

Dividend decision in closely held companies

An event study of the Swedish 3:12 chapter tax code changes on Jan 1, 2006

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May 2012

Abstract

In Sweden, owners of closely held companies are subject to a special set of tax rules regarding dividends and capital gains. The 3:12 rules that regulate the taxation of owners of closely held companies were implemented in 1991 alongside a dual tax system with different tax rates for investment income and labour income. These special tax rules have since then changed several times. In this paper we study the changes that became effective on Jan 1, 2006 and estimate the impact of those changes on the dividend decision for the closely held companies. Our results suggest that the new set of 3:12 tax rules increased the dividend share for the closely held companies, both in absolute numbers but more importantly also in dividends divided by total assets.

Keywords: 3:12 rules, Closely held companies, Dividends, Dividend decision, Swedish tax policy change

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Acknowledgement

We would like to express our deepest gratitude to Professor Kristian Rydqvist at Birmingham University for his valuable insights and inputs during the writing of this thesis. We would also like to thank our tutor Ulf von Lilienfeld-Toal for his help throughout the process.

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1. Introduction

In Sweden, owners of closely held companies are taxed differently than owners of other limited companies.³ The reason behind this is to prevent the owners from transforming labour income to lower taxed investment income. In 2006 the highest marginal tax rate (including social expenses) peaked at 67 % while the tax rate on investment income was flat at only 30 %, making the effective marginal dividend tax rate 42 %.⁴

In order to prevent the possibility of income transformation a set of special tax rules named the 3:12 rules were developed.⁵ They regulate how owners of closely held companies are taxed regarding dividends and capital gains. These rules have been subject to a lot of critique and have been changed several times since the introduction in 1991.⁶

This paper focuses on one of the largest reforms of the 3:12 rules to date, namely the 2006 year reform which became effective on Jan 1, 2006.⁷ The main reason behind the changes made in 2006 was to lower the overall tax burden for the closely held companies and to stop the subsequent accumulation of capital within the firms.⁸ By quantifying the increase – or possibly decrease – in dividends for the closely held companies this paper examines the consequences that the changed 3:12 rules had in the dividend decision for the closely held companies.

The outline of the introduction and background of this paper is as follows: we first dig deeper into the history of the 3:12 rules and how they have changed since the introduction. Then we focus on the changes made in 2006. Finally we provide some simplified calculations showing the possibility of income transformation and how the change impacted companies of different sizes to give the reader a better understanding of the possible impacts of this change.

The empirical research examines the dividend payout policy for the closely held companies. To control for firm growth and to get a better picture of the actual dividend decision the dividends are scaled by the companies' total assets in order to get the

³ SKV 292, utgåva 20 (2012), p. 3.

⁴ Sandström och Svensson (2006), p. 24.

⁵ Lodin, S-O, "Femton år med 3:12-reglerna, några principiella synpunkter" (2005), p. 210.

⁶ SOU 2002:52 (2002), p. 18.

⁷ Lodin, S-O, "Femton år med 3:12-reglerna, några principiella synpunkter" (2005), p. 209.

⁸ Rapport från finansdepartementet den 26 jan 2005 (2005), p. 97.

dividends as a percentage of the company's total assets. By a basic event study we compare the dividends as a share of total assets for the closely held companies before and after the 2006 year 3:12 reform. We also conduct several difference in difference regressions for the full time period 2001-2008 to investigate for potential lagged effects in the dividend decision.

The results indicate that the closely held companies are experiencing a dividend increase between 2005 and 2006 – both in absolute numbers and as a share of total assets. By comparing the dividends as a share of total assets before and after the 3:12 reform we draw the conclusion that the closely held companies now distribute more cash to their shareholders.

The main reason behind the proposed tax change was to reduce the tax burden of the closely held companies and provide a more just tax system that prevented over taxation of highly profitable companies.⁹ As our results indicate we see an increased distribution of wealth from the closely held companies to their owners which in turn could be used to support shareholders' consumption and thus have an impact on the overall economy. However, in order to connect the increase in dividends following the 2006 year change to economic growth, more research is needed.

⁹ Lodin, S-O, "Femton år med 3:12-reglerna, några principiella synpunkter" (2005), p. 212.

2. The 3:12 rules – A background

Since the introduction in 1991 the taxation of owners' income from closely held companies has been regulated by the 3:12 rules in the Swedish Income Tax Act.¹⁰ As a group, the closely held companies primarily consist of smaller companies and family businesses with few employees. Since the closely held companies by definition only have 4 or fewer owners, the owners often have the option of distributing the company's income to themselves as either wages or dividends.

The main reason behind need for a special set of tax rules regulating this is that these two methods of income distribution are taxed at significantly different marginal tax rates due to the dual tax system implemented in Sweden in 1991.¹¹ Wages are taxed as labour income and in 2006 the marginal tax rate on labour income peaked at 67 % (including social expenses). At the same time dividends are taxed as investment income with a flat tax rate of 30 %, resulting in an effective marginal dividend tax rate of 42 % when taking the corporate tax into account.¹² Table 1.2 shows the different marginal tax rates by annual income for labour income and investment income.

The intention behind the dual tax system is to stimulate the flow of investment within the country and by setting a lower tax rate, compared to other countries, more capital will stay within the country, in the end generating more tax revenues in total¹³. Naturally, the dual tax system creates an incentive for owners who work in the company to distribute the company's income as lower taxed dividend instead of the higher taxed wage and thereby effectively reducing the tax rate up to 19 percentage points. This is the reason to why the 3:12 rules were developed to regulate the taxation of owners' dividends and capital gains in the closely held companies, where the risk of income transformation is the highest.

As Table 1.2 shows there is a possibility of income transformation, since the marginal tax rate on ordinary income above 472 300 SEK is as high as 67 % (including social expenditures). For each marginal tax threshold the owner will benefit from paying himself zero wages and instead paying himself the excess cash as a dividend, given that he is the sole owner of the company.

¹⁰ Prop.1990/91:54 (1990), p. 218.

¹¹ Ibid, p. 218.

¹² Sandström och Svensson (2006), p. 24.

¹³ Ekonomifakta. "Olika skatt på inkomst av arbete och kapital" (2006)

2.1 When are the 3:12 rules applicable?

The Income Tax Act's definition of a closely held company has stayed unchanged for several years.¹⁴ The 3:12 rules states that if a company is defined as a closely held company and the owner's shares are treated as qualified shares, the owner's dividend and capital gain will be taxed according to the 3:12 rules.¹⁵

2.1.1 Definition of a closely held company

According to the 3:12 rules a company can be defined as a closely held company either by the *main rule* or the *special rule*.¹⁶

The main rule states that a limited company is considered a closely held company if more than 50 % of the company's outstanding shares are owned by 4 or less independent partners – where partners are considered independent only if they are not closely related.¹⁷ When calculating the number of independent partners, people in the same family are considered as one single partner. In reality, the ownership of a closely held company can be scattered among a large number of individuals as Figure 1.1 shows.¹⁸

The special rule states that a company may be treated as a closely held company if the on-going business is divided into separate business units independent of each other and an individual is in control of such a unit, either by direct ownership or by certain contracts.¹⁹

2.1.2 Definition of qualified shares

In addition to the company being considered a closely held company, the owner's shares must be treated as qualified shares in order for the owner to be taxed under the 3:12 rules. Since the main reason behind the 3:12 rules is to stop the transformation of labour income to investment income, only owners who are actively working in the company are being taxed according to the 3:12 rules.²⁰ Following this reasoning, a share is only qualified if the owner is currently working or has worked in the company to a significant

¹⁴ Prop. 1975/76:79 (1975), p. 1.

¹⁵ SKV 292, utgåva 14 (2006), p. 4.

¹⁶ Ibid, p. 4.

¹⁷ Ibid

¹⁸ Ibid

¹⁹ Ibid

²⁰ SKV 292, utgåva 14 (2006), p. 4.

extent during the past five years. The rules also apply if another member in the same family fulfils this requirement.²¹

2.2 A brief history of the 3:12 rules

2.2.1 The first set of special tax rules for closely held companies

Special taxation of owners of closely held companies dates back to 1977 when a set of special tax rules first were introduced.²² The need for this was primarily due to a large increase in number of small closely held businesses.²³ In the 1971 taxation, closely held companies comprised of 85 % of all limited companies. Furthermore, around 50 % of them showed no taxable income and around 25 % showed a taxable income of 1 000 SEK or less.²⁴

The reason behind the large increase in numbers of closely held companies was believed to be so that the owners could take advantage of the favourable tax rules for companies compared to individuals.²⁵ Some of the benefits for the owner of a closely held company included distribution of the company's income to different family members for tax purposes and letting the company pay for private expenditures.²⁶ With this in consideration the first set of special rules for closely held companies came to regulate the distribution of the company income to different family members and to stop the tax advantages the owners could achieve by the renting of facilities and transaction of property between the owner and the company.²⁷

2.2.2 The Swedish 1991 tax reform and the 3:12 rules

The current 3:12 rules dates back to the large Swedish tax reform in 1991.²⁸ The 3:12 rules have ever since been subject to a lot of critique and subsequent changes. Their existences have been thoroughly debated and questioned and are commonly viewed as an unfair special tax by the companies themselves.²⁹

²¹ Ibid, p. 4.

