# The Governance of Industrial Foundations: Executive and Director Turnover[1][2][3]

Christa Børsting[4]

Johan Kuhn[5]

Thomas Poulsen[6]

Steen Thomsen[7]

Center for Corporate Governance

Copenhagen Business School

2 June 2014

[1] Previous versions of this paper were presented at a seminar at the Center for Corporate Governance, Copenhagen Business School, 1 December 2013.

[2] This paper has benefited from research assistance by Helene Skovhøj Henriksen and Peter Faxøe.

[3] This paper is part of the Research Project on Industrial Foundations www.tifp.dk. Support for this project by Copenhagen Business School, LEO Foundation, Rambøll Foundation, Novo Nordisk Foundation, Lundbeck Foundation, Lauritzen Foundation, COWI Foundation, Augustinus Foundation, Carlsberg Foundation and Knud Højgaard's Foundation is gratefully acknowledged.

[4] Ph. D. student, Center for Corporate Governance, Copenhagen Business School.

[5] Research fellow Center for Corporate Governance, CEBR, CCP, EPAC.

[6] Associate Professor, Ph.D., Center for Corporate Governance. Copenhagen Business School.

[7] Professor, Ph.D., Center for Corporate Governance, Copenhagen Business School.

**Abstract**

We study turnover among executives and directors in companies owned by Danish industrial foundations, which are held to be long term owners. Executives are members of the management board (direktionen), whereas directors a members of the supervisiory board (bestyrelsen). As expected, we find that both director and executive turnover is lower in foundation-owned companies. Foundation-owned companies are more likely to replace directors, but not executives, when performance is bad (negative profits). Thus, we find some evidence of long-termism in foundation-owned companies.

## 1. Introduction

Recently the discussion of shorttermism has resurfaced (Phelps 2010, Bair 2011, Roe 2013). Businessmen, policymakers and academics complain that stock markets are myopic and that this hurts is wasteful and hurts corporate competitiveness and social responsibility. In an influential new book, Colin Mayer (2013) argues that it necessary to reinvent the corporation in a way that enables it to make long term commitments.

Shorttermism can harm companies and society in many ways. Speculative stock market fluctuations (Cremers, Pareek and Sautner 2013) may lead to the takeover and break up of well governed and profitable companies simply because they are cheap or small. The market may fail to appreciate immaterial the value of implicit contracts with employees and customers. Company managers may feel compelled to maximize short term earnings and underinvest in immaterial assets like competence, culture or reputation. They may feel forced to leverage their balance sheet and expose the company to greater financial risk. They may focus on transactions such as M&A rather than organic growth and long term relationships building with their stakeholders.

There are many potential advantages to long term ownership. Companies can benefit from a steady focus on specialization and learning by doing term without having to worry about takeover or pressure to increase earnings per share. The company does not have to spend time and resources on marketing its shares to analysts or pension funds. However, there are also potential costs. Patience can become procrastination. Companies may overinvest and fail to take into consideration the opportunity costs of capital. Bad managers may not be replaced and it may take too long to adjust unsuccessful strategies.

In the grand scheme of things one may argue that both myopia and procrastination may be regarded as a special cases of shorttermism in that they are not sustainable or at least harmful to value creation in the long run. We can the two situations as type 1 and type 2 errors. Type 1 errors (myopia) imply that a good project (or a good manager) are terminated too early, while type 2 errors imply that a bad project (or a bad manager) is terminated too late.

This implies that shorttermism is caused by agency problems and that well governed firms will be less likely to deviate from value maximization by over- or underinvestment and will therefore be sustainable over longer periods of time. Thus the solution to shorttermism may not be to insulate managers from shareholder pressure or other governance mechanisms (Roe 2013), but rather the reverse, to ensure monitoring by large owners, independent boards and equity based compensation.

In this paper we focus on the turnover of managers and board members among a distinct ownership structure: industrial foundations[8] (foundations which own business companies), which believed to be very committed long term owners. We hypothesize that long term ownership will lead to greater continuity of governance and management, and we test this hypothesis on a sample of Danish firms 2003-2012.

Higher turnover and shorter tenure of CEOs have been regarded as evidence of increasing shorttermism in the US. In recent years average CEO tenure in the US has dropped from 7 to 6 years (Kaplan and Minton,

[8] For more information on industrial foundations se Thomsen (2012) on institutional structure and Thomsen (2013) on its economic importance in Denmark.

2012). Shorter CEO tenures, greater sensitivity to stock performance and higher CEO pay may led to increasing earnings management or manipulation (Kaplan and Minton 2012).

Using population data reported to a comprehensive accounting database (Experian), we are able to track (almost) all of the Danish foundation-owned companies, which account for an estimated 5-10 % of economic activity, the bulk of Danish stock market capitalization and the bulk of Danish R&D investments.

