

РАЗДЕЛ 4  
УГОЛОК ПРАКТИКА

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SECTION 4  
PRACTITIONER'S  
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OWNERSHIP, CONTROL AND PERFORMANCE IN THE MOST  
ACTIVELY TRADED COMPANIES ON STOCKHOLM STOCK  
EXCHANGE. A COMPARISON BETWEEN 1999 AND 2001

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**Abstract**

The relationship between ownership, control and firm value is the subject matter studied. The study is essentially empirical. Data about the most actively traded non-financial companies on the Stockholm Stock Exchange is used. A comparison is made between the years 1999 and 2001. What do the relationships between firm value and different ownership characteristics like ownership concentration, foreign ownership and inside ownership look like? Do these characteristics differ between the booming year of 1999 and the recession year of 2001? Is there a relation between stock price and ownership structure? These are the three main questions addressed in the study.

**Keywords:** ownership structure, valuation ratio, vote differentials, ownership categories, voice and exit behaviour

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**1. Introduction**

In their famous book from 1932, Berle and Means discuss the problems related to the separation of ownership of control in large American Corporations. The core of the discussion lies in that ownership of large companies are so dispersed that no single owner would hold more than a tiny fraction

of the shares listed in each company. As a consequence of this, no one had the ability or the incentive to exercise control of the company, which in turn would lead to the companies being inefficiently run. The lack of ability refers to the fact that, when ownership is widely dispersed, an owner cannot individually have much influence on the way the company is being run. The lack of incentive on

the other hand leads to that, even if an owner would have the possibility to promote changes, he or she would not be very likely to exercise this possibility since he/she would have to share the gains with all other share holder although the effort has been completely made by him/her.

In the Swedish case, this problem is somewhat different since there exists a dual class of shares; hence voting rights are frequently separated from the amount of capital invested. There is thus a possibility to get control over a company by owning a relatively small fraction of the shares. It seems reasonable to believe that this special characteristic of the Swedish stock market will have a certain impact on the performance of the companies and needs to be taken into consideration. A wider spectrum of questions than the ones posed by Berle and Means can therefore be raised. The purpose of this paper is to empirically address the question of the relationship between the structure of ownership and control and firm performance for the Swedish listed firms.

The paper is organized in seven sections. A theoretical discussion, where we attempt to shed some light on the existing theories on the relation between ownership and performance, is provided in Section 2. In Section 3 the impact of portfolio and control incentives on ownership and performance is discussed from an exit and voice perspective. A short review of earlier empirical studies then follows in Section 4. Data and variables used in the study are presented in Section 5. Section 6 describes and analyses the ownership conditions and features in the companies referred to in the study, to be followed by the statistical analysis of the data in Section 7. Concluding remarks and proposals for future research are offered in Section 8.

## **2. The impact of ownership and control structure on firm performance**

The relationship between ownership concentration and value maximization has been on the research agenda for considerable time. Adam Smith (1776), Berle and Means (1932) and Jensen and Meckling (1976) more or less explicitly state that dispersion of ownership is negatively related to profit maximization and value maximization. Adam Smith (pp.669-700 in Cannan, ed. 1937) writes as follows about the case when control is separated from ownership in joint stock companies: "The directors of such companies, however, being the managers rather of people's money than of their own, it cannot be well expected, that they should watch over it with the same anxious vigilance with which the partners in private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it." Corporate governance literature has primarily focused on large firms. One

of the earlier contributions to this field was made by Berle and Means, who devoted a whole book to the alleged detrimental effects of separation of ownership and control, focusing on large corporations (joint stock companies) with dispersed ownership. The book is one among a handful of famous books in the 1930's that addressed the economic causes of a long depression characterising that decade. They are concerned about the transition of property rights that had taken place since the 19<sup>th</sup> century. Private owners of corporations had become passive agents with small influence on how large firms were run. Instead institutions had emerged as important owners and the management had become "the new princes" that exercise power (p.116). It is claimed that, in an economy characterised by larger and larger corporations, there is a tendency towards separation of ownership from control. Furthermore, we are urged to be concerned about this because, in the words of the authors, "Suffice it here to realize that where the bulk of the profits of enterprise are scheduled to go to owners who are individuals others than those in control the interests of the latter are as likely as not to be at variance with those of ownership and that the controlling group is in a position to serve its own interests." (p.116). In other words – the increase of large corporations will have damaging effects on economic performance.

