



# Foundation Ownership and Financial Performance: Do Companies Need Owners?

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## **Abstract**

A curious ownership structure is found in Northern Europe—foundations that own and operate business companies. The foundations are non-profit entities, they have no members and no owners, and they cannot be dissolved. In many cases, these entities control more than 50% of the votes in successful international companies. Obviously, this structure completely blocks the market for corporate control, but it also violates other basic principles of agency theory and corporate finance. Nevertheless, we present evidence that a sample of foundation-owned companies listed on the Copenhagen Stock Exchange are at least as efficient as other listed companies in terms of risk adjusted stock returns, accounting returns and Tobin's Q. Thus, they question whether profit-seeking ownership is a necessary condition for competitive enterprise.

**Keywords:** corporate governance, concentrated ownership, company law and theory of the firm

**JEL Classification:** D23, G34, L31

## **1. Introduction**

Does corporate ownership matter? Do companies need owners? 50 years ago many economists would probably have said no. As anecdotal evidence consider Debreu (1959), who wrote that “. . . when one abstracts from legal forms of organisation (corporations, sole proprietorships, partnerships, . . .) one obtains the concept of a producer, i.e. an economic agent whose role is to choose (and carry out) a production plan” (p. 37) and “Given the price system . . . the producer chooses his production . . . so as to maximize his profit” (p. 43). Or recall Lange (1938) who imagined that socialist companies could be managed by public officials who were simply ordered to minimize social costs by taking prices as given and paying due attention to externalities (equilibrium being determined by a planning board or by a trial and error process) thereby guaranteeing a Pareto-optimal social outcome. Lange recognized that government bureaucrats might not be as efficient as private sector managers (p. 109) but argued that this was a sociological rather than an economic question and that large capitalist enterprises were anyhow run by bureaucrats (who presumably do not maximize profits).

Since then an enormous body of literature has emerged which emphasizes that ownership and incentives play a key role in the efficient operation of business companies (e.g. Jensen

and Meckling, 1976; Putterman, 1993; Hart, 1995; Hansmann, 1996; Williamson, 1996; Shleifer and Vishny, 1997). Company performance may benefit, if company managers own a share of the company (Jensen and Meckling, 1976), if they are monitored by large outside owners (Shleifer and Vishny, 1976) or by members of a cooperative (Hansmann, 1988). For widely diffused ownership there is always a threat of hostile takeovers (Manne, 1965) or proxy contests as well as lawsuits (Shleifer and Vishny, 1997).

Even government-owned companies are to some extent monitored by the bureaucracy, the politicians and ultimately the voters (Putterman, 1993). A possible exception is non-profit organizations, which are clearly not monitored by owners, but rather by donors or users (Hansmann, 1980; Fama and Jensen, 1983). But a non-profit organization is generally believed to be competitive only in certain industries (hospitals, universities, charities and the like) and not (in the absence of tax subsidies) to be a viable business model for commercial enterprises (Fama and Jensen, 1983).

The implication is that non-profit entities—companies without owners—should be a rare phenomenon outside these special industries, and in other industries, their performance—in terms of profitability, growth, cost efficiency or other measures—would be expected to be below average. Non-profit enterprises lack a personal profit motive to monitor managers, and their ability to attract capital from outside investors is also limited.

Contrary to this widely held belief, we present evidence that a particular type of non-profit organization, the industrial foundation, is a viable business organization and also a competitive one. This is shown to hold true even when performance is measured by stock-market-based performance measures. Moreover, we also review the literature on non-profit enterprise and ownership and show that our findings are less paradoxical than they might seem at first glance.

An industrial foundation is an organization created to administer a large ownership stake in a particular company, very often donated to the foundation by the company's founder. The foundation itself is a non-profit entity. It has no owners. Its board of directors is often self-elective, constrained only by the law and its charter which frequently stipulates that the foundation should serve some broadly defined social purpose, e.g. to act in the company's "best interest" and use excess revenue for charitable purposes.

Often, but not always, the founder's family continues to play a role in the management of the company. The institutional set up resembles what would have been the case if the Ford foundation maintained majority control of Ford Motor Company.

Foundation-ownership is found mainly in Northern Europe—Denmark, Germany, Sweden, Denmark, Norway, the Netherlands, and Switzerland. Examples include world-class companies like Ikea from Sweden, Carlsberg from Denmark or Krupp, Carl Zeiss and Robert Bosch from Germany.

Previous studies on Danish data over the period 1982–1992 (Thomsen, 1996, 1999) and a study on German data (Herrmann and Franke, 2002) found the economic performance of foundation owned companies to be no worse or even slightly better than that of companies with more common ownership structures. However, these studies relied on accounting-based performance measures such as return on equity which are subject to various measurement problems including manipulation by managers and boards that are obviously not un-biased in the view of the corporation which they want to present to the outside world.

This study contributes to the literature by a critical review of the theory and an empirical test of how market-based performance measures like risk-adjusted stock returns and firm value (Tobin's Q) are influenced by foundation ownership among Danish companies over the 4-year period 1996–1999. We would emphasize that this is a particularly strong test of efficiency since foundation-owned companies arguably will not aim to maximize shareholder value (see the theory section). If the stock markets nevertheless value foundation-owned companies, this is strong evidence that they have other, compensating advantages.

Section 2 reviews some relevant theory, including legal theory, standard agency theory and the economic theory of non-profit enterprise. Section 3 explains the institutional context, in which the empirical analysis takes place. Section 4 presents the data and methodology. Section 5 presents the results, using both market and accounting-based performance measures. The implications are discussed in Section 6. We conclude that the relationship between corporate ownership and performance is more complex than what is predicted by standard agency theory. This has important implications both for the economic theory of the firm and current policy initiatives to adjust European corporate governance to Anglo-American standards.

## 2. Theory

Could a business firm exist without owners? Theoretically, one could think of a self-governing entity with an endowment, a commercial non-profit that buys factor services and sells products on market terms and accumulates the profits. Investment could be financed by these retained earnings or by loans. Or, similarly, a charitable foundation could own shares in a single company instead of a portfolio of stocks and bonds—as the Wellcome foundation did before it sold its business activities to Glaxo. It turns out that the market economies of Northern Europe have in fact provided us with several examples of this, natural experiments that seem interesting to the study of corporate ownership structure. The normal story is that a founder of a company donates her shares to a charitable foundation in the understanding that the company should continue to operate in her spirit. A board runs the foundation. It receives dividends from its shares and reinvests these earnings in financial assets or it distributes part of the revenue for charity as stipulated in the charter, which is in fact the constitution of the foundation structure. In the absence of a more appropriate word these entities have been termed “industrial foundations” (Thomsen, 1996).

At least until recently, industrial foundations have received almost no attention in economics, perhaps because they are uncommon in the US/UK where most theory in this area has been developed. However, they have been extensively discussed for two centuries in the legal literature in Germany, Denmark and other Nordic countries, partly because they are more common there, and partly because the subject raises interesting theoretical problems on the nature of private property, freedom of contract and the structure of business enterprise (In Germany: Kronke, 1983; Rawert, 1993; Reuter, 2001; Rawert cites 67 references on the subject. In Denmark Philosemus, 1771; Ørsted, 1801; Kobernagel, 1939; Justitsministeriet, 1982; Lynge Andersen et al., 1998. Hammer-Jespersen, 2002 cites 51 references in the Danish legal literature). How far does private property go: is it legitimate for example that a founder can influence the welfare of future generations through the foundation structure

(the perpetuity problem)? Is this an efficient solution in a modern, dynamic economy? And if not, should industrial foundations be forbidden by law? Or should the foundation board be allowed to rewrite the charter (the question of “permutation”)? But is this a legitimate breach of the private property and the freedom of contract? And how will this breach affect present day incentives of prospective founders. Parts of this discussion dates back to the discussion of medieval entailed estates.