**2. Literature review and theory development**

**CEO turnover**. There is a large literature on the effects of company performance on CEO turnover, so large in fact that already 10 years ago a survey by Brickley (2003) concluded that *"we have probably reached a point of diminishing returns in estimating logit models that focus on the relation between CEO turnover and firm performance measures"*. Historically, this literature found a significant negative, but small performance effect on CEO turnover so that the CEO of an underperforming company (bottom decile) has only a 4% higher probability of being replaced than a CEO in a well performing company (top decile). Hower, new work by Jenter and Lewellen (2010) indicates that the performance effect may have been misspecified and underestimated so a more realistic estimate is that a 60% replacement risk managers in the bottom quintile when the the top quintile has a replacement risk of some 15%. For example, many CEO replacements which were previously thought to be voluntary turn out to have involuntary elements so Jenter and Lewellen treat most CEO changes as involuntary. Moreover they measure performance over a longer period (i.e. not just the past year or two) and do not drop observations in the first two years of tenure which was a common practice in the literature.

**Blockholder Ownership**. Brckley (2003) concludes that the sensitivity of turnover to performance increases with concentrated outside stock holdings Recent studies confirm these observations. Kaplan and Minton (2012) study CEO turnover in large US companies and finds that the turnover-performance sensitivity is modestly related to block shareholder ownership and board independence. Agrawal and Nasser (2012) find that US firms with blockholders on board have higher valuations, lower CEO pay and higher turnover-performance sensitivities. Kim (2012) finds that pay sensitivity to luck increases with blockholder turnover, whereas pay sensitivity to Skill increases with blockholding size. Dow (2013) finds that private ownership eliminates CEO entrenchment. However Nguyen (2012) finds that French firms with blockholders are less likely to dismiss CEOs for poor performance. Sponholtz (2006) studies CEO turnover in the entire population of Danish firms. She finds the predicted negative relationship of performance (profits) only in large limited liability companies. It is known from other studies that most unlisted companies are owner-managed and have few owners. It is perhaps not surprising that owner-managers do not fire themselves when they underperform.

**Effects of CEO turnover**. A familiar pattern is new CEO write down and restructure company assets in ways that make their own subsequent performance look better. Sarkar, Krishnamurthy and Tantri (2013) finds that Indian bank managers engage in costly accounting manipulations following CEO turnover. Weisbach (1994) finds that CEO turnover is accompanied by reversal of prior decisions through sell offs. However, Bereskin and Hsu (2011) find that innovation activity picks un following CEO turnover, particularly if the new CEO is an internal candidate.

Pan, Wang and Weisbach (2013) find evidence of a CEO investment cycle. Firms cut back early in a CEO's tenure and investment subsequently, leading to substantial growth in assets and in employment over CEO tenure. Asset growth is 3% lower in the first 3 years of the CEOs tenure of the same order of magnitude as other drivers of investment activity business cycles or financial constraints. A new CEO sells off poorly performing assets, but overinvests later on. As a result, they argue that public corporations' investments *"deviate substantially from the first-best".* The inefficiency may be reduced by board continuity, for example if the outgoing CEO remains on the board.

**Industrial foundations**. We contribute to this literature by studying an ownership structure that should be less subject to the gaming and agency problems experienced in publicly listed firms. We study "industrial foundations" (foundations that own companies). These entities are by their legal construction long term owners. As foundations they are perpetuities and legally obliged to preserve their capital, which in large part consist of stock in the companies that they own. Their charters often mandate that they aim for the survival and growth of the companies that they own, while maintaining control. They are patient since they have no profit seeking owners, and they will typically be risk adverse since their risk is concentrated in the company. Hansmann and Thomsen (2013b) find that foundation-owned companies have lower volatility of accounting profitability, growth, stock returns and other performance measure. They interpret this as indication of risk aversion.

Moreover, the foundation-owned companies are sheltered from stock market fluctuations and typically not even listed. Hansmann and Thomsen (2013a) find only 20 listed foundation-owned companies in Denmark albeit that that these companies tend to be some of the largest in the country. The foundations very rarely sell their stock. There can be little doubt that they are in it for the long term. We hypothesize that this will result in greater continuity (lower turnover) of managers and board members in foundation-owned firms than in the companies with other ownership structures.

*Hypothesis 1. All else equal, executives and directors in foundation-owned companies will have longer tenure and lower turnover rates.*

The patience of the long term investor comes with the price tag that underperforming managers may be replaced too slowly which could harm long run performance. For example, it may be that management turnover in foundation-owned companies is less sensitive to performance.

The few existing studies of foundation ownership have focused on effects on economic performance and found, however, that the economic performance of foundation-owned companies – using performance measures such as accounting profitability, growth, stock market value, or stock returns – is on average no worse, or even slightly better, than that of companies with more conventional ownership structures (Herrmann and Franke 2002, Thomsen 1996, 1999, Thomsen and Rose, 2004). However, as mentioned above, there is also reason to believe foundation-owned companies have more stable performance so that there will a lower incidence of underperformance in this group. It may even be that the aversion against underperformance will lead foundation-owned firms to react more strongly when such events occur since they are more dependent on internal financing than companies with other ownership structures and therefore less willing to accept losses. To test these competing hypotheses we propose that management and board turnover in foundation-owned companies will be less sensitive to performance.