²² Prop. 1975/76:79 (1975), p. 1.

²³ Ibid, p. 38.

²⁴ Ibid

²⁵ Ibid, p. 39.

²⁶ Ibid

²⁷ Ibid, p. 1.

²⁸ Prop.1990/91:54 (1990), p. 220.

²⁹ SOU 2002:52 Beskattning av småföretag. (2002), p. 312 f.

In 1991 the largest tax reform in modern day Sweden took place. The aim was to create a fair and just tax system with higher efficiency. In order to achieve this, the system was reformed towards the use of lower tax rates on a larger tax base, so in the end that the total amount of tax revenues would be the same. In combination with this initiative an effort was made to reduce tax planning and achieve greater fairness by reducing the tax rate differences between different types of income.³⁰

Some of the more important changes for small business owners were a reduction of the corporate tax from the earlier 52 % to 30 % in combination with the separation of tax rates on income from capital (investment income) and income from ordinary work (labour income).³¹ Since the overall tax burden for companies remained unchanged due to a broaden tax base, the main reason behind the reformation on the corporate side was to reduce the distortion with different incentive schemes and to stop tax planning.³²

In summary, the tax reform resulted in a drastic reduction of the highest marginal tax rate on labour income – from about 75 % to around 50 %; and on company tax – from 57 % to 30 %. Alongside these changes, a dual tax system was introduced with a flat tax rate on investment income (capital income, dividends etc.) of 30 %.³³ Those changes created a tension between the tax rules for labour income and investment income with the possible consequences of business owners transforming labour income to investment income.³⁴ This could be done either by owners of existing companies who also held a management position or by individuals creating new companies with themselves as the sole employee.³⁵

During the development of the tax reform there was a realization of the need for a special set of tax rules that promoted a fair and just taxation of income and hindered the transfer of labour income to the more favourable taxed investment income.³⁶ However, this did not occur until a very late stage in the reform development process and due to the

³⁰ Government Offices of Sweden. "History of the Swedish tax system" (2010)

³¹ Prop. 1989/90:110 (1989), p. 2 f.

³² Ibid

³³ Ibid

³⁴ Prop. 1990/91:54 (1990), p. 218.

³⁵ Lodin, S-O, "Femton år med 3:12-reglerna, några principiella synpunkter" (2005), p. 210 f.

³⁶ Ibid, p. 212.

short timespan only two simple methods discussed – *the normal pay method* and *the normal yield method*.³⁷

The normal pay method

The normal pay method tried to establish a “normal” paycheck for the manager in a company of a certain size and business type. Every monetary transaction from the company to the owner would then be taxed as labour income up to a certain threshold which would be defined as the “normal” paycheck. Above this threshold transactions to the owner from the company would be taxed as investment income.³⁸

Problems arose with the attempts to establish what a normal paycheck was, given the many different types of business, differences in working hours and individual qualifications for the managers. This problem forced the legislators to look at the normal yield method as it seemed to be a simpler task to establish a normal yield on capital investments.³⁹

The normal yield method

The normal yield model tried to establish a normal yield on the investment. In this model the monetary transaction from the company to the owner would be taxed as investment income up to normal yield on investment; and every monetary transaction over this threshold would be taxed as labour income.⁴⁰

The normal yield method came to be based on the invested capital in the company. The problem with the normal yield method was yet again to determine what a “normal” yield actually was. The model for determining the normal yield came ended up as the risk free rate with an addition of 5 %, which seemed fair since it was comparable with stocks traded in the open market.⁴¹

³⁷ Ibid, p 214.

³⁸ Ibid, p 233 f.

³⁹ Ibid

⁴⁰ Ibid, p. 214 f.

⁴¹ Ibid

The main reason behind the new 3:12 rules was to prevent income transformation, but in addition to this the rules also created a uniform taxation for all owners' income in the closely held companies without any regards of differences among them.⁴²

2.2.3 The 3:12 rules from 1991 and onwards

The initial 3:12 rules came to focus around the normal yield method, but during the 1990s the 3:12 rules were subject to a lot of changes.⁴³ In 1999 the government appointed the Ministry of Finance to assign a special investigation to take a deeper look into the 3:12 rules. The investigators noticed that the many changes in the 3:12 rules had made them difficult to interpret for the business owners. They also concluded that it was impossible to attack the problem with transformation of labour income to investment income in a simple way by a set of general rules.⁴⁴

In 2004 a new investigation group was appointed by the government. Their object was to reform the 3:12 rules to become more tax neutral, accounting for different risk in different companies and to prevent over taxation of highly profitable companies.⁴⁵ However, the rules still needed to prevent income transformation in the closely held companies. The investigation group presented a subset of changes in the 3:12 rules that the legislators then had to consider.⁴⁶

2.4 The 2006 changes in detail

In the 2005 budget proposition the government concluded that the 3:12 rules should change towards being more favourable for the closely held companies and in the 2005/06:40 proposition, the government suggested a reformation of the 3:12 tax rules.⁴⁷ Their suggestion was largely based on the proposal presented by the 2004 year investigation.

The changes gave increased emphasis to the sum of paid salaries in the company, when calculating the threshold for the investment income tax rate.⁴⁸ The consequence of this was that large companies with many employees – and where the owner takes out a

⁴² Ibid

⁴³ Ibid, p. 209.

⁴⁴ SOU 2002:52 (2002), p. 108.

⁴⁵ Prop. 2004/05:1 (2004), p. 211 f.

⁴⁶ Rapport från finansdepartementet den 26 jan 2005 (2005), p. 5 f.

⁴⁷ Prop. 2005/06:40 (2005), p 1 f.

⁴⁸ Ibid

reasonable paycheck – in principle will be excluded from the 3:12 rules since the threshold will be so high that almost all of the dividend will be taxed as investment income.⁴⁹

Also a special rule was implemented which could be used as an option to the earlier main rule. This special rule stated that $1,5 \times IBB$ ⁵⁰ of the dividends always could be taxed at the more favourable investment income tax rate. This rule was more likely to be used by smaller companies with few employees.⁵¹ However, the owner had to choose either between the simple rule or the main rule since the two could not be combined in any way.

One of the larger changes was a removal of the special rules which stated that a certain amount of the dividend was free of taxes. To account for this, the tax rate for investment income on dividends for closely held companies was lowered from 30 % to 20 %.⁵²

To summarize, the following changes were made regarding taxation on dividends for the closely held companies:⁵³

- An alternative rule was introduced which stated that $1,5 \times IBB$ always could be distributed to the lower investment income tax rate.
- A change in the earlier main rule for threshold calculation whereas now paid salaries were given a larger impact and the opportunity to use the salary sum increased.
- Removal of rules that stated that a certain amount of dividend could be distributed to the owner without tax.
- The dividend tax rate was lowered from 30 % to 20 %.
- Earlier saved dividend tax space is to be used only 2007-2011.

⁴⁹ Lodin, S-O, "Femton år med 3:12-reglerna, några principiella synpunkter" (2005), p. 220.

⁵⁰ $1,5 \times IBB$ (2005) equals 64 950 SEK

⁵¹ Lodin, S-O, "Femton år med 3:12-reglerna, några principiella synpunkter" (2005), p. 225 f.

⁵² Ibid, p 229.

⁵³ SKV 292, utgåva 14 (2006), p. 3.

Table 1.1 provides an overview of the changes in the 3:12 rules between 2005 and 2006.

2.4.1 A detailed comparison between the 2005 and 2006 3:12 rules

The 2005 year main threshold is comprised of two parts – a regular main threshold and a tax free dividend threshold. Dividends up to the tax free threshold are excluded from taxes while the amount between the tax free threshold and the regular threshold are taxed at 30 %.

The 2006 year main threshold is comprised only of one part of which all dividends are taxed at $2/3 \times 30 \% = 20 \%$ tax rate. Figure 1.2 shows these differences. However, in 2006 the threshold can be calculated by two different methods: by the *main rule* or by the *simplified rule*.

For both years dividends above the main threshold are taxed as labour income.

2005 threshold calculation

The threshold for tax free dividends is calculated as follows:

$$Base \times Government\ borrowing\ rate \times 70 \% = Threshold\ for\ tax\ free\ dividend$$

The threshold for investment income taxation is calculated as follows:

$$Base \times (Government\ borrowing\ rate + 7 \%) = Threshold\ for\ investment\ tax\ rate$$

Where the base, specific for each owner, on which the threshold is calculated as follows:

$$Base = Acquisition\ cost + Owner\ salary\ space + Saved\ dividend\ space\ from\ earlier\ years$$

For shares acquired before 1990 the owner can adjust the acquisition cost upwards by a certain index. For shares acquired before 1992 the acquisition cost can be calculated from the capital base according to an alternative rule.

The salary space consists of paid salaries and benefits excluding salaries and benefits paid to employees with qualified shares, deducted by government salary subsidies and

$10 \times PBB^{54}$. This salary space is then divided among all shares in the company as follows:

Salary space = Total paid salaries and benefits

- *Salaries and benefits paid to employees with qualified shares*
- *Government salary subsidies*
- $10 \times PBB$

$$\text{Salary space} \times \frac{\text{Number of shares}}{\text{Total number of shares}} = \text{Owner salary space}$$

The saved space from earlier years consists of unused dividend space which means that if the owner's dividend did not reach the threshold an earlier year this can be used in the years to come.