Some legal scholars have emphasized a constructive role for industrial foundations in increasing company survival (Rawert, 1995: 402). Others have regarded industrial foundations as vehicles for “idealised business management” (Neuhoff, Schmidt, quoted by Reuter 2001: 830) or as “custodians for the public interest” (Neuhoff, quoted by Reuter 2001: 831). Konke (1983: 225) speaks of industrial foundations as carriers of “immaterial personal contents of industrial life.” Reuter (p. 831) concludes that Carl Zeis is an indisputable example that this kind of business-related goals may be regarded as charitable. But industrial foundations have also been criticised for weakening market control (including takeovers) of companies and managers (Reuter, 2001: 831), restricting the mobility of capital which is necessary in a modern society (Rawert, 1993: 402) and for insufficient creditor protection. Using a famous metaphor, the opponents of industrial foundations see the “dead hand” (founder’s will) (Rawert, 1993: 405) as less fortunate than the “invisible hand” of the market.

In economics, standard agency theory has quite clear predictions on this issue (Fama and Jensen, 1983: 344, 348). A non-profit enterprise is essentially a solution to donor agency problems (preventing owners from expropriating donations as profits). When the supply of donations is zero, non-profit enterprise is unlikely to survive in the absence of tax exemption advantages. Industrial foundations cannot attract funds from the market, and decision makers lack economic incentives to operate efficiently.

In contrast Hansmann (1980) sees more of a role for commercial non-profits. Hansmann explains the survival of these institutions by a contract-failure argument: when the buyer is uncertain about the quality of a service provided to her, a market failure occurs since the producer has the capacity to reduce quality of the good in ways the cannot be detected by the buyer. To facilitate contracting under these circumstances the supplier may organize as a non-profit enterprise, which is free of any profit-incentive to cheat on customers. Non-profit enterprise can therefore be seen as a binding commitment not to maximize profits opportunistically at the expense of buyers, and in principle the argument can be generalized to include safeguarding all economic relationships in which a company has decisive information advantages. Other kinds of transaction costs related to high asset specificity may in principle also be mitigated by non-profit ownership.

Glaeser and Shleifer (1998) develop this perspective formally in an incomplete contracts framework. Here, the problem is not asymmetric information per se, but rather that quality or certain aspects of it are unverifiable and cannot be contracted upon. They conclude that there is scope for non-profit enterprise in sectors of the economy where there are opportunities for severe ex post expropriation of consumers, employees and donors. In their model, a firm has the opportunity to reduce cost at the expense of non-verifiable product quality to the buyer. The owner/managers of a for-profit firm will do this as long as the marginal cost reduction exceeds the marginal expense/effort involved (i.e. until the marginal costs of effort equals the marginal reduction in costs). But on the assumption that the manager of a not-for-profit firm will value a marginal increase in profits by less than the owner-manager

of a for-profit firm, she will have less incentives to reduce costs and lower quality. Therefore not-for-profit firms will invest less in cost reduction that reduces non-verifiable product quality and hurts the buyer. Quality-sensitive buyers will recognize this and prefer to deal with the not-for-profit firm.

Given this theoretical rationale, the survival and performance of non-profit ownership is essentially an empirical question. While unobserved and unverifiable aspects of quality are present to some degree in all economic relationships, their importance is likely to vary by nature of the product, the institutional environment and other characteristics. Furthermore, possible benefits of non-profit ownership related to limiting the profit motive have to be weighed against the disadvantages of not being able to attract outside equity and lower cost efficiency because of less intense monitoring (Fama and Jensen, 1983).

In summary, there are two conflicting views pertaining to foundation ownership of business enterprise. The standard agency view is that the disadvantages of a not-for-profit structure are too large for foundation ownership to be a viable business model. Most economists would probably a priori subscribe to this sceptical view. Another view (drawing on Hansmann's work and the Glaeser/Shleifer paper) is that there may be a rationale for foundation ownership as a safeguard for non-verifiable product quality and implicit contracts with employees or other stakeholders. According to the standard agency view, foundation-owned companies should *ceteris paribus* tend to do worse than shareholder-owned firms in terms of profitability (and perhaps also other performance measures such as growth). According to the not-for-profit theory, the relative profitability and performance of foundation-owned companies should depend on the importance of non-verifiable quality etc. and is a priori undecided. We test these competing hypotheses in the next sections, but in the discussion we return to theory and factors that may moderate the relationship between ownership and performance.

### 3. Institutional context

Foundation ownership is found mainly in Northern Europe—Germany, Sweden, Denmark, Norway and the Netherlands, where foundation-owned companies account for a non-trivial share of the business sector. For example, during the preparation of this study we found that industrial foundations own 1/6 of the market capitalization quoted on Copenhagen Stock Exchange. One plausible explanation is the relatively high rates of taxation in these countries, particularly wealth taxes (including inheritance and capital gains taxation), which were historically high, but have now been lowered by tax reforms (Thomsen, 1999). Owners that prefer to retain family control of a company have avoided some of these taxes by donating their shares to a foundation instead of bequeathing them to their descendants. In addition, the foundation structure is a way to avoid dilution of ownership by bequest to several beneficiaries, who must sell part of their shares to pay inheritance taxes. Although a general charitable purpose is required by law (in the sense that the founder and her closest family cannot be beneficiaries) the foundation may also to some extent distribute funds to more remote members of the founder's family (including grown-up children and their descendants). The foundation may therefore act as a trustee. But while taxation may partially explain why industrial foundations are relatively common in Northern Europe, the

foundations themselves are currently taxed with normal company tax rates (with deduction for their charitable donations), and there are no tax subsidies for the foundation-owned companies (Thomsen, 1999). This means that their performance is in principle comparable to that of other companies.

Legally, an industrial foundation can be defined by an irreversible donation of a company's stock (or a majority of the voting rights) to a foundation, which is governed by a foundation board according to the foundation charter (Kronke, 1982). The decisive factor is a clear separation between the personal economic affairs of the founder and those of the foundation. The separation effectively transforms the foundation into a non-profit entity that as emphasized by Hansmann (1980, 1987) may earn profits but cannot redistribute them, except in this case for charitable purposes. The irreversibility is what distinguishes foundations from US family trusts. Moreover, while running a company is considered to be an acceptable aim that is consistent with a charitable intention, a foundation can only to a limited extent redistribute income to the founder or his closest family. The foundation is an independent, private (non-government) institution. It has no owners and no members. Once created, however, foundations are in principle *self-perpetuating* bodies provided that they are financially viable. In principle they will continue to carry out the will of the founder in all eternity.

Like other foundations, the industrial foundation is formally governed by a charter, which defines its purpose and organization, including how the board is elected and whether parts of its income should be used for other kinds of charity than running a company. For example, the charter may proscribe that certain worthy causes (like research, art or charity) should be supported by revenues beyond what is considered necessary to reinvest in the business. The foundation charter may also specify that the foundation should act for the benefit of the company, the employees or the national interest. Moreover, the charter may oblige the foundation to maintain majority ownership of the company. Under the constraints set by the charter (which are subject to government approval and supervision) the board acts at its own discretion.