*Hypothesis 2. All else equal, executive and director turnover in foundation-owned firms will be less sensitive to performance.*

**3. Data and modeling strategy**

Our data is from the Danish Business Authority's information on top-management, including names and dates of appointment to and dismissals from the board of directors. These data have been made available for research by the private business intelligence company *Experian A/S*, and accessed through an agreement with the *Centre for Economic and Business Research* at the *Copenhagen Business School* (*CBS*).

These data on top managers are merged with four additional databases:

1. A register of industrial foundations maintained by the Danish Business Authority
2. Information on corporate ownership, likewise registered at the business authority, and made accessible by Experian A/S.
3. Information on firm background information (such as industry and geographical location), having the same sources as above.
4. Business data from annual financial statements of, according to Experian A/S, the universe of Danish corporations that are obliged to file annual accounts at the business authority.

We use the register of industrial foundations, and industry affiliation information, to identify industrial foundations in the ownership data. This again identifies firms that are entirely or partly owned by these industrial foundations. The identification step is repeated, ie., we also identify firms that are partly or entirely owned by corporations that directly owned by industrial foundations.

We make no condition on ownership stakes, i.e. associate all companies that are registered to be owned by a foundation, independent of ownership share, as foundation-owned. However, foundation-owned firms have a diverse range of purposes and activities, some of which are not business-related. The purpose of a foundation is not in the register, so in order to remove foundations without business activity outside the foundations and foundations with charitable and government-linked activities (registered at industrial foundations), we clean the list by hand.

These foundation-owned firms, fo-firms in the following, are then compared with the universe of incorporated firms in the Experian database.[9]

The variables of interest of the analysis are the turnover of top executives (*direktører* in Danish) and board members(*bestyrelser* in Danish).

Our data capture entries and exits to and from the executive management board and the board of directors, but do not allow tracking persons taking different roles within the boards. Most company boards in our data only have one executive, and most only have a few directors. As consequence of this, it happens rarely that more than one person exits one of the boards in any given year. Thus, we measure for each

[9] Note we use the terms 'firm', 'corporation', 'business', 'entreprise', and 'company' interchangeably.

corporation and each year whether or not there is a person that exits the executive management board. This is a simple 0/1 variable, which will be the dependent variable of the majority of our regressions.

Another key variable of the analysis is 'nonperformance' or 'deficit', defined as the presence of negative net income in a given year.

**The sample**

A few important words on sampling:

1. we only consider joint stock companies that submit annual reports in a given year
2. we only consider firms with minimum size 20 employees, and do not consider (e.g., holding) companies that have no employees, or do not report the number of employees in their annual accounts
3. we do not consider foreign-owned companies.
4. we do not consider firms in real estate and the financial sector including insurance

The sampling period of our data is 2003 to 2011, for which we have a firm panel of annual observations. The time period stretches an economic upturn up to 2008, and a downturn afterwards, so time effects are imperative to be taken into account of in the empirical analysis.

The identification and sampling conditions leave us with 50,000 observations in total and approximately 4,200 to 6,200 observations per year. Numbers peak in the top of an economic boom (or bubble) in 2007 with 6,200 observations and drop to 4,200 observations in 2010 (and recover slightly up to 2011).

In our data, there are between 230 (2011) and 319 (2004) Danish corporations over the period 2003 to 2011 that are entirely or partly owned by Danish industrial foundations and having at least 20 employees. These are distributed over a wide range of industries, see TABLE 1.

**TABLE 1: Industry distribution (2-digit NACE) of foundation- and non-foundation-related corporations**

| | Non-foundation-related | Foundation-owned |
|---|---|---|
| Wholesale trade, except of motor vehicles and motorcycles | 18.9% | 14.8% |
| Specialised construction activities | 7.2% | 3.5% |
| Manufacture of machineryand equipment n.e.c. | 5.4% | 4.4% |
| Wholesale and retail trade and repair of motor vehicles and motorcycles | 5.0% | 0.9% |
| Manufacture of fabricated metal products, except machinery and equipment | 4.3% | 3.5% |
| Retail trade, except of motor vehicles and motorcycles | 3.9% | 3.9% |
| Computer programming, consultancy and related activities | 3.5% | 1.7% |
| Activities of head offices; management consultancy activities | 2.8% | 5.2% |
| Manufacture of food products | 2.8% | 3.5% |
| Architectural and engineering activities; technical testing and analysis | 2.6% | 3.1% |
| Land transport and transport via pipelines | 2.6% | 0.9% |
| Construction of buildings | 2.4% | 2.6% |
| Warehousing and support activities for transportation | 2.3% | 2.6% |
| Manufacture of rubber and plastic products | 2.1% | 0.9% |
| Manufacture of computer, electronic and optical products | 1.6% | 2.2% |
| Manufacture of other non-metallic mineral products | 1.6% | 0.0% |
| Publishing activities | 1.2% | 6.6% |
| Civil engineering | 1.2% | 2.6% |
| Manufacture of electrical equipment | 1.1% | 2.6% |
| Manufacture of furniture | 1.2% | 0.9% |
| Office administrative, office support and other business support activities | 1.2% | 0.9% |
| Accommodation | 1.1% | 1.3% |
| Advertising and market research | 1.1% | 0.0% |
| Rental and leasing activities | 1.1% | 1.3% |
| other | 21.7% | 30.1% |

