014	1.797 (12.648)	31 EU	Depth	Higher return when controlled for country and firm	Secondary	None only EO	Varians-de-composition
Kramer (2010)	2008	662	USA	Broad and deep, most majority via ESOP	Higher productivity with higher depth and with broad employee ownership	Survey and secondary	1:1 size, industry location	Regression cross-section
Lampel, Bhalla & Pushkar (2014)	2005-2009	253	UK	Breadth and depth mostly majority	Increased stability in financial returns when combined with control	Survey and secondary	1: high number in sample	Two sample t-test
O'Boyle, Patel & Gonzalez-Mulé (2016)	Frem til 2013	102 studies (68 from USA) 56.984 firms	14	Mixed Seldom specified often dummy	Positive Finansial return	Other studies	Mixed	Meta-analysis cross-sect. Pre/post 23 studies
Pendleton & Robinson (2011)	2004	1.248	UK	Breadth	Breadth korrelates positively with continuing training	Survey	investor owned twin	Regression, cross-section
Robinson & Wilson (2006)	1988-1991	93	UK	Breadth	Higher labor productivity, when ownership combined with control	Survey and secondary	With investor owned twin	Regression panel
Sengupta (2008)	1998	2.191	UK	Breadth	Higher labor productivity, when broad employee ownership	Survey	With investor owned twin	Regression cross-section
Whitfield, Pendleton, Sengupta & Huxley 2017	2004; 2011	1.288 635 (2004) 653 (2011)	UK	Breadth	Higher labor productivity, when ownership combined with control	Survey	With investor owned twin	Regression cross-section
Changed objectives and behavior – short run								
Arando, Gago, Jones & Kato2015	2006-2008	Case Eroski retail 622 firms	SP	Fully owned Some EO None EO	More equal wages	Case; Survey and secondary	Three types	Regression, panel
Burdin & Dean (2009)	1996-2005	All firms 860.129 observations	Urug uay	Worker cooperatives	In EO also higher job security for non-owning employees	Secondary	With investor owned twin	Regression, panel
Kruse, Freeman & Blasi (2010) kap. 8	2001-2006	14 firms 323 work units	USA	Breadth Depth	Lower jobturnover and larger effort, depending on control	Survey	None only EO	Regression, cross-section

Study	Peri-od	Firms (observations)	Coun-try	Breadth Depth	Results	Type of data	Matching	Method
Kurtulus & Kruse (2018)	1999-2011	All listed firms 85.896 observations	USA	Bread and deep	employment more stable in EO	Secondary	With investor owned twin	Regression, panel Pre/post på delmængder
Sengupta, Whitfield &McNabb (2007)	1998	2.191	UK	Breadth	Higher return lower voluntary job-turnover	Survey	With investor owned twin	Regression, cross-section
Sengupta &Yoon (2018)	2005-2013 odd years	533 (1.156)	Ko-rea	EO-dummy Breadth and depth not known	Correlation between EO and productivity Less effect with more wage dispersion	Survey and secondary	With investor owned twin	Regression, panel
Whitfield, Pendleton, Sengupta & Huxley 2017	2004; 2011	1.288 635 (2004) 653 (2011)	UK	Breadth	Higher labor productivity, when ownership combined with control	Survey	With investor owned twin	Regression, cross-section
Changed objectives and behavior – long run								
Blasi, Kruse & Weltmann (2013)	1988-1999	1.176	USA	Breadth	Lower risk of closure for employee owned firms	Secondary	1:1 Size (labor) industry	Survival-models, panel
Buchele, Kruse, Rod-gers & Scharf kap. 11 i KFB ed 2010		14 ESOP types 41.206 employ. 2002 GSS 1.145 2006 GSS 1.081 representative	USA	ESOP-types Broad with varying depth => index	Increased savings not through lower wages More ownership => higher wealth	Survey	None, only EO	Regression cross-section
Fakhfakh, Pérotin & Gago (2012)	1987-2004	8.719 (32.987)	FR	Worker cooperatives	No scarcity of capital no underinvestment unclear capital-intensity	Secondary	1: high number in sample	Regression, panel
Faleye, Mehrotra & Morck (2006)	1995-2001	Listed 1888 without EO 226 ESOPs/EO >5% ownership	USA	110 ESOP 77 anden ME 41 kombi.	Lavere investeringsniveau	Secondary	With investor owned twin	Regression cross-section
Kruse et al. 2019	2016	3.568 families with some employee ownership	USA	Individual employee ownership	Employee ownership increases wealth Not substitute for pension-savings	Secondary		Regression cross-section
Pérotin (2004)	1977-1993	2.740 new up-starts	FR	Worker-cooperatives	risk of close down first years lower, then higher, in the long run the same	Secondary	1: high number in sample	Survival-curves, panel