If the foundation is the sole owner (no minority shareholders) the company and foundation board members may be identical and even (in a few cases) use the foundation structure to conduct business without incorporating a separate company. But if part of the company's shares are held by other shareholders—e.g. if they are listed on the stock exchange—the company will in principle act as any other joint stock company. The company is legally responsible to (all of) its shareholders and at an annual general meeting they will elect a board to represent their interests. However, as a majority owner, the foundation possesses a controlling influence, which it may (or may not) choose to exercise. Danish industrial foundations often retain a voting majority by holding shares with superior voting rights (A shares), whereas they issue shares with reduced voting rights to the public (B-shares).

#### **4. Data and methodology**

In this paper we examine the performance of foundation-owned companies using market-based performance measures. The data consists of all listed companies on the Copenhagen Stock Exchange during 1996–1999. Firms that have not been listed during the entire

4-year period are excluded together with mutual funds. This leaves a sample of 171 firms, of which 20 are majority-controlled by an industrial foundation. We therefore have a sample of  $4 * 171 = 684$  firm year observations of which  $4 * 20 = 80$  track the performance of foundation-owned companies and  $4 * 151 = 604$  firm year observations form the control sample. We estimated both panel data models with simultaneous determination of foundation ownership and performance and simple regression models based on average values, but since the results were qualitatively similar we report mainly on the simple models, although we outline other methods in the discussion. All observations are based on average values over the period.

A list of variables, descriptive statistics and a correlation matrix are given in the appendix. Financial information for each firm is based on the firm's annual accounts. Information about foundation ownership is also obtained from the annual accounts that report ownership and the number of votes controlled by each foundation.

Stock market information is downloaded from the database BORSDATA located at the Aarhus School of Business, Centre for analytic finance ([www.caf.dk](http://www.caf.dk)), which contains a unique and extensive collection of stock market information of Danish shares and bonds. Stock returns are continuously compounded on a daily basis (arithmetic averages) and adjusted for stock splits as well as new emissions according to the Danish Association of Financial Analysts (DAF).

We use four different performance measures to test the relationship between foundation ownership and firm performance.

The first performance measure is risk adjusted stock returns ( $\alpha$ ) measured by *Jensen's alpha* (Jensen, 1968, 1969). Jensen's alpha is a differential performance index, which measures the average return on a portfolio over and above that predicted by the Capital Asset Pricing Model (CAPM), given the portfolio's beta and the average market return. This performance measure is widely used in financial economics. It was originally designed to measure the performance of mutual funds since it explicitly incorporates systematic risk i.e. the risk that is not eliminated by holding a diversified portfolio.

The mean excess return for firm (i) in our sample of companies is based on the following expression:

$$E(R_{i,t}) - r_{f,t} = \alpha_i + \beta_i(E(R_{M,t}) - r_{f,t}) \quad (1)$$

$E(R_{i,t})$  denotes expected return on firm  $i$  on day  $t$ , while  $r_{f,t}$  equals the risk free interest rate on day  $t$ . The risk free interest rate (spot rate) is based on estimated daily Danish zero coupon treasury bonds which is downloaded from the database BORSDATA.

$E(R_{M,t})$  is equal to the expected return on the market portfolio on day  $t$ . This is equal to the return on KAX Copenhagen Stock Exchange (CSE) All Shares Index. The parameters,  $\alpha_i$  (Jensen's alpha) and  $\beta_i$  for each firm are estimated by OLS. We use  $\alpha_i$  as a measure of risk adjusted stock performance.

In addition, we also measure the actual, unadjusted stock return at year  $t$ ,  $R_t$  by the following expression  $R_t = \frac{P_t + D_t}{P_{t-1}} - 1$ , where  $D_t$  denotes the shares dividend payment at year  $t$  and  $P_t$  the price at year  $t$ , respectively.

The third performance measure is Tobin's Q which measures expected future profitability due to valuable growth opportunities and/or a competitive advantage. This article calculates

the Q ratio as the market value of equity and book value of debt divided by the book value of total assets (denoted the “simple Q” by Loderer and Martin, 1997), since the Tobin’s Q measure of equity or capital employed at replacement costs was not available. Chung and Pruitt (1994) found that the correlation between the “simple Q” and a measure of Q that attempts to use market values throughout is as high as 0.97.

The last performance measure is *return on assets or ROA*, which is the most common measure of accounting profitability defined as net income plus interests before tax divided by total book assets.

*Found* is defined as a dummy variable that equals one if a foundation controls more than fifty percent of the votes, otherwise it equals zero. *Ownership* measures the ownership ratio held by the foundation *Fboard* is a dummy variable that equals one if the founder or his relatives are present in the foundations board, otherwise it equals zero. Families may have an incentive to assure that firms involved are managed with relatively efficiency for any of a variety of reasons; to maximize payout on the foundations distributions to family members, to maximize the value of (minority) shares of stocks held directly by family members, to assure continuing important employment for family members, or simply to maintain the family’s prestige. Furthermore, in order to cast light on the potential differences among the sample’s foundations we have the following variable. *Bfound* is a dummy variable that equals one if the foundation is registered as a business foundation, otherwise it equals zero. We also add some control variables.

When analysing stock returns we correct for two risk measures, which have now become standard in the financial economics literature, *firm size* and the *book-to-market ratio*. These measures were suggested by Fama and French (1992), who found that they influence the cross sectional variation of stock returns. They found a negative effect of firm size (market value) and a positive effect of the book/market ratio defined as book value of equity divided by the market value of equity. Presumably higher stock returns for small firms are necessary to compensate investors for higher portfolio risks related to liquidity, information access and other factors.

To avoid a definitional association between size and market based performance measures we prefer to measure size as the natural logarithm of yearly sales. The positive book/market effect may be attributable to risk related to financial distress. Firms which the market judges to have poor prospects, signaled by a low stock price and high ratios of book to market equity, have higher expected returns due to higher costs of capital compared to firms with strong prospects.

In regressions on firm value (Q) and accounting returns (ROA) we include measures of the equity ratio (equity/assets), growth (of assets) and earnings variance (variance of ROA). Both earnings variance and the equity/assets ratio are standard proxies for financial risk (e.g. bankruptcy risk). The growth variable is intended to control for differences in growth potential related to industry, life cycle and regulation.

Furthermore we add dummy variables for industry using the official industry classification by the Copenhagen Stock Exchange ([www.cse.dk](http://www.cse.dk)) during the period.

To avoid problems associated with heteroscedasticity we use White’s (1980) estimates with consistent standard errors. Descriptive statistics and a correlation matrix are given in the appendix.



In order to check the robustness of the results, all regression equations are re-estimated, where we have excluded more extreme observations. Only one observation is excluded when we use Jensen's alpha (with an alpha value of 0,010). Two observations have been excluded in the equations where the dependent variable is stock return (returns of 369 and 793 percent, respectively). Two observations with ROA of 27 and 17,7 percent are also excluded. Tobin's Q values larger than 6 were omitted which resulted in the exclusion of two firms (with Q values of 16,37 and 14,70 respectively). Robustness tests including extreme observations did not lead to qualitatively different results.