Exactly two hundred years after Adam Smith, a theoretical foundation was provided by Jensen and Meckling (1976). By developing a model about how the interest of management and owners diverge when ownership and control is separated, the detrimental effects on firm value of a separation of ownership and control is rigorously demonstrated. It is interesting to note that, in contrast to Berle and Means, they choose to address the problem by focusing on growing SMEs.

In the model of Jensen & Meckling the utility function of a controlling manager is assumed to have firm value and on-the-job-consumption as the only two arguments. On-the job consumption is at the expense of firm value. Given traditional assumptions of utility curves it is shown that the management; *cet. par.*, will be more and more inclined to cater to on-the-job-consumption preferences at the expense of maximisation of firm value when a dispersion of ownership to outside owners takes place. As these outside owners are not working in the firm value is the only. (On-the job-consumption does not enter into the utility functions of the outside owners.) As result there is a divergence of the interests between the controlling managers and the outside owners.

To reconcile the interests of the outside owners and the top managers there is a need for control mechanisms. There is a vast literature about control mechanisms that have as a purpose to make value maximisation the objective of firm activities (see e.g. Holmström and Tirole, 1989). One such a control mechanism is the shareholders meetings where

shareholders can elect a board of directors that on the behalf of the shareholders exercise ultimate control of the management of the firms. According to the language of the principal-agent theory the board of directors act as agents of the shareholders.

Swedish corporations differ from the US picture presented by Berle and Means by having a system with vote differentiated shares. In certain companies like Ericsson there are two classes of shares; A shares with 1000 votes and B shares with just one vote at the shareholders' meeting. The result is that families like the Wallenbergs through pyramidal ownership and a concentration on A shares with multiple votes have been able to retain control of several large companies.

In countries like Sweden with a dual class of shares it is important to make a distinction between ability and incentives to maximise firm value. The ability of the shareholder to exercise control of the management is determined by what voting power a shareholder can exercise at the shareholders' meeting. The incentives to exercise value-increasing control are however linked to what portion of the equity of the firm that a shareholder owns. Ownership of large portion of equity means that a large portion of increases in firm value can be appropriated by an active shareholder. By having a dual class of shares with differing number of votes attached ownership and the control ability will differ. This divergence of ownership and control complicates the analysis. There is much left to be done in the development of a theory of how such a dual class of shares change the predictions of the Jensen and Meckling model.

In a study of the relationship between ownership, control and performance the contributions of Manne (1965) and Marris (1964) have to be notified. They put attention to the simple fact that a stock exchange is not just a market place for ownership rights in the sense of rights to a share of the residual income of the firm. The stock exchange is also a market place for the control rights attached to a share. An investor with knowledge of how to increase the residual income from more efficient use of the resources of a firm can benefit from this knowledge by acquiring enough of control rights to enforce such a value increasing change in the use of the resources. In this way a stock exchange will serve as market for corporate control that will look after that company resources are used in a value enhancing way.

### 3. Exit and Voice Interpretation of Portfolio and Control Investments

In the modern corporate finance literature a portfolio perspective is presented. Risk and return are stressed as the only utility arguments that matters. The important risk is the systematic risk that it is impossible to diversify away from. In this theory the

control aspect of stock ownership is disregarded. Managers are assumed to have no other goal than maximising the value of the firm. What the investor just has to care about is to find combinations of assets that maximises the return given the level of risk vice versa.

This portfolio theory is likely to be especially useful in analyses of the behaviour of mutual funds (open-ended funds). A feature of the globalisation of the economy is that investment companies are offering mutual funds with assets from all parts of the globe. This strive towards world-wide coverage is partly motivated by the advantages of internal diversification on return and risk. The globalisation trend shows up in the increase of foreign ownership in most capital markets around the world.