Appendix 3. Countries with a high number of employee owned firms

	France	Italy	Spain - Mondragon	UK	USA
Start **Expansion-periods** **Frequency – latest numbers**	Start 1848, 1871 Law from 1882 1900-1914 1930-1947 2013: 2600 worker cooperatives with ca. 51.000 employees	Start 1854 Law from 1886, Basewi-1947 1900-1914, 1930s some illegal from 1945 growth again, especially 1980-2007. 2015: 29,000 worker cooperatives with 486,000 employees	Start 1956 1956-2007 2016- 2018: 81.837 employees (mondragon-corporation.com)	600 small worker cooperatives ESOPs and EOTs especially from 2014 John Lewis/90000 employees Growth periods Wave of ESOP from 1980'es high growth from 2010 From 2014 Employee Ownership Trust, EOT	Worker cooperatives 2015: 6000 employ. collektive ownership 23 Plywood-coops start/takeover 1940-1964 ind. own Northwestern USA Democratic ESOPs 2015 ca. 1000 with 300.000 employees Individual ownership with employee fund
Especially widespread in Often clusters Perotin (2016)	Manufacturing construction services	Construction Light manufacturing Shift in later years toward socialservice Northern Italy, Emilia-Romagno	Metal-manufacturing construction/services Arando (2012) Clemente (2012)	new EO manufacturing Lower Capital/L Podivinsky+Stewart (2007, 2009) clusters: printing, publishing, shoes, textile	ESOP Broad specter Clusters in Plywood, Taxi, IT
Lowering Barriers:					
Definition in legislation	Worker cooperatives One vote/person Collective ownership Min 1 share/member Max 10% of wages 25% profit share to all employees, certain Tax-advantages Fakhfakh et al. 2012	Worker cooperatives One vote/person collective ownership Limit to dividends Tax advantages for collective savings From 2000 mostly social coops: nursing homes,kindergardens	own model adjusted to legislation combination of collective/individual ownership one vote/member	Cooperativ law ESOP-type can be formed through combination of different legislation 2014 EOT Employee Ownership Trust	Cooperative company Legal format 12 states Broad ESOP, but often minority ownership, often without employee-control
Capital-problem **State support**	Coop-bank from 1938 (Thornley 1981) - Taxadvantages for profit sharing and retained surplus	Lega: Fincooper 1970 Credit possibilities for members (Thornley p 158) Tax advantages, often public contracts	Own bank, capital to cooperatives, Group structure Company for social insurance / pensions some tax-advantages	Tax advantages for ESOP type increased over time EOT employee takeover => no capital gain tax	Good possibilities for loans with collateral in the company (leveraged ESOP) Tax advantages
Risk-problem	Limited with collective ownership	Limited with collective ownership	Savings on individual accounts is added on top of separate pension system		Collective ownership, Plywood individual, ESOP often on top of other savings, while KSOP increases risk
Entry/exit of employees	Open membership Low fee entrance/exit	Open membership Low entrance/exit	Open membership In Basque coops Fee 15.000 E Euro,	EOT all employees can become members	Coops open member ESOP all employees can be members
Upstart organization consulting	SCOP Confederation	support organizations 1893 Lega (socialist) 1919 Confederazione catholic conservative 1945 Associazione	Group structure Incubator for new Start financing Entrepreneurship on collektive level		Coop. organization, and critical mass for ESOP-support network, NCEO, consultants, experts
Takeovers/ upstart	Often de novo upstart	Often de novo, but also takeovers	Possible support from group	Tax advantages for employee takeovers	Tax advantages for employee takeovers