**FIGURE 1: Board membership tenure of executives**

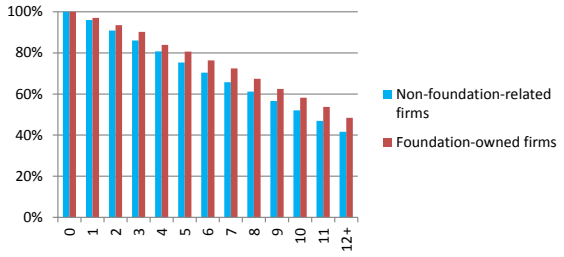
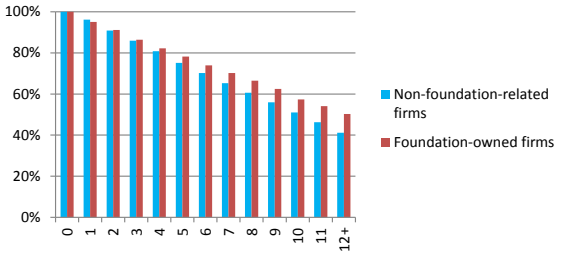



**FIGURE 2: Board membership tenure of directors**




Given board members stay longer in foundation-owned firms: FIGURE 1 and 2, that present tenure of board members as of 2011, provide first evidence of board members in foundation-owned firms staying longer with their firms. 48 percent of managers in foundation-owned firms have been sitting in the board for at least twelve years, against a 42 percent share for non-foundation-owned firms. For directors the figure is 50 percent against 41 percent, so here the difference is even larger.

FO-companies constitute mere 5 per cent share of all joint stock companies of size at least 20 employees. However, see TABLE 2 for descriptive statistics of foundation- and non-foundation-owned companies, it can be noted that some of the biggest Danish enterprises belong to the group of foundation-owned corporations, such that the economic impact of these companies is larger than the small share of foundation-owned corporations might suggest at first glance.

For TABLE 2, and in the remainder of the analysis, we have singled out companies above size 100 employees, which partly reflects the size distribution of foundation-owned companies being substantially skewed, motivating us to give larger firms special attention. Also, later results will show to be size-sensitive, for which reason the following analysis will make the same distinction into all companies with at least 20 and all companies with at least 100 employees.

**TABLE 2: Descriptive statistics**

All firms:

| | Non-foundation-related firms | | | | | | Foundation-owned firms | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable: | Number of observations | Mean | Standard dev. | Minimum | Median | Maximum | Number of observations | Mean | Standard dev. | Minimum | Median | Maximum |
| *Number of employees* | 46,208 | 187 | 3,441 | 20 | 47 | 416,961 | 2,443 | 1,398 | 7,303 | 20 | 104 | 119,599 |
| *Value added (DKK1,000)* | 45,023 | 84,118 | 593,006 | -1,072,889 | 21,878 | 50,861,000 | 2,227 | 760,433 | 3,715,974 | -109,200 | 49,835 | 53,757,000 |
| *Balance sum (DKK1,000)* | 46,207 | 274,501 | 2,271,129 | 857 | 42,290 | 154,072,992 | 2,443 | 3,057,797 | 21,333,672 | 3,283 | 132,423 | 404,743,008 |
| *Equity (book value, DKK1,000)* | 46,207 | 99,743 | 855,162 | -6,971,600 | 11,630 | 57,740,000 | 2,443 | 1,440,567 | 10,212,485 | -340,420 | 51,596 | 207,935,008 |
| *Year* | 46,208 | 2007 | 3 | 2003 | 2007 | 2011 | 2443 | 2007 | 3 | 2003 | 2007 | 2011 |
| *Deficit(t)* | 46,208 | 0.22 | 0.42 | 0.00 | 0.00 | 1.00 | 2,443 | 0.25 | 0.43 | 0.00 | 0.00 | 1.00 |
| *Number of executives* | 46,208 | 1.24 | 0.54 | 0.00 | 1.00 | 5.00 | 2,443 | 1.48 | 0.83 | 1.00 | 1.00 | 5.00 |
| *Number of executives exit>0* | 46,208 | 0.11 | 0.32 | 0.00 | 0.00 | 1.00 | 2,443 | 0.15 | 0.36 | 0.00 | 0.00 | 1.00 |
| *Number of executives exit* | 46,208 | 0.13 | 0.38 | 0.00 | 0.00 | 4.00 | 2,443 | 0.17 | 0.44 | 0.00 | 0.00 | 4.00 |
| *Number of directors* | 46,208 | 4.32 | 1.58 | 3.00 | 4.00 | 21.00 | 2,443 | 5.60 | 2.22 | 3.00 | 5.00 | 13.00 |
| *Number of directors exit>0* | 46,208 | 0.27 | 0.45 | 0.00 | 0.00 | 1.00 | 2,443 | 0.36 | 0.48 | 0.00 | 0.00 | 1.00 |
| *Number of directors exit* | 46,208 | 0.44 | 0.88 | 0.00 | 0.00 | 12.00 | 2,443 | 0.60 | 1.02 | 0.00 | 0.00 | 9.00 |