In conclusion, up to the tax free dividend threshold the owner will pay 0 % tax and on the remaining part up to the investment tax threshold he will pay 30 % dividend.

2006 threshold calculation

Simplified rule calculation:

$$\text{Threshold} = 1,5 \times IBB + \text{Saved dividend space} \times (\text{Government borrowing rate} + 3 \%)$$

Main rule calculation:

$$\begin{aligned} \text{Threshold} = & \text{Acquisition cost} \times (\text{Government borrowing rate} + 9 \%) \\ & + \text{Owner salary space} \\ & + \text{Saved dividend space} \times (\text{Government borrowing rate} + 3 \%) \end{aligned}$$

The salary space consists of 20 % of the paid salaries and benefits in the company, deducted by $10 \times IBB$, added with 30 % of the paid salaries deducted by $10 \times IBB$, exceeding $60 \times IBB$. This salary space is then distributed among the shares in the company as follows:

$$\begin{aligned} \text{Salary space} = & (\text{Total paid salaries and benefits} - 10 \times IBB) \times 20 \% \\ & + ((\text{Total paid salaries and benefits} - 10 \times IBB) - 60 \times IBB) \times 30 \% \end{aligned}$$

⁵⁴ $10 \times PBB(2004)$ equals 393 000 SEK

$$\text{Salary space} \times \frac{\text{Number of shares}}{\text{Total number of shares}} = \text{Owner salary space}$$

An numerical example

Table 1.3.1, Table 1.3.2, Table 1.3.3 and Table 1.3.4 provides an example of the change in possible dividends after tax for three arbitrary companies of different sizes.

As we can see, the amount of money to be distributed as dividends has greatly increased for all three companies in the example. Due to the new simplified rule, the percentage increase for small companies is the largest since they now can distribute 1,5 IBB to its owners that can be taxed at the 20 % dividend tax rate. The increased impact of paid salaries affects the larger companies as we also see a large percentage increase in their threshold and dividends after tax.

3. Previous literature

Several studies have been conducted on the economic effect of certain taxes. The introduction of taxes into equilibrium models are among the most basic things taught in microeconomics.

Jabbour and Liu⁵⁵ examine the effect of a tax rate change on dividend payout for the US tax cut in 2003. Their empirical evidence suggest that the profitability of the company is the only factor related to dividends when the tax rate is taken into account. Their conclusion is that the more profitable firms are the more likely they are to pay higher dividends as the applicable tax rate decline.

Bond et al.⁵⁶ examine whether dividends are affected by taxes by studying panel data for 1 218 UK industrial and commercial companies between 1970 and 1990. Their results suggest that tax cost has a statistically significant and quantitatively important influence on dividends.

Chang and Rhee mention the negative relation between shareholders' tax rates and dividend yields or dividend payout ratios, which is called the dividend clientele effect. They present empirical support for this effect which states that higher tax rates for shareholders indicates lower dividend yield or dividend payouts.⁵⁷

In the case of the Swedish 3:12 rules no quantitative financial research has been made regarding the 2006 year changes of the 3:12 rules.

⁵⁵ Jabbour, G., Liu, Y. (2005) p. 69 f.

⁵⁶ Bond, S. et al. (1996), p. 320 f.

⁵⁷ Chang, R., Rhee, G. (1990), p 21 f.

4. Data and Methodology

From Jan 1, 2006 and onwards the owners of closely held companies were taxed according to the new 3:12 rules. All income transferred from the closely held company to the owner during 2006 were subjected to the new tax rules, regulating the taxation of dividends and capital gains. The goal of this paper is to investigate if the 2006 year change had an impact on the dividend decisions for the closely held companies. If we conclude that this indeed was the case, we also try to estimate the size of this impact.

Our research focus around an event study where we estimate the impact on the closely held companies' dividend decision. Since the new 3:12 rules became effective Jan 1, 2006 they regulate the taxation of the owners' income in 2006 (tax year 2007). We therefore examine the differences in dividend decision that took place between 2004 and 2005 for the companies, since the 2005 year dividends are paid out in 2006 and consequently subject to the new 3:12 rules.

In addition to the event study we also perform several difference in difference regressions for the full time period 2001-2008 to check for potential lagged effects. However, it may be hard to isolate any specific effects due to several minor changes in the 3:12 rules that occur almost every year, especially after the 2006 year reform.

4.1 Data

The data used in this paper was primarily gathered from the PAR data sets⁵⁸. We also exported data from the database Affärsdata⁵⁹ in order to complement the PAR data sets. Each data set is described in detail below.

4.1.1 Accounting data set

The accounting data used for this paper was retrieved from the PAR Accounting data set. This data set contains all Swedish companies (excluding sole traders) during the time period 1997 to 2008. Each entry represents one company at a given year together with full accounting data (balance sheet, income statement, key figures) for the company. Other data included is the number of employees, dividend payouts and status (active or inactive) as well as other company specific information.

⁵⁸ PAR. "Företagsregister"

⁵⁹ Affärsdata. "Företag"

The PAR Accounting data set contains both active and inactive companies. In our research we chose not to exclude inactive companies since this may result in a survivorship bias.

The dividend payouts for the companies in the PAR data set are recorded the year before the actual dividend payouts, thus the dividends paid out in 2006 are recorded on the 2005 year entry in the data. This is due to the fact that the board usually suggest the dividend after the end of the income year, which then shows up in the annual report. The shareholders' meeting then decide whether or not to accept this suggestion and then finally decide what the dividend should be. Following this reasoning in order to compare the effect of the tax reform in the data we need to compare the companies' in income years 2004 and 2005.

4.1.2 Board member data set

The PAR Board member data set contain information on all board members in Sweden. Each entry include name of the board member, social security number, data of which company the board member represents, between which dates the person was active in the board and what function or functions that person has in the company.

4.1.3 Firm structure data

The ownership structure for all the Swedish companies was retrieved from the Affärsdata database. This downloaded data contains information of all limited companies and their accounting data, including some miscellaneous data, among which firm ownership was recorded.

This data stretched from 2008 to 2011 and was the basis when generating our control group and their Swedish subsidiaries. Due to the reason that we were not able to find data on company structure for the appropriate time period 2001- 2008, we used ownership structure data from the Affärsdata database 2008 entries and merged the companies with accounting data from the PAR data for each given year.

This can result in misleading interpretations since the used ownership structure in the control group is from a later time period than the research in this paper, but we argue that the firm structure is fairly constant over time, making the risk of miscategorised companies very small.

4.2 Pre and post reform comparison

The first initial regressions were performed in order to compare the average dividend payout for closely held companies and to see if there has been a change between the years 2004 and 2005.

When comparing dividend decision among the companies we chose to look at dividend share, defined as below, instead of dividends in absolute numbers. This is done in order to make the comparison between larger and smaller companies more fair and to control for company growth and profitability. By using this dividend ratio we control for these factors and end up with a more reliable result of possible changes in the dividend decision. If we performed our analysis and the following regressions on the dividend in absolute figures we encounter the problem of determining whether differences in business cycles and other time different effects impact the dividend decision.

We refer to the dividend divided by total assets measure as the dividend policy for several reasons. Different ratios such as dividends to equity or measurements such as dividend payout ratio are subject to different accounting distortions and are unstable as net earnings approaches zero. Due to these reasons and the fact that several other paper uses dividend to total assets as a measurement of dividend payout policy we focus on this measurement.^{60,61}

$$dividend_share = \frac{dividend\ payout}{total\ assets}$$

All regressions made in this paper are controlled for heteroskedasticity in order to achieve a more robust result.

$$(1) dividend_share = \beta_0 + \beta_1 \cdot CHC \quad \text{for year} = 2004$$

$$(2) dividend_share = \beta_0 + \beta_1 \cdot CHC \quad \text{for year} = 2005$$

The *CHC* variable is a dummy variable for the closely held companies, where 1 represents a closely held company and 0 represents any limited company that is not defined as a closely held company which in our data is listed companies on the Stockholm Stock Exchange and their Swedish subsidiaries.

⁶⁰ Aivazian, V et al (2003), p. 371 f.

⁶¹ Pornsit, J. et al (2011), p 271 f.

4.3 Event study setup

The simple regressions above will give an indication of how the dividend share have changed for closely held companies, but will not take into account if there has been a change for all companies between 2004 and 2005.

This is why we continue by using difference in difference regressions with the dividend share as the dependent variable. With this method we are able to estimate the real change in the dividend decision for closely held companies, while keeping everything else constant.

The above difference in difference regression is also expanded to the full time period 2001-2008. We use 2001-2008 is for several reasons. The detailed PAR data set stretches only as far as 2008 so this is our natural upper boundary. In order to get equal amount of years before and after the 3:12 reform we started the time period from 2001. Also, new accounting standards became effective Jan 1, 2001 which is our primary reason to only include data starting 2001 in our research.

The event study is to be seen as a natural experiment – also called quasi-experiment. According to the literature a natural experiment occurs when an exogenous event – e.g. a change in tax regulations - changes the environment in which individuals or firms operate.⁶² In order to analyse this natural experiment we need a control group which is unaffected by the policy changes together with a treatment group which is believed to be affected by the policy changes.⁶³ The basic concept behind the difference in difference setup is to estimate the treatment effect by comparing the treatment group with a control group around the time of the event.