Investors influenced by the portfolio theory are likely to frequently make adjustment in the composition of their portfolio in response to changes in stock performance (stock indices) in different national markets. An exit from poor performing stocks and markets to better performing stocks and markets can be expected. Using Hirschman's terminology global investment companies and their mutual funds are likely to be characterised by an exit-type of behaviour (Hirschman, 1970).<sup>1</sup>

Insiders (managers and members of the board of director of a company) are investors that can be guided by many different incentives. Being more or less intimately involved in the control of the company in which they have an ownership stake it can be assumed that they are concerned about both the value of the firm and the opportunity to consume-on-the-job in form of perks and other amenities. Such an assumption is justified by the fact that they usually belong to the classes of investors that have both the knowledge and power to enforce value-maximising behaviour as well as that they can benefit from other than value-maximising uses of the resources of the firm. Even though they are that in a direct way can enforce value maximising behaviour it is thus not self-evident that value maximising behaviour always is their most important objective. At least in a short time perspective they may exert influence that can be at odds with value-maximising.

Another aspect to consider is that an inside position gives informational advantages that may result in decisions of a long-term character that cannot be adequately evaluate by the stock market. These strategic decisions may be to the long-term advantage or long-term disadvantage of the firm. Insiders and closed-end funds are, at least in Sweden, known to be long-term investors. To the long-term orientation of closed-end contribute the institutional feature of this type of fund that does not make it necessary to sell off share when investors leave the fund (see e.g. Fabozzi and Modigliani, 1996, Ch, 4).

<sup>1</sup> A similar interpretation of the behaviour of investors according to Hirschman's classification can be found in Hedlund (1984).

Insiders and closed-end funds can thus according to Hirschman's terminology be classified as investors mainly driven by voice and loyalty considerations (Hirschman, 1970). These investors can to a larger extent be expected to stay put during times of falling stock prices. They have a long-term perspective. The share ownership is not primarily or solely part of a portfolio strategy.<sup>2</sup>

An upshot of the discussion is that foreign ownership is more adaptive to stock price fluctuations than e.g. insider ownership. The foreign investor are more likely at other time try to track stock prices with a result that they at any given time show up as an important ownership category in firms doing well on the stock market.

#### 4. Earlier Empirical Studies

There are a lot of earlier empirical studies that investigate the relationship between ownership structure and performance (see e.g. Shleifer and Vishny, 1996). Two studies of special relevance for this study are Demsetz and Lehn (1985) and Thonet and Poensgen (1979). These two articles are of special relevance because of their methodological approaches. Demsetz and Lehn are of interest in the way they measure ownership structure while Thonet and Poensgen is interesting in their choice of performance measure.

Demsetz and Lehn use measures of ownership concentration that seem to be inspired by the structure-conduct-performance paradigm in industrial organisation. They concentration ratios that show the ownership shares held by the top 5 and 20 shareholders and Herfindahl measure where squared ownership shares are summed for all shareholders. Their purposes are to investigate both what determines ownership concentration as well as the consequences on firm performance of different ownership structures.

Return on net worth according to accounting data is used as performance measure Their hypotheses are that the cost of controlling management will determine ownership structure and that there should be no noticeable relation between ownership structure and performance as the trade-off between low capital cost of a dispersed ownership and the improved control associated with a concentrated ownership structure tends to be made in a way that is consistent with maximisation of stockholder wealth. The cost of controlling management is assumed to be positively related to the degree of risk and uncertainty characterising the

operations of the firm. Their hypotheses are corroborated by empirical data.

The study of Thonet & Poensgen (1979) is using the valuation ration as performance measure in their study. It is in their study defined as the ratio of stock market value to book value of net assets. The use of the valuation ratio is interesting from a theoretical viewpoint, as it is an efficiency measure that plays a central role in Marris (1964) growth model of the firm. According to this model a fall in the valuation ratio due to catering to other arguments in the utility function of the top management will increase the risk for take-over a change of management. A similar line of reasoning can also be found in Manne (1965).

Swedish empirical studies about relationship between ownership structure and performance are rare. One early study is Bjuggren (1988). Bjuggren (1988) looks at the impact of a concentration of votes. A Herfindahl concentration index is used as a measure of ownership structure. Return on net worth and valuation ratios are used as performance measures. A cross section analysis on companies listed on Stockholm Stock Exchange in 1985 is performed. A positive relation between concentration of votes and valuation ratios is found.