All firms with at least 100 employees:

| | Non-foundation-related firms | | | | | | Foundation-owned firms | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable: | Number of observations | Mean | Standard dev. | Minimum | Median | Maximum | Number of observations | Mean | Standard dev. | Minimum | Median | Maximum |
| *Number of employees* | 11,146 | 642 | 6,987 | 100 | 202 | 416,961 | 1,255 | 2,673 | 10,026 | 100 | 406 | 119,599 |
| *Value added (DKK1,000)* | 10,669 | 280,797 | 1,196,281 | -1,072,889 | 90,655 | 50,861,000 | 1,120 | 1,481,576 | 5,139,953 | -109,200 | 173,590 | 53,757,000 |
| *Balance sum (DKK1,000)* | 11,146 | 919,749 | 4,523,293 | 4,930 | 206,150 | 154,072,992 | 1,255 | 5,832,520 | 29,500,745 | 9,770 | 492,597 | 404,743,008 |
| *Equity (book value, DKK1,000)* | 11,146 | 330,417 | 1,697,405 | -6,971,600 | 62,814 | 57,740,000 | 1,255 | 2,745,021 | 14,125,422 | -340,420 | 171,091 | 207,935,008 |
| *Year* | 11,146 | 2007 | 3 | 2003 | 2007 | 2011 | 1,255 | 2007 | 3 | 2003 | 2007 | 2011 |
| *Deficit(t)* | 11,146 | 0.24 | 0.43 | 0.00 | 0.00 | 1.00 | 1,255 | 0.20 | 0.40 | 0.00 | 0.00 | 1.00 |
| *Number of executives* | 11,146 | 1.45 | 0.75 | 0.00 | 1.00 | 5.00 | 1,255 | 1.74 | 1.01 | 1.00 | 1.00 | 5.00 |
| *Number of executives exit>0* | 11,146 | 0.17 | 0.38 | 0.00 | 0.00 | 1.00 | 1,255 | 0.17 | 0.37 | 0.00 | 0.00 | 1.00 |
| *Number of executives exit* | 11,146 | 0.20 | 0.48 | 0.00 | 0.00 | 4.00 | 1,255 | 0.20 | 0.49 | 0.00 | 0.00 | 4.00 |
| *Number of directors* | 11,146 | 5.24 | 2.03 | 3.00 | 5.00 | 16.00 | 1,255 | 6.49 | 2.34 | 3.00 | 6.00 | 13.00 |
| *Number of directors exit>0* | 11,146 | 0.39 | 0.49 | 0.00 | 0.00 | 1.00 | 1,255 | 0.41 | 0.49 | 0.00 | 0.00 | 1.00 |
| *Number of directors exit* | 11,146 | 0.66 | 1.07 | 0.00 | 0.00 | 12.00 | 1,255 | 0.71 | 1.12 | 0.00 | 0.00 | 9.00 |

TABLE 2 shows that foundation-owned companies have on average 0.2 additional executives, and 1.3 additional directors. They have higher incidences of executives and directors exit, which of course might be explained by other factors than foundation ownership. The following analysis will keep some of these factors constant and consider whether manager and director turnover stays higher in foundation-owned companies when first one controls for size, industry, and other potential determinants.

TABLE 2 also shows that foundation-owned companies have higher equity to assets ratios, which often is a direct result of the foundations' charters, and, for the group of all foundations, no lower risk of negative profit in any given year than other firms. Only for firms above size 100 employees, we find the a lower incidence of negative profit, just as would be expected on basis of higher risk aversion in foundation-owned companies.

**Model**

We test the relationships between management and director turnover and foundation-ownership by simple binary choice logit models.

The data for the analysis comes as a panel with annual observations over the period 2003 to 2011. The binary choice models have the incidences of top manager exit and director exit in a given calendar year as their dependent variables.

Obviously, foundation-ownership, modelled as an indicator 0/1 variable, enters the model as the analysis' most prominent explanatory variable. Also, whether or not the firm runs deficit in a given year, measured by negative net income, is included into the model as another 0/1 dummy right-hand-side variable. As a point of departure, manager or director exit and deficit enter the model as of the same calendar year, implicitly assuming a relatively short reaction time, with bad performance leading to manager or director withdrawal decisions within the same calendar year.