4.3.1 Definition of the treatment group

The treatment group that is affected by the 2006 tax reform is the closely held companies. Due to the problem of obtaining a complete list of closely held companies in Sweden we are forced to use a proxy which separate closely held companies from other limited companies.

⁶² Wooldridge, J. (2009), p. 458.

⁶³ Ibid

Starting with all limited companies in Sweden (this is a requirement in order to be classified as a closely held company according to the Swedish Tax Agency⁶⁴), we develop a proxy which defines a company as a closely held company if the CEO is also a member of the board at any time during the time period 2001 to 2008.

We argue that closely held companies in general are companies where a limited number of people are in charge, both management-wise and owner-wise. Unlike other countries a CEO in Sweden is not an obvious member of the board given by management position itself. Several important organizations, such as The Swedish Academy of Board Directors, argue that in larger companies the CEO should not be on the board of directors.⁶⁵

This is not likely to be the case for the closely held companies given the limited number of people in charge, thus reducing the number of probable candidates for the company board and management. We therefore find this to be a suitable initial proxy to separate the closely held companies from the whole group of limited companies.

We continue to adjust our treatment group by removing the largest companies from our group. By capping the number of employees at 50 employees and the total assets at 100 000 000 SEK, all companies above these thresholds are removed from the group. By doing this we reduce the probability of having non-closely held company in our treatment group. Of course there exist a handful of closely held companies of that size in Sweden but this adjustment, while also removing a few closely held companies, will also remove a larger amount of non-closely held companies from the treatment group. After these adjustments we believe our treatment group mainly consists of closely held companies, with some minor unavoidable “noise” from miscategorised companies. Due to the large number of companies in this group, a few mislabelled companies will not affect the end result by any economical or statistical means.

4.3.2 Definition of the control group

Our difference in difference setup needs to include a control group which need to be unaffected by the policy change. This group could essentially consist of any group of companies which displays some similar characteristics as the closely held companies, as

⁶⁴ SKV 292, utgåva 20 (2012), p. 4.

⁶⁵ VD-tidningen. "Vinklat om vd i styrelsen"

long as they are not experiencing any major change in 2006 that could affect their dividend decisions.

The control group used in this paper are public companies listed on the Stockholm Stock Exchange, including their Swedish subsidiaries. Since companies traded on any Swedish or any foreign market are excluded from the 3:12 rules we believe this to be a suitable control group for our difference in difference setup.

As of today there are 244 companies listed on the Stockholm Stock Exchange. The subsidiaries are also included in order to expand the number of companies in the control group. By doing this we also get a large group of smaller companies which are more comparable with the closely held companies. Adding the 1771 Swedish subsidiaries in the control group gives us a total of 2015 companies.

Other possible control groups include closely held companies in other countries, e.g. a Nordic company. Due to data gathering difficulties and several different changes in taxation for each country between the years, we believed this to be a poor control group.

4.3.3 Model specification

The dummy variable dT represent $dT = 1$ for the treatment group and $dT = 0$ for the control group. $d2$ denote another dummy variable, where $d2 = 1$ stands for the second time period and $d2 = 0$ for the first time period.

A general difference in difference regression then has the following specification⁶⁶:

$$y = \beta_0 + \delta_0 d2 + \beta_1 dT + \delta_1 d2 \cdot dT + other\ factors + \varepsilon$$

Excluding *other factors* in the regression the difference in difference estimator is then:

$$\hat{\delta}_1 = (\bar{y}_{2,T} - \bar{y}_{2,C}) - (\bar{y}_{1,T} - \bar{y}_{1,C})$$

The treatment effect can then be estimated in two ways:

- 1) The difference in averages between the treatment and control in each time period and then the differences over time.

⁶⁶ Wooldridge, J. (2009), p. 458 f.

- 2) The difference in averages over time for each of the treatment and control and then the difference between these changes.

However, the difference in difference estimator ($\hat{\delta}_1$) is not dependent on which way we choose to calculate the difference in difference.

When adding explanatory variables to the earlier equation to control for the fact that population samples may differ systematically over the two periods, the difference in difference estimator ($\hat{\delta}_1$) no longer has this simple form. Still, the interpretation of $\hat{\delta}_1$ is the same.

In order to be valid the difference in difference setup must follow a set of assumptions. Among these assumptions the parallel assumption is the most crucial and it states that the trends in the dependent variable before the change should be similar. This crucial assumption is untestable since we cannot test if:

$$E(\varepsilon|post05 \cdot CHC) = 0$$

Therefore we need to inspect the pre-treatment period and the growth rate of the dividend share for both our treatment group and our control group. A graph of dividend share over time for the treatment group and the control group can be seen in Figure 1.4. Other assumptions include those of a regular OLS estimator.⁶⁷

One of the more crucial assumptions is:

$$E(\varepsilon|x_1, x_2, x_3 \dots x_k) = 0$$

This assumption states that the error term cannot be correlated with any of the explanatory variables. None of the above assumptions including the basic unbiased OLS estimator assumptions are expected to cause our difference in difference estimator to be biased.

Substituting the above general difference in difference regression with our variables we get the following regression:

$$dividend_share = \beta_0 + \delta_0 post05 + \beta_1 CHC + \delta_1 post05 \cdot CHC + other\ factors + \varepsilon_i$$

⁶⁷ Wooldridge, J. (2009), p. 118 f.

Where $E(\varepsilon_i) = 0$ and $CoV(\varepsilon_i, D) = 0$, D being any other dependent variable in the above regression.

4.3.4 Regression robustness test

In order to test the validity of our event study we also run several placebo difference in difference regressions. We adopt this method in order to check if our original event study difference in difference setup is biased or not.

The placebo difference in difference regressions can either be specified with the same treatment group and control group but between different years; or by using a fake treatment group between the same years as in the original setup. Since several minor 3:12 rule changes occur between other years in our data we perform the placebo difference in difference regressions with a fake treatment group.

The fake treatment group must be a group of companies which is similar to the closely held companies, but is unaffected by the 2006 3:12 rule change. For this, we use companies which are limited partnerships. This group is comparable to the closely held companies but is unaffected by the 2006 3:12 rule change.

Since we use a fake treatment group which is unaffected by the 3:12 rule change, in order for the original difference in difference setup to be valid we expect to see a non-significant interaction term, both economically and statistically speaking.

5. Results

All results in full are presented in tables in the Appendix.

5.1 Descriptive statistics of the data

Before running regressions the data from the PAR data set was thoroughly inspected by creating several tables of descriptive statistics for both the treatment group (closely held companies), the control group (listed companies and their Swedish subsidiaries) and all Swedish limited companies. This was also done for two different time periods: the full time period 2001-2008 and 2004-2005 since that is when our primary event study takes place.

5.1.1 Descriptive statistics for 2001 to 2008

Descriptive statistics for the treatment group (closely held companies), the control group (listed companies and their Swedish subsidiaries) and all limited companies in Sweden for the full time period 2001-2008 is presented in Table 2.1.

The large majority of companies in each company group do not pay any dividends at all. As indicated by the 25th, 50th and 75th percentiles of the dividend shares.

In Table 2.6 for the full time period 2001-2008 the percentage share of closely held companies that pay dividends are actually higher than the percentage for all limited companies in Sweden: 21,79 % versus 19,88 %.

Looking at absolute figures of dividend payout, the group of listed companies by far distribute highest mean dividends to their shareholders: approximately 57 million SEK. Table 2.1 also states that although the share of companies that pay out dividends is higher for closely held than all limited in Sweden the mean dividends in absolute figures is much lower for the closely held companies: 230 000 SEK per year compared to 1 200 000 SEK for the limited companies in Sweden.

What should also be noted when looking only at the companies who actually pay dividends, the mean dividend payout is much higher since the current mean is affected by the many companies that do not pay out any dividends at all.

The closely held companies have the lowest average number of employees and the average is significantly lower than for both the listed companies with their Swedish subsidiaries and the limited companies in Sweden. One common characteristic between

the groups is that most companies only have up to a handful of employees in total. However, the personnel cost is lower for the closely held companies compared to the two other groups.

Both the number of employees and total assets descriptives for the closely held companies should be interpreted with caution since we in order to obtain the group of closely held companies removed all companies with over 50 employees or 100 million SEK in total assets. This means that the true averages probably are higher, but not by very much since the number of companies of that size and that are also classified as closely held are very few. The means of our variables of the two other groups will give us an indication of their characteristics but should be interpreted carefully since they also are affected by a few very large companies.

Finally, the reason that the maximum value of the variable *dividend share* far exceed the logical value of 1,0 is that amongst the closely held companies there are a number of consultancies with close to no assets at all, but are at the same time very profitable and thus divide out large amount of cash as dividends every year.

5.1.2 Descriptive statistics for 2004 and 2005

Narrowing the time period to the event window, our event study provides a better understanding of the effect of the tax reform since there are less time dependent factors affecting the end result compared to when looking at the full time period 2001-2008.

As we can see from Table 2.2 and Table 2.3, not much has changed in the descriptive statistics, with the dividend shares as an exception. Table 2.2 presents a large increase in the average dividend payout with respect to company size for the closely held companies, from 1,7 % to 2,5 %. This would indicate that the 2006 tax reform did have an effect on the dividend decisions. However, we cannot draw any definitive conclusions by using only this data since there may be other factors affecting the results.