Two master theses at Stockholm School of Economics address also the problem of ownership structure and performance. Lundvall and Wahlström (1995) is a cross section study based on data from 1992 when Sweden was in a deep recession. Several different regressions were run. In one of them, using a Tobin's Q measure of performance (firm value divided by book value of total assets) a significant positive relation is found for the capital share of the top five owners. Landhom (1995) is also a cross section study. The data covers companies listed on Stockholm Stock exchange in 1994. Both concentrations of votes and capital were used as structural measures and Tobin's Q as performance measure. Also in this case, in one of the regressions, a positive significant relationship was found for the capital share of the top five owners.

#### 5. Method and Variables

This study addresses the problem of ownership structure and performance by use of a structure-conduct-performance approach (the SCP-paradigm). This approach, inspired by the field of industrial organisation, is an empirical method of looking at the relationship between ownership and control structure and firm performance. Both in the present study in as well as in the earlier studies referred to above an analogy with the SCP-paradigm can be found. Structure stands for ownership concentration (instead of firm concentration, which is the concentration measured in IO).

A complication is the dual vote system used in Sweden, where the voting differential can be as large

<sup>2</sup> A qualification to this proposition is that insiders are better performed and may therefore earlier than others recognize the long-term weaknesses of a company. In lieu of their better information they may earlier than others sell of the shares of a company with no future. A countervailing force is here the insider rules in most stock markets that make this strategy less profitable. Loyalty to the company may be another hurdle.

as 1000 (when the A-share carries 1000 times more votes than a B-share). With a dual vote system as the Swedish system, the voting and capital structure associated with ownership of shares will differ and have therefore been accounted for in the measures of structure. Using an agency cost approach of Jensen and Meckling (1976) performance corresponds to the extent to which the value of the firm is being maximised. Conduct is the link between structure and performance. In corporate governance setting conduct is the choice of the top management between the maximisation of firm value and consumption-on-the-job given the constraints in form of different control mechanism of which the ownership structure is one. (In other words conduct shows in the present type of studies how the control of the management is affected by ownership structure.)

The dual vote structure is an interesting feature of Swedish corporation law. Proponents defend the system with the argument that it constitutes a way for owners to influence the management of large firms. Without this system the amount of capital needed and the risk involved in loss of diversification would be an insurmountable hurdle to ownership control of management. On the other hand it can at the same time be claimed that a disadvantage of the system is the disproportion between capital share and control potential that can arise. Such a disproportion has as an effect that other than the controlling shareholder have to shoulder the main wealth effects of the control. The cost of catering to other than value maximising objectives will be lower in a dual vote system than in a system with one share and one vote. The enhanced ability to control and possibly distorted value maximising incentives are thus the two opposing forces that must be considered in an analysis of the system.

Table 1 offers a description of the variables used in this study. The valuation ratio, VR, is used as performance measure. The motivation behind the choice of this measure is that it according to our opinion best catches what shareholders at given point of time really are interested in: viz. the stock market value of the firm. The stock market value of the firm is found in the nominator of the valuation ratio. The denominator shows the replacement value of the part of the assets that the shareholders have a residual claim on.

The choice of ownership concentration measure is inspired by the S-C-P paradigm and Demsetz & Lehn (1985). A Herfindahl index, concentration ratios for the top five and twenty owners as well as a concentration ratio just showing the ownership share of the largest owner are used. Owing to the prevalence of dual class of shares in Swedish listed firm separate ownership structure measures are provided for distribution of votes respectively capital share. CR1v, CR5v, CR20v and HHIv refer to votes

while CR1, CR5, CR20 and HI refer to capital (equity).

The variable BETA represents the risk of the company. BETA measures the co-variation of the stock of the company with the Stockholm Stock Exchange All-Shares index. A high value represents a high risk. The estimation is made from historical monthly values 48 months back in time. The estimates are quarterly published by the Stockholm Stock Exchange itself. It is to be noted that BETA is the beta for the equity of the company. Consequently, the value of the variable is influenced by the leverage of the company.

A special variable denoted TELITFO has also been included in the analysis. The reason for having this variable is that internet, telecommunications and research companies represent firms for which the main part of the assets consists of intellectual capital (human capital of an intellectual nature). This type of capital will not be visible in the balance sheet of the companies. Consequently, these companies tend to show high valuation ratios.