To test hypothesis 2, i.e., whether or not foundation-owned companies are less sensitive to performance changes than other companies when it comes to top management and director turnover, the variable 'deficit' will be interacted with the 0/1 variable for foundation ownership.

The logit models are estimated on the pooled data panel over the period 2003-2011. We control for firm size by (log) total assets, industry (2-digit NACE classification), and calendar year. Also, we add a variable for the firm's solvency, approximated by the equity to assets ratio, to accommodate the financial vulnerability.[10]

[10] This variable is partly endogenous to foundation-ownership, as high equity shares might result from the foundations' charters. So, there is some need to elaborate on the explanatory power of this variable for the results of the subsequent analysis.

**5. Results**

Results of the logit model estimations are shown in TABLE 3 and 4. All models control for industry and year by inclusion of 0/1 indicator (dummy) variables. Results can be summarized as follows:

The incidence of manager and director exit is, unsurprisingly, strongly positively related to the numbers of members of the managerial board and the board of directors: A one person increase in the number of managers more than doubles (exp(0.775)=2.17) the probability of manger exit in a given year for all firms, and increases the probability by 90 percent (exp(0.662)=1.93) for all firms with at least 100 employees. Note, however, that this may be attributable to data collection: we observe all executives (or directors) employed in a given year. If an executive is fired and a new one is hired within the same year, we will register both names as executives and both will be included in the number of executives in that year. Moreover, it is not uncommon that an interim (acting) executive is employed until the vacancy can be permanently filled, and this person will be registered as an additional executive.

For directors the relationship between board size and board membership exit is less pronounced. A one person increase in the size of the board only increases the probability of positive board membership exit in a given year by 37 percent for all firms and 26 percent for firms above size 100 employees. One reason for this may be that supervisory boards typically replace board members at the same moment in time (at the AGM) and that board rarely appoint interim directors.

Larger firms have higher turnover, even after controlling for board size, and high solvency is associated with lower manager and director turnover.

Negative net income in a given year is strongly positively associated with the incidence of both manager and director exit: it is associated with more than twice (exp(0.853)=2.34) the probability of manager exit, and (exp(0.436)=) 55 percent higher probability of director exit in the same calendar year. These elasticities are in line with earlier estimates like Jenter and Lewellen (2010).

We find that foundation-owned firms have lower incidence of manager and executive exit than other firms. For the managers, this difference is statistically significant for firms above size 100 employees, while for directors it is statistically significant for all firms. Foundation-owned firms above 100 employees have approximately (exp(-0.243)=0.78) 20 percent lower incidence of manager exit in a given year and approximately 20 percent lower incidence of director exit. So hypothesis 1 – lower exit rates in foundation-owned firms – is support in our data for foundation-owned firms with at least 100 employees.

Model 2a and 2b include interaction terms (Deficit(t) X foundation owned in the regressions to test hypothesis 2, i.e., the sensitivity of turnover to performance. We find no indication of manager exit in foundation-owned firms being less sensitive to performance than in other firms. On the contrary, positive coefficients, though not statistically significant, suggest a marginally higher sensitivity of management turnover to low performance.

For directors, the coefficients of the interaction term are negative and, for firms with minimum size 100 employees, the coefficient is negative and statistically significant at the ten percent significance level. We interpret this finding as weak support of lower performance sensitivity in foundation-owned firms when it comes to replacing directors in response to low company performance. In absolute terms, the increase in

the estimated probability of director exit is (exp(-0.271)=0.76) approximately 25 percent lower than would be case for non-foundation-owned firms. Yet, statistical significance "only" at the ten percent level advises us to view this finding as tentative rather not convincing evidence.

To get an overall impression of the robustness of our results to alternative model formulations, we dropped solvency as a potentially endogenous variable and used one-year lagged negative income as the explanatory variable for low firm performance. The former had no impact on the results, while, in the second, the significance of the interaction term 'deficit last year X Foundation-owned' turned insignificant in the logit estimation of director exit.[11]

**TABLE 3: Logit model estimation results. Dependent variable: number of executives exit>0**

| VARIABLES | *Model 1a* | *Model 1b* | *Model 2a* | *Model 2b* |
|---|---|---|---|---|
| *# executives (stock), t-1* | *0.775**** | *0.662**** | *0.776**** | *0.663**** |
| | *(0.022)* | *(0.031)* | *(0.022)* | *(0.031)* |
| *Log(total assets)* | *0.101**** | *0.055*** | *0.101**** | *0.056*** |
| | *(0.011)* | *(0.022)* | *(0.011)* | *(0.022)* |
| *Equity to assets ratio* | *-0.159**** | *-0.210*** | *-0.160**** | *-0.212*** |
| | *(0.041)* | *(0.102)* | *(0.041)* | *(0.102)* |
| *Deficit(t)* | *0.853**** | *0.966**** | *0.845**** | *0.955**** |
| | *(0.033)* | *(0.057)* | *(0.034)* | *(0.059)* |
| *Foundation-owned* | *-0.077* | *-0.243**** | *-0.126* | *-0.281**** |
| | *(0.065)* | *(0.090)* | *(0.081)* | *(0.107)* |
| *Deficit(t) X Foundation-owned* | | | *0.135* | *0.127* |
| | | | *(0.131)* | *(0.188)* |
| *Constant* | *-5.334**** | *-5.028**** | *-5.338**** | *-5.029**** |
| | *(0.305)* | *(0.774)* | *(0.305)* | *(0.774)* |
| *Observations* | *48,650* | *12,401* | *48,650* | *12,401* |
| Minimum firm size threshold (number of employees) | 20+ | 100+ | 20+ | 100+ |

*Standard errors in parentheses*

[11] Additional estimation results available on request.