As for the listed companies with their Swedish subsidiaries in Table 2.3 there is also an increase in the absolute dividends, but when adjusting for company growth the end result in dividend share changed only slightly.

In summary when comparing dividends divided by total assets for the year 2004 and 2005 we see an increase for our treatment group while the control group actually have a decrease despite having a large dividend growth in absolute figures.

5.1.3 Yearly dividend development between 2001-2008

Table 2.4 presents means of yearly dividends for our company groups by the variables dividend share and dividends in absolute figures as well as growth rates for these two variables. For the closely held companies, the same trend as earlier can be seen with a growth rate of 48,7 % in dividend share between 2004 and 2005. Looking at the full trend from 2001, we can see that there is a slightly yearly growth of approximately 10 % until 2005, when after the initial spike the dividend share grows at a much faster rate.

For the control group which consists of listed companies and their Swedish subsidiaries there is a similar trend from 2001 as for the closely held companies, but without the large increase in 2005. After the tax reform the dividend share is also relatively constant apart from the year 2006 year spike. The trends are also shown in Figure 2 where we see parallel trends before the 3:12 tax changes in 2006. After this reform the closely held companies' dividend share grows at a much faster rate than the listed companies and their Swedish subsidiaries.

5.1.4 Dividends separated by number of employees in the company

Table 2.5.1, Table 2.5.2, Table 2.5.3 and Table 2.5.4 separate the dividend share and dividend payout in 2004 and 2005 by the number of employees. We see similar results as in the tables in the above section. The dividend share and dividends in absolute figures have all increase for the different company sizes. The increases are all significant as indicated by the t-statistics.

The corresponding tables for the listed companies and their Swedish subsidiaries show a much lower – and sometimes also negative – difference between the years. What is also interesting is that this result is not statistically significant in any way, with most t-statistics less than $\pm 1,0$. The average dividend payout is larger the more employees the company has and the increase after the reform is at its largest for companies with 2 to 5 employees.

5.1.5 Dividend threshold limits

Table 2.7 gives a picture of the number of companies that choose to maximise their dividend payout while taking dividend taxes into consideration. The table summarizes the

number of companies that at a given year pays a dividend exactly up to the dividend threshold levels ($\pm 1\,000$ SEK) calculated according to the simplified rule.

There are very few companies that pay dividends exactly at the threshold levels in 2004 and before. In the first year after the tax reform became effective (2005 in the data), there is a large jump in the number of companies paying dividends exactly equal to the 2006 threshold level. In 2006 we see the same pattern for the 2007 threshold level and what is interesting is that this pattern continues each year when the threshold level is adjusted by increases in the IBB. There is also a large group of lagging companies that follow the threshold levels before each of the years 2006-2008. This lagging group decrease significantly in 2008.

5.2 Regression results

The above tables indicate that there is an increase in dividend share after the 3:12 tax reform for the closely held companies. In order to be sure that this increase was due to the rule changes and to estimate the increase we designed an event study.

5.2.1 Simple regressions

The first step is to estimate the impact of the *CHC* variable which is a dummy variable that defines if a company is a closely held company or not. Comparing this to the above tables we now control for heteroskedasticity and at the same time the most extreme outliers do not affect the results to the same extent, by the use of regression analysis.

The results from the regressions are presented in Table 3.1 and show very low R-square values (explaining less than 0.1 % of the variation in the data). We see that the regression coefficient indicate 0,64 % lower dividend share for a closely held companies compared to the control group. After the reform it was 0,40 % higher than the control group.

This result indicates that there was a positive increase from 2004 to 2005:

$$\Delta_{after\ reform} - \Delta_{before\ reform} = 0,40 - (-0,64) = \underline{1,04\%}$$

What should also be noted is that both regression coefficients are fairly significant with t-statistics of -2,69 and 2,15 respectively, indicating that there is both an economically and statistically significant change.

5.2.2 Difference in difference regressions

Another way to measure the effect of a change is to use difference in difference regressions. Summarized in Table 3.2 are the results from the primary difference in difference regressions in this paper.

The simplest specification (1) contains only a dummy variable for the two time periods, and one dummy variable for the treatment group. The results now give a slightly better R-square than the two simple regressions and the interaction term $CHC \cdot post05$ have a fairly statistically significant coefficient of 1,05 %, which is exactly the same result as the simple regressions above if using a full set of decimals.

The interaction term explains by how much, given it is the second time period, closely held companies dividend share increases compared to the control group. In this case there is an 1,05 % increase in dividend share.

Regression (1) presents the same results as our simple regressions. The second regression (2) controls for the other factors *EBIT*, *Net income*, *Current ratio* and *Personnel cost* to make sure that these variables do not affect the dividend share.

Specification (2) presents a marginally better R-square. The interaction term is 0,94 % and more statistically significant than before. This would indicate that there is less unknown factors disturbing the regression and that the interaction term regression coefficient of 0,94 % is closer to the true effect of the 2006 tax reform.

Continuing expanding the second regression over the full time period of the data, 2001-2008 and controlling for time fixed effects by the use of year dummies, the regression (3) still presents almost the same results as the first two difference in difference regressions with the main change being that the R-square value is slightly higher.

In regression (4) we add a full set of controlling variables. In addition to the controlling variables in regression (3) we also add the dividend in absolute figures and total assets as controlling variables. In this regression we also exclude all companies with extreme Net incomes (more than $\pm 10\,000\,000$ SEK) and companies with 0 in dividend share. This way the regression only regress on companies that actually pay out dividends and the regression is not affected by the 75 % + of the companies with 0 in dividend share.

The regression (4) gives us a significantly better R-square, explaining up to 22,7 % of the variation in the data. We still see a positive interaction term although the statistical significance is lower than in regression (1), (2) and (3), indicating that when controlling for a larger part of the variation in the data, there's still a significant change in the interaction term.

5.2.3 Difference in difference with firm fixed effects

In order to control for firm fixed effects we expand the regression once again by adding firm fixed effects by controlling on each companies unique ID.

Due to collinearity between the dummy variable for closely held companies (treatment group) is omitted from the regression. The results from this regression are presented in Table 3.3 and this is probably the best estimate of the tax reform effect in this paper. The interaction term now has a coefficient of 0,92 % and the t-statistic is 2,12 which indicate both economical and statistical significance. Controlling for firm fixed effects and time fixed effects on the whole time period 2001-2008 also indicate the same results.

5.2.4 Robustness test

In order to test the robustness of the difference in difference setup we run the same regression but with a placebo group as the treatment group. The placebo group should not be affected by the tax reform and therefore not register a change in the difference in difference estimate of the interaction term.

As a placebo group we used Swedish limited partnerships. In Table 3.4.1 we can see descriptive statistics for the placebo group. The number of employees is slightly larger when compared to the closely held companies. They also have higher personnel cost and like the closely held companies the majority of the limited partnerships do not pay out any dividends.

The results from the regressions are presented in Table 3.4.2. The interaction term *placebo · post05* is both very small and statistically insignificant with an absolute t-value of less than 1,0. Adding several other controlling variables as in the above regressions does not change the results. The interaction term is still both economically and statistically insignificant.

6. Conclusion and implications

From our results we can see a clear pattern that closely held companies on average paid out higher dividends as a share of total assets after 2005. This should be seen as a success from the legislators' point of view since the 2006 year tax reform was meant to lower the overall tax burden for the closely held companies and increase the distribution of excess cash to the shareholders.

Our fixed effects regression with additional variables as control provides the best estimation of the true 2006 3:12 reform effect on closely held companies. We see an increase in dividend share of 0,92 % which means that the closely held companies now distribute 0,92 % more of their total assets to the shareholders as dividends that year. Comparing this to the mean dividend share in 2004 of 1,7 %, this results in an increase of 54 % in total. Since the average closely held company has total assets of 2,4 MSEK, in absolute figures the dividend increase is approximately 20 000 SEK for each company.

By controlling for several other factors as well as company fixed effects that may affect the dividend share of total assets we are relatively confident that we have managed to isolate the tax change as the factor that led to the increase in dividend share for closely held companies.

We failed to develop a model which explain the majority of the variance in the dividends as a share of total assets as our adjusted R-squared value indicates. However, that was not the purpose of our difference in difference setup neither the goal of this study.

The goal was to show an economically and statistically significant coefficient for the interaction term in our difference in difference regressions. Thus we can draw the conclusion that our data indicate that there is a positive increase in the dividend share for the closely held companies after the 3:12 tax reform that became effective on Jan 1, 2006.

No obvious increase in dividend share between the different sized closely held firms can be seen. However in absolute figures the increase in dividends for larger firms is larger. The increased weight of the salary sum in the calculation of the threshold have had a favourable impact on companies with many employees while the introduction of the simplified rule threshold have had a favourable impact on the smaller closely held companies with few employees.

The introduction of the simplified rule seem to have an large impact on the dividend decision in the smaller companies with few employees as can be seen in Table 2.5.1-2.5.4. The introduction of a low tax dividend up to $1.5 \times IBB$ obviously provided an opportunity for the smaller companies to increase their dividends both in absolute figures and as a share of total assets.