An ownership category of special interest are foreign owners (represented by FOR and FORv). Foreign owners can be assumed to have portfolio considerations as the primary criterion for buying and selling. If that is the case it can be expected that this ownership category is less interested in the voting aspects of shares. Such an expectation is in line with our characterisation of foreign ownership as more likely to be exit-oriented than voice oriented (using Hirschman's terminology).<sup>3</sup> A prediction is that this category is more capital oriented than other in their ownership. Another prediction is that foreign owner due to the portfolio orientation tend to be more heavily invested in firm that are highly valued. An index portfolio type of behaviour would generate such a result.

Insiders represented by managers and the board of director are another ownership category investigated in this study (INS and INSv). In line with the theory of Jensen and Meckling (1976) insiders can be expected to be more inclined towards value maximisation when their ownership share is large. This is the category that most directly can benefit from use of the resources of the firm for consumption on the job. It is also the category that has the most direct influence of the use of the resources of the firm due to their inside position. A prediction is that especially capital share of ownership can be positively associated with high valuation ratios. Another feature to be paid attention to (in line with Hirschman's voice characterisation) is that this ownership category can because of the

<sup>3</sup> They should be more interested in the capital aspect than the control (voting) aspect of the shares. But when they prefer shares with more votes it might be an indication that they really are interested in the control aspect in order to actively influence management behaviour towards more of a value maximising nature.

inside position be assumed to take a longer term view of use resources than other owners.

Data used in the calculations of variable measures refer either to December 30, 1999 or December 28, 2001. The ownership data is collected from AMB, an on-line internet commercial database administered by the business magazine Affärsvärlden. Affärsvärlden is the oldest and leading business magazine in Sweden. Data for calculation of the valuation ratio has for 2001 also been collected from AMB. For the 1999 calculation the data has been collected from the magazine Affärsvärlden and refer here to January 8, 2000. This is the day closest to December 31 that this sort of data could be found in the business magazine Affärsvärlden.

The study contains for 1999 data on 98 of the most actively traded companies on Stockholm Stock Exchange. Only non-financial companies were

included in the sample (the intention was to get 100 companies, a nice round and even number. But two of the originally chosen 100 companies were later excluded, as they were closed-end funds and as such did not fit into the classification non-financial companies). The sample for 2001 consists of the "survivors". The number of the originally 98 companies that managed to survive to the end of 2001 was only 80. A majority of those 18 that dropped out disappeared because they were merged or taken over by other companies. Bankruptcy was another reason for disappearance. In one case, SAS, the reason for not being in the 2001 sample is simply that ownership data was not available in the database provided by AMB.

Summary statistics of the variables used are provided in Tables 2 and 3.

**Table 1.** Description of Variables

VR	Valuation ratio. Calculated as stock price divided by replacement value of net assets (net worth) per share: source
CR1	Percentage of equity owned by the largest shareholder.
CR5	Percentage of equity owned by the top five shareholders
CR20	Percentage of equity owned by the top twenty shareholders
HHI	Herfindahl-Hirschman Index of ownership concentration. Calculated by summing the squared percentage of equity owned by each of the top fifty shareholders;
CR1v	Percentage of votes controlled by the largest shareholder
CR5v	Percentage of votes controlled by the top five shareholders
CR20v	Percentage of votes controlled by the top twenty shareholders
HHIv	Herfindahl-Hirschman index of ownership concentration. Calculated by summing the squared percentage of votes controlled by each of the top fifty shareholders;
BETA	The risk of the equity of firm from a portfolio perspective
TELITFO	One if the firm is telecommunication company, internet company, or research company; zero otherwise
FOR	Percentage of equity owned by foreign investors;
FORv	Percentage of votes controlled by foreign investors;
INS	Percentage of equity owned by insiders (insiders are managers and members of the board of directors);
INSv	Percentage of votes controlled by insiders;

**Table 2.** Summary Statistics 1999-12-30

	<i>Observations</i>	<i>Mean</i>	<i>Std Error</i>	<i>Mini-Mum</i>	<i>Maxi-Mum</i>
VR	98	8.42	12.84	0.17	70.73
CR1v	98	32.07	19.57	4.93	89.48
CR5v	98	56.1	20.04	12.9	97.86
CR20v	98	69.02	16.86	23.55	98.83
HHIv	98	1697.37	1572.37	58.47	8047.63
CR1	98	22.97	15.41	3.88	71.11
CR5	98	45.3	18.94	11.61	92.06
CR20	98	60.1	17.44	23.55	95.73
HHI	98	980.5	1019.44	58.47	5086.91
TELITFO	98	0.31	0.46	0	1