## 5. Results

Tables 1–4 presents some estimations of the performance of foundation-owned companies relative other ownership structures. We present estimations on alternative performance measures both with and without relevant control variables.

In Table 1, foundation ownership is found to have no significant effect on risk adjusted stock returns. The results also reveal that it does not matter which category a foundation belongs to and ownership by the foundation does not impact the risk adjusted stock return either. Founders or his relatives seem to have a negative influence on performance although it is not significantly different from zero in any of the regressions.

The results hold true when also controlling for size and book-to-market value effects, both of which are negative and significantly different from zero. The negative size effect indicates (as expected) that portfolio risk decreases with firm size, but the negative book-to-market ratio is contrary to the results found by Fama and French. The reason may be that a low book value also signals (default) risk.

An alternative specification using market value as size variable did not make the results conform to expectations. The size effect now became insignificant which possibly reflects a definitional positive association between average market values over a period and the stock returns which are highly correlated with increases in market value. As expected, the equity ratio has a significant positive effect on performance. The industry effects were insignificant expect that banks earned larger-than expected stock returns during the period.

On its own, the insignificant performance effect is consistent with market efficiency. If stock markets are efficient and a (positive or negative) premium for foundation ownership is already contained in the share price at the beginning of the period, this is what we would expect to find. However it is notable that the results are robust to statistical control for a valuation-dependent measure like the book/market ratio.

In Table 2, a similar result is found for total (unadjusted) stock returns (incl. dividends) since Foundation-owned companies have not obtained differently different stock returns over the period compared to firms' not controlled by a foundation. Again, there is a negative influence on performance when the founder or his relatives are present in the foundations board, although the effect is not significant. This indicates, that agency costs associated with family presence in the foundations board is not a severe problem. Whether a foundation is registered as a business foundation or alternatively a family foundation does not matter

Table 1. Regression estimates of *risk adjusted stock returns* (Jensen's alpha) as the dependent variable with heteroscedasticity consistent standard errors (White, 1980). 171 observations.

Independent variables	1	2	3	4	5	6
Constant	0.013 (0.136)	0.011 (0.215)	-0.007 (0.015)*	-0.009* (0.001)	-0.005* (0.001)	-0.005* (0.001)
Found	0.075 (0.089)	0.074 (0.097)	0.072 (0.147)	0.074 (0.145)	0.745 (0.146)	-0.011 (0.303)
Fownership	-0.001 (0.093)	-0.001 (0.097)	-0.001 (0.131)	-0.001 (0.137)	-0.001 (0.130)	
Bfound	-0.031 (0.203)	-0.031 (0.196)	-0.025 (0.267)	-0.026 (0.274)	-0.025 (0.297)	
Fboard	-0.0327 (0.163)	-0.031 (0.183)	-0.037 (0.195)	-0.042 (0.165)	-0.045 (0.142)	
Equityratio	0.001 (0.048)*	0.001 (0.075)	0.001 (0.031)*			
Growth	0.001 (0.293)					
Size	-0.001 (0.012)*	0.001 (0.012)*				
Book/market	-0.003 (0.060)	-0.003 (0.070)	-0.004* (0.034)			
Bank	0.010* (0.038)	0.012* (0.001)	0.012* (0.001)	0.009* (0.001)		
Trade	-0.001 (0.939)					
Industry	-0.004 (0.325)					
Insurance	-0.005 (0.325)					
Shipping	-0.027 (0.095)	-0.025 (0.129)				
Adj. $R^2$	0.31	0.31	0.25	0.22	0.19	0.03

The numbers in the parentheses are significance levels. \*significant at a 5 percent level.

for performance. The size-effect is now insignificant, but the book to market effect remains significant and negative contrary to expectation. There are no industry effects on stock market performance.

Table 3 examines effects on firm value measured by Tobin's Q. Here foundation ownership appears to increase firm value by 2,8 to 0,47 depending on the which control variables that are added to the regressions (the average Q-value of the sample is 1.4) The effect is positive and significant at the 10% level in model 3. Firms controlled by a business foundation

Table 2. Regression estimates of *stock returns* as the dependent variable with heteroscedasticity consistent standard errors (White, 1980). 171 observations.

Independent variables	1	2	3	4	5	6
Constant	65.818 (0.135)	98.241 (0.088)	31.837* (0.002)	20.126* (0.001)	31.882* (0.002)	20.126* (0.000)
Found	8.923 (0.676)	7.283 (0.762)	4.798 (0.851)	-0.660 (0.949)	-4.917 (0.518)	-1.774 (0.936)
Fownership	-0.093 (0.794)	-0.139 (0.726)	-0.151 (0.723)			-0.104 (0.807)
Bfound	-3.856 (0.752)	-2.793 (0.829)	-3.193 (0.787)			
Fboard	-3.311 (0.772)	-0.620 (0.963)	-2.374 (0.859)	-12.076 (0.254)		
Equityratio	-3.227 (0.280)	-2.982 (0.328)				
Growth	11.316 (0.156)					
Size	-4.320 (0.150)	-4.507 (0.150)				
Book/market	-9.708* (0.035)	-12.082* (0.002)	-11.466* (0.033)	-11.510* (0.027)		
Banks	10.139 (0.110)	-1.540 (0.843)				
Trade	21.627 (0.343)					
Industry	9.014 (0.254)					
Insurance	12.888 (0.302)					
Shipping	9.898 (0.401)					
<i>Adj. R</i> <sup>2</sup>	0.06	0.03	0.02	0.01	0.02	0.01

The numbers in the parentheses are significance levels. \* significant at a 5 percent level.

seem to have a lower performance than firms controlled by a family foundation on a 10 percent level. Again, the ownership ratio by the foundation does not impact performance.

Firm size and growth have no significant effect, but a higher equity ratio (lower financial leverage) has a significant positive effect indicating perhaps that firm value decreases with bankruptcy risk. As previously, the ratio book to market impacts performance negatively.

In principle, a higher Q-value for foundation-owned companies may reflect higher expected profitability, but it may also be attributable to other factors. Foundation-owned

Table 3. Regression estimates of *Tobin's Q* as the dependent variable with heteroscedasticity consistent standard errors (White, 1980). 171 observations.

Independent variables	1	2	3	4	5	6
Constant	1.632*	1.949*	1.248*	1.248*	1.248*	1.912*
	(0.016)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Found	2.834	2.852	5.707	0.741	0.750	0.470
	(0.272)	(0.266)	(0.070)	(0.500)	(0.134)	(0.279)
Fownership	0.047	0.047		0.024		
	(0.086)	(0.077)		(0.339)		
Bfound	-4.959	-4.989	-5.274			
	(0.068)	(0.059)	(0.096)			
Fboard	1.489	1.557			2.224	2.967
	(0.312)	(0.295)			(0.286)	(0.143)
Equityratio	0.163*	0.166*				0.172*
	(0.042)	(0.021)				(0.022)
Growth	0.077					
	(0.452)					
Size	0.024					
	(0.500)					
Book/market	-0.780*	-0.795*				-0.817*
	(0.012)	(0.007)				(0.014)
Banks	-0.227					
	(0.329)					
Trade	-0.395	-0.273				
	(0.181)	(0.229)				
Industry	-0.119					
	(0.674)					
Insurance	-0.222					
	(0.503)					
Shipping	0.031					
	(0.976)					
<i>Adj. R</i> <sup>2</sup>	0.51	0.50	0.31	0.11	0.15	0.33

The numbers in the parentheses are significance levels. \*significant at the 5 percent level.

companies may be particularly cautious in their choice of accounting principles so that they tend to understate their equity. It is also possible that the equity of the foundations (which is not included in the balance sheet of the companies that they own) is correctly considered to be a low cost source of capital and an insurance against bankruptcy and financial distress. Foundation-owned companies are known to be particularly active in research-intensive industries (Thomsen, 1996) and may invest more than other firms in intangible firm specific assets like research and development, reputation or implicit contacts with employees (an

Table 4. Regression estimates of *return on assets (ROA)* as the dependent variable with heteroscedasticity consistent standard errors (White, 1980). 171 observations.