As Table 2.7 indicates we see a substantial amount of firms which choose to pay out dividends precisely at the years threshold. Since the simplified rule threshold was adjusted upwards to $2 \times IBB$ in 2007 and $2,5 \times IBB$ in 2008 we can follow this trend and see whether or not the companies adjusted their dividends according to the threshold changes. The table also shows that a large group of companies stay at the dividend threshold from the year before. This may indicate that owners of closely held companies do not stay updated with the new rule changes and adjust their dividends according. Because of this lagged effects may be present.

One weakness in our study is the definition of the closely held companies. Since we lack the appropriate data we were forced to use a proxy in order to define the closely held companies. As long as the proxy is valid and captures a majority of the closely held companies – meaning that our treatment group consists of mostly closely held companies – our results are valid. If our control group contain a large group of companies that are in fact not closely held companies our results are hard to draw any conclusion from.

There is an interesting difference in dividend decision between our treatment group and our control group. As a share of total assets, our treatment group has a much higher mean dividend share after 2005 compared to before 2005, when comparing the treatment group and the control group. This is a sign that something has led to a change in the dividend decision.

The implications of our findings are several. However, one must be cautious when estimating possible effects of the increased distribution of cash to the shareholders of closely held companies. This may be an area where future research is needed.

7. Further research

One of the main concerns in our research is the proxy that separates the closely held companies from other limited companies. Our proxy may give concerns about the accuracy of our difference in difference regressions since in our defined group of closely held companies there may be companies that are in reality not closely held. However we believe that the amount of other companies in our treatment group is so small that they do not impact our result in any economical or statistical meaning.

In 1997 the Statistics Sweden (SCB) began a collaboration with the Ministry of Finance in order to develop a database of different forms of business enterprises, among them the closely held companies. This data culminated in the database *FRIDA*⁶⁸ (Företagsregister och individdatabas) and contains all declarations and attachments that businesses and entrepreneurs submitted as a basis for their taxation.

This database contains the most ideal data for this paper, but due to the requirements of passing an ethics board and the cost associated with it we were unable to acquire it. But if more accurate results are desired the needed data is available.

Furthermore, looking into the possible consequences of the increased distribution of the company's money to the owners is also an interesting research field. A possible approach is to study the relation of changes in the 3:12 rules and the GDP development and/or possible increases in consumption.

⁶⁸ Statistiska Centralbyrån. "Företagsregister och individdatabas"

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B. Appendix

B.1 Figures

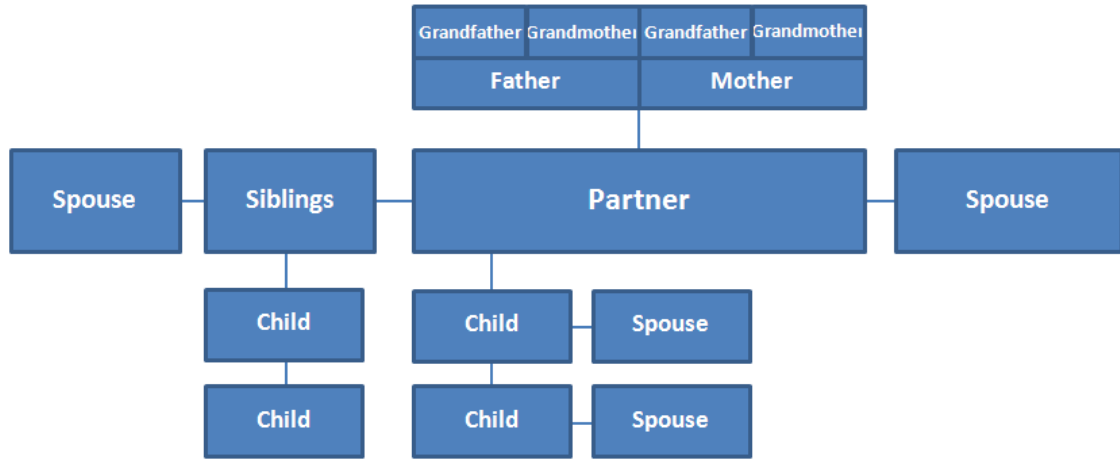


Figure 1.1: Example of a possible family structure in a closely held company. Every individual in the above figure is considered as one single independent partner in the company.

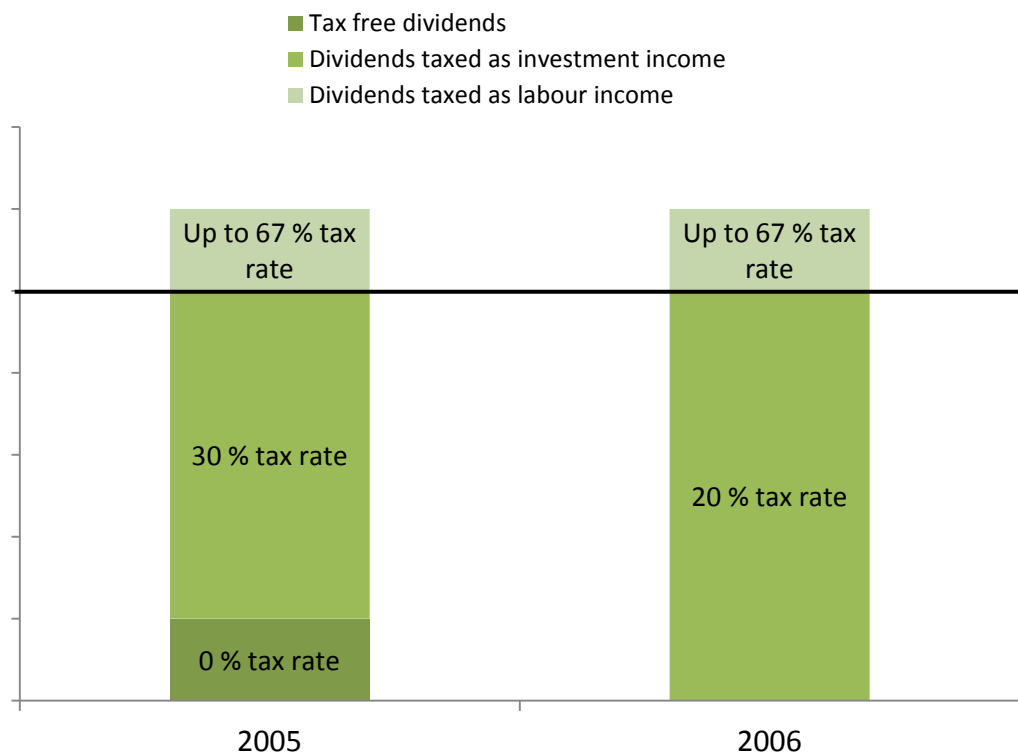


Figure 1.2: Dividend thresholds tax level comparison between 2005 and 2006. Note that the threshold level may vary in absolute numbers between the years.

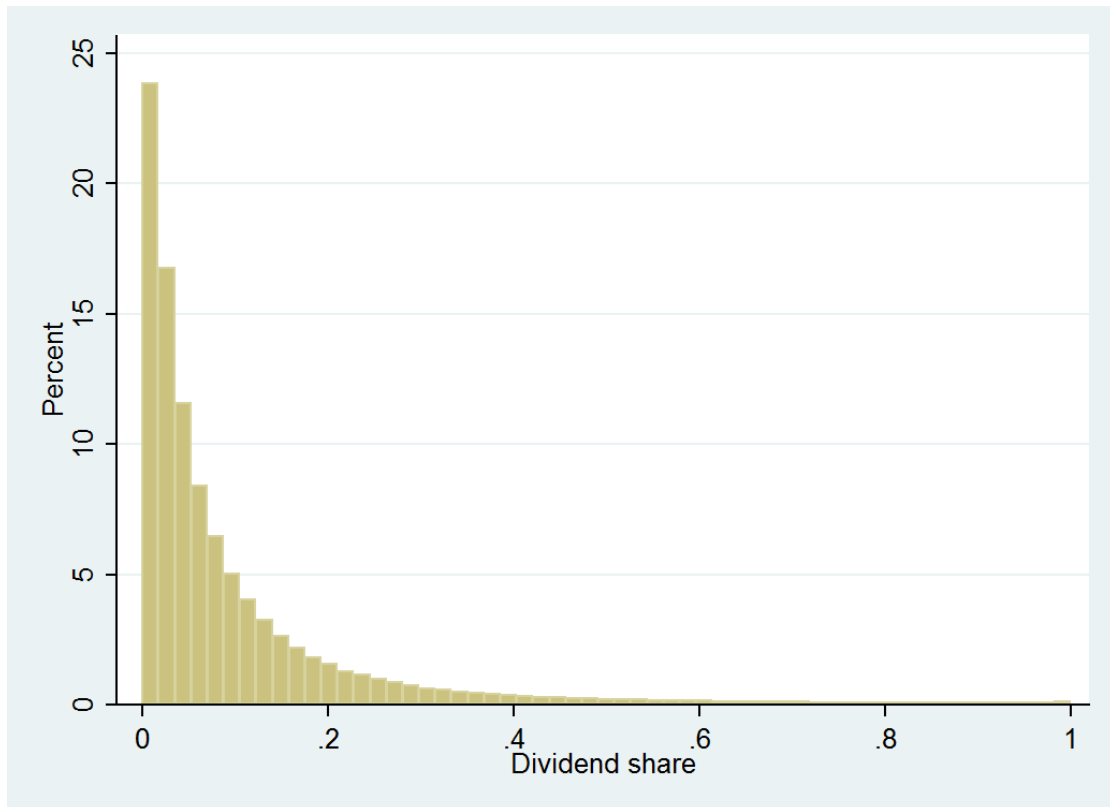


Figure 1.3: Histogram over the percentage rate of companies with the different amounts of dividend shares, defined as *Dividends / Total assets*. Note that companies with a dividend share of zero are excluded for graphical reasons.