**Table 3.** Summary Statistics 2000-12-28

	Observations	Mean	Std Error	Mini-Mum	Maxi-Mum
VR	80	2.39	1.98	0.44	11.37
CR1v	80	27.87	20.00	4.22	89.48
CR5v	80	50.01	19.90	15.45	96.16
CR20v	80	65.55	17.92	23.64	98.42
HH1v	80	1392.19	1593.27	71.77	8027.52
CR1	80	19.45	13.64	4.22	71.01
CR5	80	40.88	17.30	15.45	85.74
CR20	80	59.10	16.89	23.64	95.98
HHI	80	765.61	867.55	71.36	5057.41
TELITFO	80	0.36	0.48	0	1
BETA	80	1.28	1.34	-0.16	10.33
FORv	80	19.20	18.14	0	82.5
FOR	80	22.21	17.79	0	82.5
INSv	80	14.36	21.36	0	75.9
INS	80	8.45	12.35	0	49.2

## 6. Control and ownership structure in actively traded Swedish firms

During the last two decades, the trend of the stock market has been positive. Two exceptions to this trend can be observed; the recession of the early 1990's and the latest recession, noted here by a fall in the stock values from the year 2000. The interim period was however characterised by extraordinary growth.

Table X shows the relation between the stock value and the presence of closed-end funds and foreign owners respectively on the Stockholm stock exchange. For practical reasons, the logarithm has been used. It should be noted that variations that appear in the figure are therefore larger in the original measure. In this figure the measure used is percentage of capital.

The figure further shows that not only the stock market index has increased, but also that the presence of foreign owners has increased in a similar pattern. Foreign actors on the Swedish market are in general portfolio managers who will invest according to the interest of their clients. That is, an increase in the stock market index will lead to an increased participation on the market, and a decrease of the stock market value will make them move their investments to other, more lucrative markets.

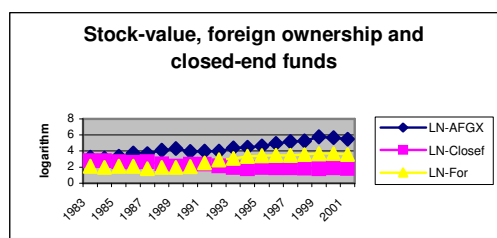
Closed-end funds on the other hand are, as discussed above, supposed to be more loyal to the

companies and have a more long-term interest in the company.

The Swedish dual system of ownership deserves some special attention at this point. In order to briefly describe the situation, the quotient between participation by voting rights to participation by capital for the respective ownership groups and concentration measures. Starting by the concentration ratios as presented in tables X to X, we can conclude that all three measures indicate similar things. The concentration of votes is higher than the concentration of capital for all groups. Any further-going explanations seem to be difficult to make at this point. The largest owner seems to have become slightly more concentrated in votes, whereas the highest five companies as well as the highest twenty companies rather have shown movements in the opposite direction.

The same analysis carried out by groups of owners is presented in tables X. Foreign owners have a low share of votes given their actual investment rates. This goes for 1999 as well as for 2001, and the tendency seems slightly stronger for 2001. This is well in line with the earlier line of argument expecting a portfolio type of behaviour.

The voting share of the insiders is more concentrated than their share of investments, thus confirming that their actions would be voice- and loyalty driven. This difference has decreased in 2001



(Source: Affärsvärlden)

**Figure 1.** Stock –value, foreign ownership and closed-end funds

**Table 4.** Correlation of Ownership and Control Measures. December 30, 1999

	CR5v	CR20v	HHIv	CR1	CR5	CR20	HHI
CR1v	0.95	0.91	0.97	0.93	0.92	0.89	0.85
CR5v		0.99	0.88	0.90	0.96	0.97	0.80
CR20v			0.82	0.88	0.96	0.98	0.76
HHIv				0.88	0.85	0.80	0.86
CR1					0.95	0.91	0.96
CR5						0.99	0.88
CR20							0.81