Independent variables	1	2	3	4	5	6
Constant	7.034 (0.074)	7.539* (0.000)	6.366* (0.000)	4.954* (0.000)	5.140* (0.000)	4.727* (0.000)
Found	5.862 (0.104)	5.862 (0.053)	2.237 (0.368)	3.078 (0.282)		2.859 (0.165)
Fownership	-0.086 (0.249)	-0.094 (0.160)				
Bfound	-0.280 (0.904)	0.555 (0.767)	-0.070 (0.971)	-0.432 (0.852)		
Fboard	-3.081 (0.177)	-0.913* (0.039)	-2.070 (0.338)	-3.597 (0.109)	-0.945 (0.380)	-3.429 (0.126)
Equityratio	-0.836 (0.122)					
VARroa	-0.006* (0.031)	-0.006* (0.049)	-0.006 (0.066)	-0.005 (0.090)	-0.005 (0.086)	
Growth	-0.124 (0.745)					
Size	0.082 (0.751)					
Book/market	-0.960* (0.033)	-1.136* (0.019)	-1.358* (0.0312)			
Banks	-5.027* (0.000)	-4.472* (0.000)				
Trade	0.627 (0.707)					
Industry	0.795 (0.609)					
Insurance	-5.170* (0.001)	-4.398 (0.000)				
Shipping	-2.558 (0.153)					
<i>Adj. R</i> <sup>2</sup>	0.28	0.22	0.09	0.06	0.04	0.02

The numbers in the parentheses are significance levels. \* significant at the 5 percent.

explanation which is consistent with the Hansmann/Glaeser/Shleifer theory of non-profits). Ideally we would therefore have preferred to control for variables such as research and adverting intensity but we did not have access to these figures. Instead, we experimented with a dummy variable for firms in the pharmaceutical industry, but this did not qualitatively affect the results.

Table 4 presents estimates of effects on accounting profitability (return on total assets). Foundation-owned companies are found to earn 2,2 to 5,8 percentage point more on accounting assets, but the difference is clearly insignificant. Even though family presence in the foundations board has a negative significant effect in model 2 the result cannot be sustained in the other models, indicating that the founder or his relatives do not create severe agency costs. There is a negative effect of earnings volatility (VarROA). A possible alternative explanation could be that profitable companies use part of their surplus to stabilize profit rates. The industry effects turn out to be highly significant indicating that financial institutions (banks, insurance) and shipping have much lower accounting returns than industrial and trading companies.

In conclusion, none of the 4 performance measures indicate that foundation-owned companies have done significantly worse than other companies over the period. To test the robustness of our findings we tried with a number of alternative model specifications, but none of these changed the basic result. For example, we introduced industry-dummies for pharmaceutical companies. We redid the regressions omitting two particularly large shipping companies that are part of the same company group (and have high Q-values). We replaced the book/market control variable by a more familiar measure of financial risk (the debt/equity ratio). And we controlled for initial rather than average Q- and book/market values in order to test for statistical bias and selection effects (i.e. that the market value of foundation-owned companies is likely be high ex ante).

We also experimented with alternative estimation methods. From an econometric viewpoint foundation ownership may be regarded as an endogenous variable in that the choice of a foundation structure may depend on variables in the economic system that are correlated with economic performance. We therefore also estimated selection models taking into account at the same time both selection effects of foundation ownership as a function of industry and capital structure as well as the effect of foundation ownership on firm value (the approach is outlined in the notes). However, the results were qualitatively the same as those reported in the simple regressions, and since foundation ownership was stable over time using panel data analysis did not add anything new, we report only the simple regression estimates. In fact, the relative stability of the foundation ownership structure is one indication that it may a good approximation to regard it as exogenous over a 4-year period as considered here.

## 6. Discussion

This paper has found that foundation-owned companies do at least as well as other companies in terms of stock performance, firm value and accounting profitability. Previous empirical studies of accounting profitability and other data sources (Thomsen, 1996, 1999; Herrmann and Franke, 2002) have also failed to find a negative performance effect of foundation ownership. This study has supported these findings using stock-market based performance measures. Passing the market test is a particularly strong indication of adequate performance for foundation-owned companies, which arguably have other goals than shareholder value. One possibility might be that agency problems are solved by alternative mechanisms such as creditor monitoring, product market competition, monitoring by minority investors or

competitive markets for managerial labour. Thomsen (1999) rejects these hypotheses finding that foundation-owned companies have low debt/equity ratios, high profit/sales ratios, high survival rates and low replacement rates for top managers.

One caveat with our findings is that they mostly rely on stock market data, which might be biased since stock market data might not offer a good measure of the relative performance of industrial foundations overall. Suppose, for example, that most of the non-foundation firms in the sample were subject to control by families or other small control groups that hold a majority of the firm's stock (or votes). And suppose that those controlling shareholders divert themselves a disproportionate share of the firm value through self-dealing transactions—while the industrial foundations do not. Then our performance measures, which rely on the stock market, would overstate the quality of performance of the industrial foundations compared to the non-foundation controlled firms although our performance measure that is independent of the stock market does not support this argument.

Our data is limited to firms that have non-controlling shares of stock that are publicly traded where the stock market price plays an important role for performance evaluation. However, one might argue, that the visibility that the stock market gives to a firm's performance, and the ability and incentive it gives to financial analysts to assess the firm and the management to continuous evaluation and comparison with the profitability of other firms, is itself a very strong source of pressure on the management of industrial foundations to perform well. A firm that is 100 percent owned by an industrial foundation, and whose stock price consequently is not traded, would be largely free of that form of scrutiny and pressure, and might hence perform much less. Following this line of reasoning, one cannot for certain conclude from our study that non-profit entities whose shares are not listed are managed with the same efficiency as are investor-owned firms in the same industry.

An alternative explanation is that the institutional context in which foundation-owned companies operate does not generally provide strong pressure for maximization of shareholder value. For example, markets for corporate control are not generally very active in countries like Germany or Denmark in which most foundation-owned companies are found. In other words, financial performance of the control group could be biased downwards compared to Anglo-American firms, which would tend to blur the distinction between foundation-owned and other companies. But this objection assumes first that financial performance of North European companies is lacking behind and that this performance gap is attributable to differences in the markets for corporate control. Neither of these assumptions have been supported in previous research (much of which has emphasized that the effect of takeovers on economic performance is problematic).

Other explanations may therefore be called for. Could it be that the agency-theoretic emphasis on high-powered profit incentives is inappropriate? If the supervisory boards of foundation-owned companies are motivated by reputation, intrinsic motivation and other factors, the adverse selection and moral hazard problems may be no more serious than what is observed on the boards of other companies. Alternatively, there may be compensating advantages to stable long-term ownership, which makes foundation-ownership competitive. For example, myopic behaviour related to takeover pressure (Stein, 1989) may be less of a problem in foundation-owned companies.