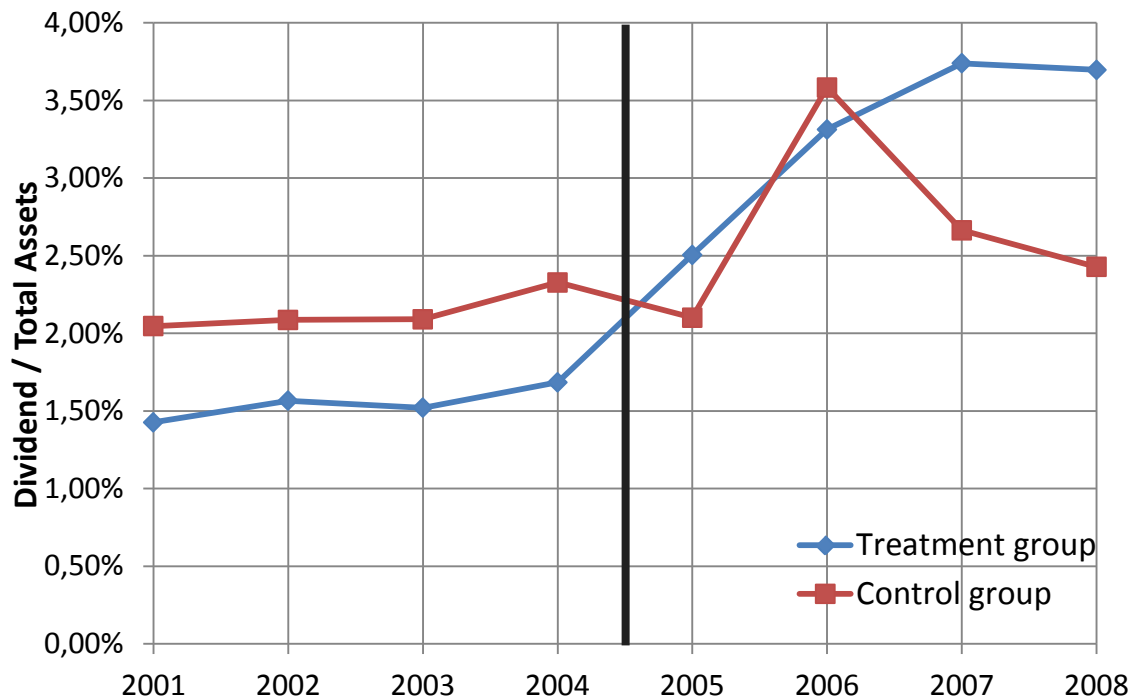


Figure 1.4: The development of the mean dividend share by year for the treatment group (closely held companies) and control group (listed companies on the Stockholm Stock Exchange and their Swedish subsidiaries). Notice that the parallel trends of the two groups before treatment (bold line) are similar.

B.2 Tables – 3:12 rules calculations

Table 1.1 A 3:12 rules comparison between 2005 and 2006

Income year		2005	2006
Tax rate on dividends	30 %		$2/3 \times 30 \% = 20 \%$
<u>Tax free dividend threshold</u>			
Threshold level	Base $\times$ Government borrowing rate $\times$ 70 %		No
<u>Simplified dividend threshold*</u>			
Threshold level	No		$1,5 \times \text{IBB}$
<u>Main dividend threshold</u>			
Threshold	Acquisition cost $\times$ Split rate + Salary base $\times$ Split rate + Saved dividend space from earlier years $\times$ (1 + Split rate)		Acquisition cost $\times$ Split rate + Salary base + Saved dividend space from earlier years $\times$ (1 + Adjustment rate)
<u>Rates</u>			
Split rate**	Government borrowing rate + 7 %		Government borrowing rate + 9 %
Adjustment rate	No		Government borrowing rate + 3 %
<u>Salary part of threshold</u>			
Salary base	Sum of salaries above 10 $\times$ PBB		Sum of salaries above 10 $\times$ IBB
Salary part of threshold	Salary base $\times$ Split rate		Salary base $\times$ 20 % + Salary base above 60 IBB $\times$ 30 %
<u>Owner salary requirement</u>			
Owner salary requirement	120 % of the highest salary which has been paid to an employee whose salary has been included in the salary base; or 10 $\times$ PBB		15 $\times$ IBB or 6 $\times$ IBB + 5 % total salaries in the company

*After 2005 owners can choose to calculate their threshold by either the simplified rule or the main rule.

**The Swedish term is "Klyvningsräta".

Table 1.2 Marginal tax rate thresholds for different annual incomes

Marginal tax rates of different income distribution methods (wages and dividends) on different annual incomes. Marginal tax rates differ on income from labour, income from dividend taxed as investment income and dividends taxed as labour income. The marginal tax rate on labour income is shown both with and without social expenses. Also included is what is left after taxes for the owner on the next 100 SEK earned if the income is distributed as salary, as dividend taxed as investment income and as dividend taxed as labour.

Annual income	< 317 700 SEK	317 700 - 359 115 SEK	359 115 - 472 300 SEK	> 472 300 SEK
<u>Marginal tax rates</u>				
Marginal tax rate on labour income including pension expenditures	32 %	52 %	52 %	57 %
Marginal tax rate on labour income including pension expenditures and other social expenditures	49 %	64 %	64 %	67 %
Effective marginal tax rate on dividends taxed as investment income	42 %	42 %	42 %	42 %
Effective marginal tax rate on dividends taxed as labour income	51 %	65 %	65 %	69 %
<u>Owner's marginal income after tax on 100 SEK</u>				
As salary (including social expenditures)	51 SEK	36 SEK	36 SEK	33 SEK
As dividends taxed as investment income	58 SEK	58 SEK	58 SEK	58 SEK
As dividends taxed as labour income	49 SEK	35 SEK	35 SEK	31 SEK

Table 1.2.1 Tax rates used in Table 1.2

Tax rates used for calculations in Table 1.2. The Swedish Income Tax Act states that only county tax is applied on annual incomes up to 317 700 SEK. An additional 20 % state tax applies on annual incomes between 317 700 – 472 300 SEK and a 25 % state tax applies to annual incomes over 472 300 SEK. Numbers are rounded to the nearest integer for simplicity.

Dividend tax rate for qualifies shares in closely held companies when taxed as investment income	20 %
Corporate tax rate	28 %
County tax rate	32 %
State tax	20 % or 25 %
General pension expenditures*	7 %
Social expenditures	32 %
Annual income thresholds for state tax	
317 700 - 472 300 SEK	+ 20 %
> 472 300 SEK	+ 25 %

*General pension expenditures are paid on labour income up to 359 115 SEK

Table 1.3.1 Assumptions for three arbitrary companies of different size

Necessary assumptions for the calculations in Table 1.3.3.

Company	Small AB	Medium AB	Large AB
# Employees	1	10	100
# Shares	100	500	1 000
Share capital	100 000 SEK	500 000 SEK	1 000 000 SEK
Salaries	300 000 SEK	3 000 000 SEK	30 000 000 SEK
Salary of owner	300 000 SEK	600 000 SEK	900 000 SEK
Salary of highest paid employee excl. owner	N/A	450 000 SEK	675 000 SEK

Table 1.3.2 Common assumptions for table 1.6 calculations

Table 1.3.2 shows common figures for calculations in Table 1.3.3. The government borrowing rate are given by the government borrowing rate 30/11 the year before. I.e. the government borrowing rate 2005 is actually the government borrowing rate 30/11 2004. For equations for calculation of threshold levels see section 2.4.1.

PBB 2004	39 300 SEK
IBB 2004	42 300 SEK
PBB 2005	39 400 SEK
IBB 2005	43 300 SEK
Government borrowing rate 2005	3,95 %
Government borrowing rate 2006	3,26 %
Split rate 2005	10,95 %
Split rate 2006	12,26 %
Adjustment rate 2006	6,26 %
Nominal value of shares	1 000 SEK
Number of owners	1

Table 1.3.3 Threshold calculations for the example companies

Threshold levels for 2005 and 2006 as well as salary requirements for using the wage based part of the main threshold calculation.

	Simplified threshold	Tax free dividend threshold	Main threshold	Salary req. no. 1*	Salary req. no. 2**
<u>Year 2005</u>					
Small AB	N/A	2 765 SEK	10 950 SEK	N/A	393 000 SEK
Medium AB	N/A	85 909 SEK	340 217 SEK	540 000 SEK	393 000 SEK
Large AB	N/A	846 284 SEK	3 351 467 SEK	810 000 SEK	393 000 SEK
<u>Year 2006</u>					
Small AB	64 950 SEK	N/A	12 260 SEK	649 500 SEK	274 800 SEK
Medium AB	64 950 SEK	N/A	574 700 SEK	649 500 SEK	409 800 SEK
Large AB	64 950 SEK	N/A	8 463 210 SEK	649 500 SEK	1 759 800 SEK

*Salary requirement no. 1: 2005 - 120 % of highest paid employee excluding owner; 2006 - 15 IBB

**Salary requirement no. 2: 2005 - 10 PBB; 2006 - 6 IBB + 5% of all salaries

Table 1.3.4 Possible dividend after tax if dividends are paid up to the threshold

Table 1.3.4 shows the dividends after tax and increases in dividends after tax if the company chooses to pay out dividends up to the threshold calculated in Table 1.3.4.