**Table 5.** Correlation of Measures for Foreign respectively Insider Ownership and Control. December 30, 1999

	INSv	FOR	INS
FORv	0.20	0.95	0.26
INSv		0.3	0.88
FOR			0.33

**Table 6.** Correlation of Ownership and Control Measures. December 28, 2001

	CR5v	CR20v	HHIv	CR1	CR5	CR20	HHI
CR1v	0.93	0.89	0.94	0.91	0.89	0.86	0.83
CR5v		0.99	0.84	0.90	0.96	0.96	0.79
CR20v			0.77	0.88	0.96	0.99	0.75
HHIv				0.86	0.79	0.74	0.85
CR1					0.95	0.90	0.95
CR5						0.98	0.86
CR20							0.78

**Table 7.** Correlation of Measures for Foreign respectively Insider Ownership and Control. December 28, 2001

	INSv	FOR	INS
FORv	0.24	0.97	0.26
INSv		0.30	0.94
FOR			0.30

## 7. The Relationship between Ownership and Control structure and Firm Valuation

OLS regressions were run for two different types of ownership and control measures, viz. the share held by the top five shareholders and Hirschman-Herfindahl Index. These were chosen as especially interesting measures because the share of the five top can be expected to include the owners that have most at stake and can exert an influence on management. The evenness of the distribution of capital and voting share might also matter. For that reason a second set of regressions were run with a Hirschman-Herfindahl Index for voting and capital concentration.

For both these two measures, top five and Hirschman-Herfindahl Index, separate regressions were run for shares of votes and capital as well as for the two dates 1999-12-30 and 2001-12-28.

### The results for 1999:

To start with the result obtained for 1999-12-30 in Tables 8 and 9, it can be observed that no significant relationship is found for the concentration measures. The dummy TELITFO used to indicate telecommunication, internet and research companies are on the other side highly significant and positive. The result is in line with the expectation that assets of an intangible nature, specifically of a human capital nature, will for accounting reasons give high

valuation ratios. But in hindsight there is also likely to be other reasons for this result. These companies had up to this time experienced value increases in bubble-like fashion. That bubble had at the end of 1999 been blown up to a level close to the bursting level a half-year later. This bubble hypothesis provides an alternative explanation to the positive significant relationship.

BETA is not significant and has a positive sign. A positive sign is not what could be expected if BETA is representing risk. High risk should have a negative impact on valuation. However, the beta used in this study is the so-called equity beta. Equity beta is besides the risk of the firm's assets also influenced by leverage. An increased leverage means an increased equity beta. It is possible in certain situations, as e.g. financial stress, that share prices are positively affected by leverage. Another explanation could be found in the way BETA is calculated from historical observations. In times of drastic increases or decreases of stock prices this can lead, as will shown for year 2001, rather funny results. Not at least for this last reason BETA is sometimes a questionable variable to use in ownership studies.

The results for the ownership categories foreigner and insiders are interesting. Foreign ownership is significantly and positively associated with high valuation ratios both for capital and votes. The result is in line with our expectation that a portfolio orientation of this ownership category



means that investments are channelled and reshuffled to companies with high valuation ratios.

Insiders show a somewhat different pattern. Significance is found for capital share but not for voting share. Perhaps the explanation is that a capital oriented type of ownership shares align the interests of insiders with outsiders more than a voting oriented ownership. (In line with the theory of Jensen and Meckling (1976) outsiders are predominantly interested in the equity value of the firm while insiders also have an interest of perks and other kinds of consumption-on-the-job.)

### Comparison between 2001 and 1999:

Let us now compare the results of 2001 with 1999 in Tables 8 and 9. The concentration ratios, top five and Herfindahl-Hirschman, now begins to be significant at the five percent level for votes. The control ability represented by a high concentration ratio for votes appears to be important. Is this a recession phenomenon? (That is a question for a larger ownership study covering several periods of booms and recessions.)

The variables TELITFO and BETA show no significance whatsoever. The telecommunications and internet companies are in 2001 facing a crisis. The stock prices have fallen drastically for this sector

and most of the companies show heavy losses. Some people claim that fall in stock prices are the result of a bursting bubble. The valuation of the companies has just come down to a more realistic level. The drastic fall in valuation has made the dummy variable TELITFO redundant. There is no longer any difference in valuation ratio to adjust for. It could also be argued that the intangible assets of a human capital nature have decreased in value.