**TABLE 4: Logit model estimation results. Dependent variable: number of directors exit>0**

| VARIABLES | *Model 1a* | *Model 1b* | *Model 2a* | *Model 2b* |
|---|---|---|---|---|
| *# directors (stock), t-1* | *0.316**** | *0.262**** | *0.316**** | *0.262**** |
| | *(0.007)* | *(0.011)* | *(0.007)* | *(0.011)* |
| *Log(total assets)* | *0.116**** | *0.056**** | *0.115**** | *0.055**** |
| | *(0.009)* | *(0.017)* | *(0.009)* | *(0.017)* |
| *Equity to assets ratio* | *-0.128**** | *-0.174*** | *-0.126**** | *-0.171*** |
| | *(0.034)* | *(0.083)* | *(0.034)* | *(0.083)* |
| *Deficit(t)* | *0.436**** | *0.418**** | *0.445**** | *0.441**** |
| | *(0.026)* | *(0.047)* | *(0.026)* | *(0.049)* |
| *Foundation-owned* | *-0.163**** | *-0.250**** | *-0.122*** | *-0.193*** |
| | *(0.049)* | *(0.068)* | *(0.057)* | *(0.076)* |
| *Deficit(t) X Foundation-owned* | | | *-0.152* | *-0.271** |
| | | | *(0.107)* | *(0.160)* |
| *Constant* | *-4.154**** | *-2.560**** | *-4.151**** | *-2.558**** |
| | *(0.185)* | *(0.361)* | *(0.185)* | *(0.361)* |
| *Observations* | *48,650* | *12,401* | *48,650* | *12,401* |
| Minimum firm size threshold (number of employees) | 20+ | 100+ | 20+ | 100+ |

*Standard errors in parentheses*

**6. Conclusions**

This analysis exploits unique data on boards of directors and executives combined with accounting data for the entire population of Danish incorporated companies. These data have been merged with information on firm ownership, allowing us to investigate the relationship of ownership structure and top executive management turnover.

In particular, we are interested in whether or not firms owned by industrial foundations have different turnover rates to start with, and how turnover is associated with (a lack of) firm performance. This is interesting, because industrial foundations can be assumed to follow long-term objectives, i.e., having less focus on short-term profit, and risk aversion. We test whether or not this is reflected in how they execute control the companies that they own.

As expected, we find FO-companies having, in general, relatively low executive and executive turnover compared to other companies that share basic characteristics. This finding can be taken as supportive of the hypothesis that industrial foundations are long-term owners, which value continuity of the management team. The estimates indicate that foundation owners replace their managers less frequently. Theoretically, this should make it easier for them to follow long term strategies that benefit from stable ownership.

We also test for differences in performance sensitivity to low company performance, measured as negative firm net income in a given year, and find different results for managerial boards and the boards of directors:

1. Contrary to expectation, the event of any executive exiting the board appears not to be lower in foundation-owned companies when performance is bad. This may be taken as an indication that the monitoring of managerial boards in foundation-owned companies is no less diligent than that of Danish companies in general. This seeming lack of patience with failing managers may perhaps be less surprising when considering that foundations appear to be risk adverse and that non-performance event is therefore a more serious breach with owner expectations.
2. Director exit in foundation-owned companies is, on the other hand, apparently less sensitive to low performance compared to other Danish joint stock companies. So foundations are slightly more patient with directors of low-performing companies.

In times of negative profit, other companies may attract outside equity or borrow - industrial foundations apparently try to avoid these strategies, meaning that self-financing and steady cash flows are paramount. This might be an obvious explanation for their failure tolerance with regards to managers not being higher than in other companies. On the other hand, in good times managers in foundation-owned firms get to stay on for longer than in other comparable companies.

Although we managed to do a couple of robustness checks of our analysis, we need to acknowledge that our findings should be read as a first snapshot of the relationship between foundation-ownership and top executive turnover. This is because the management turnover data is relatively new data for which there currently only is little common experience, e.g. with regards to misreporting or missing observations, that we could draw upon for the present analysis. Also, there are of course differences between ownership, which in this study is measured as any positive stake in another company, and the power to exert influence on management board composition.