The apparent paradox that formally non-profit entities end up doing quite well in terms of profitability may also be related to uncertainty concerning what it means to maximize

profits. Alchian (1950) argued that it is impossible a priori to maximize profits in an uncertain world. Under uncertainty firms can only devise certain strategies, which they may believe to maximize expected profits. Regardless of their motives, however, it will only ex post—with the benefit of hindsight—become clear to what extent these strategies actually did maximize profits (and in complex situations perhaps not even then). By an evolutionary argument, those firms that came close to profit maximization will tend to survive and grow (barring the cases in which exit would have been optimal)—still regardless of the motives that led them to adopt these strategies. Foundation-owned companies may therefore in certain circumstances be profit-maximizing even though they did not intend to be so a priori.

A second argument is survival pressure (Friedman, 1953): If profits are necessary for company survival and the continued provision of perquisites to the management, why don't foundation-owned companies imitate shareholder-owned ones? And if under certain circumstances it proves rewarding in terms of profits not to seek those profits too eagerly, why don't for-profit firms learn to mimic non-profit-maximizing behaviour? One guess is that they actually do so to a significant extent. In industries where long-term thinking is believed to benefit competitiveness, firms will adopt long-term strategies regardless of their ownership structure—and those that do not will tend to lose out in competition. In the same way, foundation-owned companies may mimic profit-maximizing companies in order to maximize survival. The Friedman argument somewhat limits the expected effects of ownership structure on economic behaviour and performance. This does not mean that ownership never matters, since for example there is a difference to credibility of various types of commitment under alternative ownership structures (e.g., the non-verifiable quality emphasized in the Glaeser/Shleifer model). Nevertheless, the impact of ownership structure again turns out to depend very much on the extent to which possible advantages related to ownership structure can be effectively imitated by other means.

A related line of argument can be found in Roy Rader's exploration (Radner, 1998) of the distinction between profit-maximizing and survival-maximizing firms (particularly since survival-maximization appears not to be a bad first-cut approximation of the goals of foundation-owned enterprises). One important result of this research (Dutta and Radner, 1999) is that if there are both survival maximising and profit maximizing firms in a population of firms the proportion of profit-maximizers will quickly dwindle into insignificance. *Ceteris paribus* profit-maximizing companies should be more profitable, build up smaller economic reserves (equity) and fail more often. While this is not a complete story (since e.g. entry also needs to be taken into account) the implication is that *ceteris paribus* the proportion of single-minded profit maximisers should be small at any given moment since most of them should have been weeded out by natural selection.

A third factor could detract even further from the importance of ownership structure.

In practice, profit maximization means that companies should undertake investment projects whose rate of return exceeds the costs of capital. A foundation with an endowment faces a choice between investing in the company that it owns or a portfolio of stocks and bonds (Fama and Jensen, 1985). Now even if the foundation board aims to maximize survival of a company that it owns, the volume of perquisites produced by that company or some other non-profit goal, it faces a choice between investing in the company and an alternative investment in the market for which it can obtain a market rate of return while



postponing consumption of its non-profit goods for a given period of time. In principle the foundation would therefore choose to invest only when the utility/profits generated by the investment exceeds the discounted utility that could be had next period by a somewhat larger sum of money.

In other words, even a foundation-owned company might very well end up using the market rate of return as its costs of capital. In particular, a survival maximizing board will be able to extend the expected lifetime of a loss making company (whose marginal investments do not cover its cost of capital) by an alternative investment in a financial portfolio.

Fourth, ownership may be an endogenous variable, which reflects optimizing behaviour by the key decision makers (Demsetz, 1983). For example, foundation boards may decide to reduce their shareholdings or sell off parts of the company (or all of it) if they perceive that this serves goals like maximizing the expected company's survival probability. Several recent studies have found no significant performance effect of ownership structure when accounting for endogeneity using simultaneous equation models (Loderer and Martin, 1997; Cho, 1998; Himmelberg, Hubbard and Palia, 1999; Demsetz and Villalonga, 2001). However, our econometric results indicate that foundation ownership is remarkably stable and not very sensitive to other economic variables.

Finally, there is the general scepticism concerning the importance of ownership, which may be derived from the Coase theorem (Coase, 1960). If the distribution of ownership rights generally does not matter for resource allocation in the absence of transaction costs, why should the allocation of corporate ownership? Economic theories on the importance of ownership structure rely on assumption of incomplete contracts or contract failure (Hart, 1995; Hansmann, 1996). But it is difficult to verify empirically whether the scope for contracting is as incomplete as assumed in the incomplete contracts framework, and when there are limitations it may be possible to contract around the limitations of foundation ownership. Are we really so sure that economically insurmountable information asymmetries create large agency problems in practice? Do companies really face important (wealth reducing) financial constraints? What is to prevent them from contracting around the ownership barrier using bank credits, securitization or joint ventures to finance projects that they want to undertake? If credit and labour markets are well developed, ownership might be less of a binding constraint. One could argue that the Coase theorem properly understood shifts the burden of proof to the theorists who claim that ownership matters.

While we cannot answer these questions in the present paper, it seems clear that the relative success of foundation-owned companies is inconsistent with the simple agency-theoretic emphasis on incentives and risk aversion. The causes and effects of ownership structure are more complex than that. Echoing Ronald Coase (1972) it is premature to automatically attribute deviations from ideal markets to monopoly or inefficiency (Coase, 1972). A more satisfactory methodology is first to consider the efficiency characteristics of non-market institutions, especially when they emerge spontaneously in market economies, and to examine deviations from efficiency in this perspective.

This has important policy implications in the ongoing debate of whether policy makers should promote the convergence of European corporate structures—such as foundation ownership—to Anglo-American standards, which are currently considered to be more attractive. For example the first version of the Bolkestein report (2002) recently suggested that

the differential voting rights of dual class shares schemes, which several industrial foundations use to maintain control, should be suspended in case of a takeover bid is supported by  $\frac{3}{4}$  of the share capital. Our viewpoint is that government intervention must be justified by clear evidence of market failure, which is not found in the present case. The preferred solution is therefore to let alternative institutional structures compete and to let the markets decide. If they decide that strange institutions like foundation ownership are viable, social welfare may even be served by respecting that decision.

### Notes

In addition, we estimated selection models of the form:

$$V_{it} = \sum_{i=1997}^{1999} \alpha_i T_i + \sum_{i=1}^5 I_i + \sum_{i=1}^{171} \sum_{j=1}^M \beta_j C_{ijt} + \delta F O_{it} \quad (2)$$

$$F O_{it} = \sum_{i=1}^5 \gamma_{1ki} + \sum_{l=1}^{171} \sum_{l=1}^z \lambda K_{ilt} \quad (3)$$

where in the “performance equation” (2)  $i$  and  $t$  denominate observation of firm  $i$  at time  $t$ ,  $V$  is value (Tobin’s  $Q$ ),  $T_i$  are time dummies (relative to the first year 1996),  $I_i$  are industry dummies (relative to banking),  $C_j$  are control variables (e.g. size measured by assets) and  $FO$  is a dummy for foundation ownership (dropping the time designations for Industry and time dummies that do not vary by time). In the second “selection equation” (3) foundation ownership is estimated (using a probit model) as a function of Industry effects  $I_i$  and other control variables (e.g. the equity assets ratio). The two equations were estimated simultaneously by maximum likelihood using the statistical software package STATA while taking into account firm effects (clustering of residuals by firm) and correcting for heteroscedasticity.