The drastic fall of the stock prices for the TELITFO companies have had repercussions on the BETA values for these companies. As BETA is calculated from historical data the drastic change in stock prices has been reflected in high BETA values. The correlation between TELITFO and BETA for 2001 is 0.77 (this could cause a multicollinearity problem).

For the two ownership categories, foreigners and insiders, the results are not that different for year 2001. Foreign ownership is still significantly and positively related to the valuation ratio both for capital and votes. A portfolio type of behaviour is likely to generate this result.

A change is that there is no longer any significant positive relation for insiders, neither for capital shares nor voting shares. This result could be explained by a long-term involvement of this group

**Table 8.** OLS Estimates of the Valuation Ratio with Percentage Owned and Controlled by Top Five Shareholders as Concentration Measures

	Capital	Votes	Capital	Votes
Intercept	-5.66	-1.21	0.26	0.09
CR5	0.07		0.02	
CR5v		0.01		0.03**
TELITFO	11.24***	14.12***	0.47	0.57
BETA	1.88	2.21	0.0004	0.02
FOR	0.15***		0.04***	
FORv		0.11**		0.04***
INS	0.43***		0.03	
INSv		0.04		0.01
N	98	98	80	80
Adj-R <sup>2</sup>	0.44	0.38	0.13	0.10
F	16.1	12.8	3.3	2.7

t-statistics are in parentheses,\* Significantly different from zero at least at the 10 per cent level, \*\* Significantly different from zero at least at the 5 per cent level, \*\*\* Significantly different from zero at least at the 1 per cent level.

**Table 9.** OLS Estimates of the Valuation Ratio with Herfindahl-Hirschman Indices as Measures of Ownership and Control Concentration.

	Capital	Votes	Capital	Votes
Intercept	-2.35	-0.32	0.67	1.0*
HHI	0.0005		0.0005*	
HHIv		-0.0001		0.0006*
TELITFO	10.50***	14.0***	0.38	0.47
BETA	1.61	2.1	-0.01	-0.0007
FOR	0.14***		0.04***	
FORv		0.11**		0.04***
INS	0.44***		0.03*	
INSv		0.05		0.01
N	98	98	80	80
Adj-R <sup>2</sup>	0.43	0.38	0.15	0.08
F	15.6	12.8	3.8	2.4

t-statistics are in parentheses,\* Significantly different from zero at least at the 10 per cent level,\*\* Significantly different from zero at least at the 5 per cent level.\*\*\* Significantly different from zero at least at the 1 per cent level

## 7. Concluding Remarks

Ownership structure is a problematic concept in a study of the relationship between ownership and performance. There are so many facets of ownership structure. The Swedish dual vote system makes an ownership and performance study even more complex. We have chosen to look at the Swedish ownership structure from three different perspectives. Besides the more traditional variable ownership concentration, we also look at the ownership of foreigners and insiders. As Swedish data is used a distinction was made between capital share and voting share aspects of ownership structure.

We found that foreign ownership seems to be susceptible to stock price level and firm value. Furthermore there was for foreigner a bias towards ownership of shares with lower voting power. For both the years studied a positive relationship between foreign ownership and firm value was found for both capital and votes. A portfolio type of behaviour could be one explanation to these statistical results.

Insider ownership also showed a positive relationship with firm value what regards capital share. For votes no relation was found. The result is consistent with what could be expected according to agency cost theory. In contrast to foreigner there was a bias towards shares with high voting power for insiders. Finally, ownership concentration seemed to matter for performance only during the recession year 2001. Especially concentration of votes appeared to have a positive influence on valuation for this year.

A comparison with earlier Swedish studies does not make it possible to draw any definite conclusions about the nature of the relationship between ownership and performance. However, one interesting observation is that a positive relationship for concentration ratios tends to appear here and there in the studies. Lundwall and Wahlström (1995), looking at the recession year 1992, found a significant positive relationship for the capital share of the top five shareholders. Landholm (1995) also found a positive significant relation for the capital share of the top five shareholders in one of his regressions. The year studied was 1994. Finally, Bjuggren 1988, found for 1985 a positive relation for a Herfindahl index of concentration using the valuation ratio as performance measure. Share of votes was used in the calculation of the Herfindahl index. None of these earlier studies looked at an extreme peak year as 1999. The interesting question

for future research is if there are forces type bubbles that make ownership control irrelevant especially during the peak of a bubble?

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