These issues taken into consideration, the presence of statistically significant relationships in our data indicate that industrial foundations are indeed different in their influence on corporate governance of the firms they own; and it suggests that future analyses could fruitfully elaborate further on the issues raised in this paper.

## Literature


Agrawal, Anup and Nasser, Tareque, Blockholders on Boards and CEO Compensation, Turnover and Firm Valuation (August 30, 2012). CELS 2009 4th Annual Conference on Empirical Legal Studies Paper; AFA 2012 Chicago Meetings Paper. Available at SSRN: http://ssrn.com/abstract=1443431 or http://dx.doi.org/10.2139/ssrn.1443431

Bair, S. 2011. Lessons of the financial crisis: The dangers of short-termism. Remarks to the National Press Club, Washington, D.C. June 24. http://blogs.law.harvard.edu/corpgov/2011/07/04/lessons-of-the-financial-crisis-the-dangers-of-short-termism/.

Bereskin, Frederick L. and Hsu, Po-Hsuan, Bringing in Changes: The Effect of New CEOs on Innovation (October 24, 2013). Paris December 2011 Finance Meeting EUROFIDAI - AFFI. Available at SSRN: http://ssrn.com/abstract=1944047 or http://dx.doi.org/10.2139/ssrn.1944047.

Brickley, James A., Empirical Research on CEO Turnover and Firm-Performance: A Discussion. Journal of Accounting & Economics, Vol. 36, Nos. 1-3, pp. 227-233, December 2003. Available at SSRN: http://ssrn.com/abstract=473881.

Cremers, Martijn and Pareek, Ankur and Sautner, Zacharias, Stock Duration and Misvaluation (September 19, 2013). Available at SSRN: http://ssrn.com/abstract=2190437.

Hansmann, Henry and Thomsen, Steen Managerial Distance and Virtual Ownership: The Governance of Industrial Foundations (March 2013). Available at SSRN: http://ssrn.com/abstract=2246116.

Hansmann, Henry and Thomsen, Steen. 2011. The Performance of Foundation-Owned Companies. Paper presented to the RICF Conference on “Frontiers in Corporate Finance and Corporate Governance” Development Bank of Japan,18 November 2011, and to the Department of Banking and Finance, University of Chulalongkorn, 21-3-2013, Workshop on Accountability and Responsibility of Corporate Ownership, 9-10 May 2013.

Jenter, Dirk, and Katharina Lewellen, 2010. Performance-induced CEO turnover, Stanford University. Working paper.

Kim, K. (2010). Blockholder monitoring and the efficiency of pay-performance benchmarking. Journal Of Corporate Finance, 16(5), 748-766.80-695.

Mayer, C. (2013). Firm Commitment. Why the corporation is failing us and how to restore trust in it. Oxford University Press. Oxford.

Nguyen, Bang Dang, Ownership Structure and Board Characteristics as Determinants of CEO Turnover in French-Listed Companies (April 16, 2011). Available at SSRN: http://ssrn.com/abstract=1456851 or http://dx.doi.org/10.2139/ssrn.1456851.

Yihui Pan, Tracy Yue Wang, Michael S. Weisbach. CEO Investment Cycles. NBER Working Paper No. 19330. Issued in August 2013

Phelps, Edmund S., 2010, Shorttermism is undermining America, New Perspectives Quarterly 27, 1 7–19.

Roe, Mark J., Corporate Short-Termism - In the Boardroom and in the Courtroom (April 18, 2013). Business Lawyer, August 2013; ECGI - Law Working Paper No. 210; Harvard Public Law Working Paper No. 13-18. Available at SSRN: http://ssrn.com/abstract=2239132 or http://dx.doi.org/10.2139/ssrn.2239132.

Sarkar, Arkodipta and Krishnamurthy, Subramanian and Tantri, Prasanna L., CEO Turnover and Earnings Management in Banks: Evidence from India (October 12, 2013). Available at SSRN: http://ssrn.com/abstract=2338392 or http://dx.doi.org/10.2139/ssrn.2338392.

Sponholtz, Carina, Determinants of CEO Turnover in Public and Private Firms in Denmark - CEO and Firm Characteristics (August 28, 2006). Available at SSRN: http://ssrn.com/abstract=927424 or http://dx.doi.org/10.2139/ssrn.927424

Thomsen, S. (1996). Foundation ownership and economic performance. Corporate Governance: An International Review, 4, 212-221.

Thomsen, S. (1999). Corporate ownership by industrial foundations. European Journal of Law and Economics, 7, 117-136.

Thomsen,S. 2012a. What do We Know about Industrial Foundations. http://www.tifp.dk/wp-content/uploads/2011/11/What-Do-We-Know-about-Industrial-Foundations.pdf.

Thomsen, S. 2012b. Industrial Foundations in the Danish Economy. Working Paper. http://www.tifp.dk/wp-content/uploads/2011/11/Industrial-Foundations-and-Danish-Society1.pdf.

Weisbach, Michael S., 1995. “CEO turnover and the firm’s investment decisions” Journal of Financial Economics 37, 159-188.