### Appendix

#### List of variables: All variables are based on four-year averages if not stated otherwise

- *Tobin’s Q*: Market value of equity and book value of debt divided by total book assets. Market value equals share price times the number of outstanding shares. All book values are obtained at the end of the year
- *Jensen’s Alpha* is obtained for each firm by regressing daily share return minus the daily risk free interest rate against the return on KAX CSE all Share Index minus the risk free interest rate.
- *Return* equals the ratio of share price at the end of the year plus dividend per share divided by share price at the beginning of the year minus 1. The return adjusted is corrected for stock splits, share issues, warrants issues etc.
- *ROA* equals Net income plus interests before tax divided by total book assets the end of the year
- *VarROA* is identical to the variance of the yearly ROA

Correlation matrix

	FOUND	Fowner	BFOUND	Fboard	ALPHA	Q	RETURN	ROA	EQRATIO	VARROA	GROWTH	SIZE	BTM	BANKS	TRADE	INDUST	INSUR	SHIP	INVASS	
FOUND	1																			
Fowner	0.91	1																		
BFOUND	0.85	0.81	1																	
Fboard	0.65	0.53	0.39	1																
ALPHA	-0.17	-0.27	-0.18	-0.28	1															
Q	0.32	0.33	0.04	0.38	0.12	1														
RETURN	-0.03	-0.03	-0.02	-0.04	0.10	0.07	1													
ROA	0.07	0.04	0.08	-0.03	0.06	0.14	0.00	1												
EQRATIO	0.03	0.03	0.01	0.07	0.04	0.19	-0.03	-0.12	1											
VARROA	-0.05	-0.04	-0.04	-0.03	0.02	0.09	0.05	-0.21	0.06	1										
GROWTH	-0.03	-0.04	-0.02	-0.05	0.09	0.08	0.16	0.00	0.07	0.04	1.00									
SIZE	0.15	0.14	0.13	0.09	-0.12	0.04	-0.09	0.04	-0.30	-0.03	-0.03	1.00								
BTM	0.04	0.02	0.01	0.18	-0.19	-0.32	-0.14	-0.18	0.00	-0.12	-0.17	-0.06	1.00							
BANKS	-0.10	-0.09	-0.05	-0.14	0.25	-0.16	-0.02	-0.31	-0.31	-0.10	-0.04	0.22	0.06	1.00						
TRADE	-0.09	-0.08	-0.10	0.02	0.04	-0.02	0.09	0.09	0.04	0.17	0.00	-0.13	-0.06	-0.30	1.00					
INDUST	0.14	0.13	0.16	0.02	-0.11	0.12	0.00	0.24	0.28	-0.02	0.08	-0.18	-0.12	-0.51	-0.41	1.00				
INSUR	-0.05	-0.04	-0.04	-0.03	-0.03	-0.04	-0.02	-0.07	-0.07	-0.02	0.02	0.24	0.04	-0.08	-0.07	-0.11	1.00			
SHIP	0.20	0.19	0.04	0.35	-0.35	0.17	-0.04	-0.09	-0.02	-0.01	-0.01	0.12	0.20	-0.13	-0.10	-0.17	-0.03	1.00		
INVASS	-0.09	-0.08	-0.07	-0.06	0.06	-0.07	-0.05	-0.04	0.00	-0.02	-0.11	-0.05	0.11	-0.14	-0.12	-0.20	-0.03	-0.05	1	

## Descriptive statistics

Series	Obs	Mean	Std error	Minimum	Maximum
FOUND	171	0.1169591	0.3223153	0.0000000	1.0000000
FOWNERSHIP	171	4.8376608	14.6360097	0.0000000	68.0000000
BFOUND	171	0.0877193	0.2837170	0.0000000	1.0000000
FBOARD	171	0.0526316	0.2239527	0.0000000	1.0000000
ALPHA	171	-0.0073088	0.0215228	-0.2169000	0.0367000
Q	171	1.4523870	1.7413391	0.3832998	16.3708305
RETURN	171	19.4133786	68.6858451	-36.8820503	793.4334074
ROA	171	4.8808251	5.8383766	-27.0407989	22.7500000
EQUITYRATIO	171	1.0203180	1.6827288	0.0478061	13.1049665
VARROA	171	41.0583187	239.1218260	0.0000000	2937.7967530
GROWTH	171	1.3963536	0.8593009	0.1289133	10.6617364
LNSIZE	171	13.9294160	1.7763186	9.2986717	20.1579679
BTM	171	1.0333792	0.8462907	0.0414140	7.3766134
BANKS	171	0.2690058	0.4447453	0.0000000	1.0000000
TRADE	171	0.1929825	0.3957984	0.0000000	1.0000000
INDUSTRY	171	0.4093567	0.4931593	0.0000000	1.0000000
INSUR	171	0.0175439	0.1316718	0.0000000	1.0000000
SHIP	171	0.0409357	0.1987231	0.0000000	1.0000000
INVASS	171	0.0526316	0.2239527	0.0000000	1.0000000

- *Found* is a dummy that equals one if a foundation controls more than fifty percent of the votes, otherwise it equals zero
- *Fownership* equals the foundation's ownership in the firm in percentage
- *Bfound* is a dummy variable which equals one if the foundation is business foundation, otherwise zero
- *Fboard* is a dummy variable which equals one if the founder or his relatives are present in the foundations board, otherwise zero
- *Size* equals to the natural log of market value of equity
- *Book/Market* equals book value of equity divided by market value of equity
- *Equity ratio* book value of equity divided by total book assets
- *Growth* equals the book value of total assets in 1999 divided by total book value in 1996
- *Banks*: The official branch code at Copenhagen Stock Exchange year 2001
- *Trade*: The official branch code at Copenhagen Stock Exchange year 2001
- *Industry*: The official branch code at Copenhagen Stock Exchange year 2001
- *Insurance*: The official branch code at Copenhagen Stock Exchange year 2001
- *Shipping*: The official branch code at Copenhagen Stock Exchange year 2001
- *Investment Associations*: The official branch code at Copenhagen Stock Exchange year 2001.

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### References

- Alchian, A.A. (1950). "Uncertainty, Evolution and Economic Theory." *Journal of Political Economy*. 58, 211–222.
- Alchian, A.A. & Demsetz, H. (1972). "Production, Information Costs and Economic Organization." *American Economic Review*. 62(5), 777–795.
- Arrow, K.J. (1963). "Uncertainty and the Economics of Medical Care." *American Economic Review*. 53(5), 941–973.
- Bolkestein Report. (2001). [http://europa.eu.int/comm/internal\\_market/en/company/compan news/hlg01-2002.pdf](http://europa.eu.int/comm/internal_market/en/company/compan news/hlg01-2002.pdf).
- Campbell, Lo & MacKinlay (1997). *The Econometrics of Financial Markets*. Princeton University Press.
- Cho, M. (1998). "Ownership Structure, Investment, and The Corporate Value: An Empirical Analysis." *Journal of Financial Economics*. 47(1), 103–121.
- Coase, R.H. (1960). "The Problem of Social Cost." *Journal of Law and Economics*. 3, 1–44.
- Coase, R.H. (1972). "Industrial Organization: A Proposal for Research." In V.R. Fuchs (ed.), *Policy Issues and Research Opportunities in Industrial Organization*. New York: National Bureau of Economic Research.
- Debreu, G. (1959). *Theory of Value*. New York: Wiley.
- Demsetz, H. (1983). "The Structure of Ownership and the Theory of the Firm." *Journal of Law and Economics*. 26(2), 375–394.
- Demsetz, H. & Lehn, K. (1985). "The Structure of Corporate Ownership: Causes and Consequences." *Journal of Political Economy*. 93(6), 1155–1177.
- Demsetz, H. & Villalonga, B. (2001). "Ownership Structure and Corporate Performance. Working Paper." *Social Science Research Network*.
- Dutta, P. & Radner, R. (1999). "Profit Maximization and the Market Selection Hypothesis." *Review of Economic Studies*. 66(229), 769–798.
- Fama, E.F. (1980). "Agency Problems and the Theory of the Firm." *Journal of Political Economy*. 88(2).
- Fama, E.F. & Jensen, M.C. (1983a). "Separation of Ownership and Control." *Journal of Law and Economics*. 26, 301–325.
- Fama, E.F. & Jensen, M.C. (1983b). "Agency Problems and Residual Claims." *Journal of Law and Economics*. 327–349.
- Fama, E.F. & Jensen, M.C. (1985). "Organizational Forms and Investment Decisions." *Journal of Financial Economics*. 14, 101–119.
- Fama, E.F. & French, K.R. (1992). "The Cross-Section of Expected Stock Returns." *Journal of Finance*. XLVII(2).
- Friedman, M. (1953). "The Methodology of Positive Economics. *Essays in Positive Economics*." Chicago: University of Chicago Press.
- Hansmann, H. (1980). "The Role of Nonprofit Enterprise." *The Yale Law Review*. 89(5), 835–901.
- Hansmann, H. (1987). "Economic Theories of Nonprofit Organization." In W.W. Powell (ed.), *The Nonprofit Sector—A Research Handbook*. Yale University Press.
- Hansmann, H. (1988). "Ownership of the Firm." *Journal of Law, Economics and Organization*. (2), 267–305.
- Hansmann, H. (1996). *The Ownership of Enterprise*. Cambridge, MA: The Belknap Press of Harvard University Press.
- Hart, O. (1988). "Incomplete Contracts and the Theory of the Firm." *Journal of Law, Economics and Organization*. 4(1).
- Glaeser, E.L. & Shleifer, A. (1998). "Not-For-Profit Entrepreneurs. Working Paper 6810." *National Bureau of Economic Research*. Cambridge, MA.
- Grossman, S.J. & Hart, O. (1986). "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration." *Journal of Political Economy*. 94(4), 691–718.
- Hart, O. (1995). *Firms, Contracts and Financial Structure*. New York: Oxford University Press.

- Hammer-Jespersen, Lars. (2002). "The Foundation-Dominated Firm and the Chains of Charters." (Den fondsdominerede virksomhed og den fundatmæssige spændetrøje). Masters Thesis. Copenhagen Business School.
- Herrmann, M. & Franke, G. (2002). "Performance and Policy of Foundation-Owned Firms in Germany." *European Financial Management*, 2002, forthcoming.
- Himmelberg, C.P., Hubbard, R.G. & Palia, D. (1999). "Understanding the Determinants of Managerial Ownership and the Link between Ownership Structure and Performance." *Journal of Financial Economics*. 53(3), 353–384.
- Jensen, M. (1993). "The Modern Industrial Revolution, Exit and the Failure of Internal Control Systems." *The Journal of Finance*. XLVIII (3), 831–880.
- Jensen, M. & Meckling, W. (1976). "Managerial Behaviour, Agency Costs and Ownership Structure." First published in *Journal of Financial Economics*, October no. 3, 305–360.
- Justitsministeriet (Ministry of Justice). (1982). Report on foundations (Betænkning om Fonde). Betænkning nr. 970. Copenhagen.
- Kobbernagel, J. (1939). Båndlæggelse. Nyt Nordisk Forlag. København.
- Kronke, H. (1988). *Stiftungstypus und Unternehmensträgerstiftung*. Tübingen: J.C.B. Mohr. 1988.
- Large, O. & Taylor, F.M. 1938 (1964). *On the Economic Theory of Socialism*. New York: McGraw-Hill.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R.W. (1998). "Law and Finance." *Journal of Political Economy*. 106, 1113–1155.
- Loderer, C. & Martin, K. (1997). "Executive Stock Ownership and Performance." *Journal of Financial Economics*. 45, 223–255.
- Lynge Andersen, L. et al. Foundations and Associations. (Fonde og Foreninger). Vol. I-II. G.E.C. Gad, Copenhagen.
- Manne, H. (1965). "Some Theoretical Aspects of Share Voting." *Columbia Law Review*. 64, 534–554.
- Milgrom, P. & Roberts, J. (1992). *Economics, Organization and Management*. Prentice-Hall International.
- Ørsted, A.S. (1801). "On the Right of Government to Abolish or Change Foundations which Private Men Have Established." Published 1815 (in Danish) in *Eunomia*. 1, 1–25.
- Philomusus (Pseudonym). (1771). On foundations ("Om Stiftelser"). Cited in Justitsministeriet(1982).
- Putterman, L. (1993). "Ownership and the Nature of the Firm." *Journal of Comparative Economics*. 17, 243–263.
- Radner, Roy. (1998). Economic Survival, Nancy Schwartz Memorial Lecture, Northwestern University, 1996; reprinted in D.P. Jacobs, et al., *Frontiers of Research in Economic Theory*. Cambridge: Cambridge University Press, pp. 183–209.
- Raewert, P. (1993). Vorbemerkungen zu §§ 80 ff. Rdnr. 83 ff. In. *Standinger. Kommentar zum Bürgerlichen Gesetzbuch*. 13th edition.
- Reuter. (2001). Vorbemerkungen zu § 80. Rdr 43 ff. Reibmann/Sächer. Eds. 2001. *Münchener Kommentar zum Bürgerlichen Gesetzbuch*. 4th edition.
- Shleifer, A. & Vishny, R.W. (1997). "A Survey of Corporate Governance." *Journal of Finance*. 52(2), 737–783.
- Stark, O. (1995) *Altruism and Beyond: An Economic Analysis of Transfers and Exchanges within Families and Groups*. Cambridge: Cambridge University Press.
- Stein, J. (1989). "Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behaviour." *Quarterly Journal of Economics*. 104(4), 655–669.
- Thomsen, S. (1996). "Foundation Ownership and Economic Performance." *Corporate Governance*. 4(4).
- Thomsen, S. (1999). "Corporate Ownership by Industrial Foundations." *The European Journal of Law and Economics*. 7(2), 103–117.
- Tirole, J. (1992). *The Theory of Industrial Organization*, 5th edition. MIT Press.
- White, Halbert, A (1980). "Heteroscedastic-Consistent Covariance Matrix Estimator and a Direct Test for Heteroscedasticity." *Econometrica*. 48, 817–838.
- Williamson, O.E. (1996). *The Mechanisms of Governance*. New York: Oxford University Press.