	2005	2006	Increase
Small AB	8 495 SEK	45 465 SEK	435%
Medium AB	263 924 SEK	402 290 SEK	52%
Large AB	2 599 912 SEK	5 924 247 SEK	128%

B.2 Tables – Descriptive statistics of the data

Table 2.1 Descriptive statistics of different company groups for the full time period, 2001-2008

Descriptive statistics for all (1) closely held companies, (2) listed companies on the Stockholm Exchange and their Swedish subsidiaries and (3) Swedish limited companies for the full time period 2001-2008. The descriptive statistics include the mean value, minimum value, different percentiles, maximum values and the standard deviation. All absolute figures are in SEK.

	mean	min	p25	p50	p75	max	sd
Dividend / Total assets	0,025	0,000	0,000	0,000	0,000	54,147	0,127
# Employees	6	0	0	2	7	50	9
(1) Personnel cost	2 273 982	0	0	493 000	2 450 000	159 279 000	4 295 363
Dividend payout	229 369	0	0	0	0	294 634 000	1 702 575
Total assets	8 179 681	1 000	600 000	2 318 000	8 452 000	100 000 000	14 597 838
Dividend / Total assets	0,024	0,000	0,000	0,000	0,000	1,000	0,101
# Employees	759	0	0	5	61	231 588	6 616
(2) Personnel cost	91 844 556	0	0	0	14 915 000	22 352 000 000	873 527 283
Dividend payout	56 888 369	0	0	0	0	28 290 000 000	560 391 330
Total assets	4 599 400 000	3 000	5 389 000	63 642 000	554 000 000	756 740 000 000	31 407 000 000
Dividend / Total assets	0,023	0,000	0,000	0,000	0,000	81,482	0,110
# Employees	17	0	0	2	4	231 588	581
(3) Personnel cost	3 904 071	0	0	358 000	1 377 000	22 352 000 000	82 090 060
Dividend payout	1 167 258	0	0	0	0	33 200 000 000	68 411 575
Total assets	80 608 782	1 000	473 000	1 504 000	5 392 000	2 288 600 000 000	3 641 800 000

Table 2.2 Descriptive statistics of all closely held companies (treatment group) 2004-2005

Descriptive statistics for all closely held companies (treatment group) in the data during the event window time period 2004-2005. The descriptive statistics include the mean value, minimum value, different percentiles, maximum values and the standard deviation. All absolute figures are in SEK.

	mean	min	p25	p50	p75	max	sd
Dividend / Total assets	0,017	0,000	0,000	0,000	0,000	8,368	0,083
# Employees	6	0	0	2	7	50	9
2004 Personnel cost	2 242 788	0	0	485 000	2 444 000	102670000	4 174 739
Dividend payout	176 165	0	0	0	0	77 300 000	1 454 454
Total assets	7 955 218	1 000	575 000	2 244 000	8 219 000	100 000 000	14 296 729
Dividend / Total assets	0,025	0,000	0,000	0,000	0,000	7,742	0,094
# Employees	6	0	0	2	6	50	9
2005 Personnel cost	2 278 830	0	0	485 000	2 463 000	116 646 000	4 282 226
Dividend payout	256 264	0	0	0	0	80 000 000	1 820 494
Total assets	8 290 822	1 000	600 000	2 350 500	8 587 000	100 000 000	14 751 780

Table 2.3 Descriptive statistics of all listed companies and their Swedish subsidiaries (control group) 2004-2005

Descriptive statistics for all listed companies on the Stockholm Exchange and their Swedish subsidiaries (control group) in the data during the event window time period 2004-2005. The descriptive statistics include the mean value, minimum value, different percentiles, maximum values and the standard deviation. All absolute figures are in SEK.

	mean	min	p25	p50	p75	max	sd
Dividend / Total assets	0,023	0,000	0,000	0,000	0,000	1,000	0,103
# Employees	732	0	0	5	64	206 153	6 382
2004 Personnel cost	85 611 896	0	0	20 500	15 375 000	19937000000	883 146 058
Dividend payout	39 031 078	0	0	0	0	6 620 300 000	299 265 298
Total assets	3 909 700 000	3 000	5 318 000	59 105 000	497 449 000	477 360 000 000	26 557 000 000
Dividend / Total assets	0,021	0,000	0,000	0,000	0,000	0,986	0,082
# Employees	747	0	0	4	57	216 987	6 530
2005 Personnel cost	97 676 518	0	0	8 000	15 465 000	21 912 000 000	948 283 437
Dividend payout	62 591 507	0	0	0	0	15 717 000 000	539 015 120
Total assets	4 709 700 000	3 000	5 763 000	66 485 000	579 525 000	518 840 000 000	30 871 000 000

Table 2.4 Dividend and dividend share yearly development and growth for the different groups

This table show the average dividend share (*Dividend/Total Assets*) and dividends in absolute figures for each given year. The yearly growth is calculated by comparing the dividend the year before with the given year. The top row also contains the number of companies each given year for each group there is in the data. The different groups are all (1) closely held companies, (2) listed companies on the Stockholm Exchange and their Swedish subsidiaries and (3) Swedish limited companies for the full time period 2001-2008. All absolute figures are in SEK.

	2001	2002	2003	2004	2005	2006	2007	2008	Average
# Companies	86 081	87 129	87 421	88 151	89 638	91 181	90 950	90 775	88 916
Dividend/Total Assets	1,4 %	1,6 %	1,5 %	1,7 %	2,5 %	3,3 %	3,7 %	3,7 %	2,4 %
(1) Dividend/Total Assets growth	-	9,8 %	-2,9 %	10,8 %	48,7 %	32,2 %	12,9 %	-1,2 %	15,8 %
Dividend payout	140 619	143 516	164 083	176 165	256 264	308 424	337 980	295 689	227 842
Dividend growth	-	2,1 %	14,3 %	7,4 %	45,5%	20,4 %	9,6 %	-12,5 %	12,4 %
# Companies	1 733	1 795	1 823	1 871	1 932	2 047	2 145	2 217	1 976
Dividend/Total Assets	2,0 %	2,1 %	2,1 %	2,3 %	2,1 %	3,6 %	2,7 %	2,4 %	2,5 %
(2) Dividend/Total Assets growth	-	1,9 %	0,2 %	11,4 %	-9,8 %	70,6 %	-25,7 %	-8,9 %	5,7 %
Dividend payout	31 513 077	30 698 430	40 824 884	39 031 078	62 591 507	83 277 410	94 324 229	60 652 150	58 771 384
Dividend growth	-	-2,6 %	33,0 %	-4,4 %	60,4 %	33,0 %	13,3 %	-35,7 %	13,9 %
# Companies	268 653	275 494	278 561	283 146	290 056	300 611	309 512	318 640	293 717
Dividend/Total Assets	1,2 %	1,2 %	1,2 %	1,4 %	2,2 %	3,2 %	3,7 %	3,7 %	2,4 %
(3) Dividend/Total Assets growth	-	3,1 %	0,6 %	11,6 %	63,9 %	40,5 %	15,9 %	0,0 %	19,4 %
Dividend payout	824 089	674 350	790 502	1 027 459	1 346 792	1 493 338	1 698 559	1 349 212	1 197 173
Dividend growth	-	-18,2 %	17,2 %	30,0 %	31,1 %	10,9 %	13,7 %	-20,6 %	9,2 %

Table 2.5.1 Descriptive statistics and t-tests for closely held companies and their dividend/total assets

This table show the number of closely held companies, mean dividend share (*Dividend/Total Assets*) and its standard deviation for each of the years 2004 and 2005. The two bottom rows contain the difference between the mean 2005 and 2004, with a t-statistic testing whether the difference is significantly larger than zero.

# Employees	0 - 1	2 - 5	6 - 10	11 - 25	26 +	Total
2004 N	41 502	21 776	9 557	10 464	4 852	88 151
2004 Mean	0,0179	0,0133	0,0185	0,0187	0,0166	0,0168
2004 St dev	0,0964	0,0586	0,0630	0,0982	0,0512	0,0833
2005 N	42 737	21 983	9 628	10 451	4 839	89 638
2005 Mean	0,0256	0,0225	0,0268	0,0264	0,0248	0,0251
2005 St dev	0,1113	0,0752	0,0770	0,0740	0,0685	0,0939
diff	0,0078	0,0092	0,0083	0,0078	0,0082	0,0082
t	10,82	14,26	8,20	6,46	6,64	19,48

Table 2.5.2 Descriptive statistics and t-tests for closely held companies and their dividend payout

This table show the number of closely held companies, mean dividend in absolute numbers and its standard deviation for each of the years 2004 and 2005. The two bottom rows contain the difference between the mean 2005 and 2004, with a t-statistic testing whether the difference is significantly larger than zero. All absolute figures are in SEK except for number of companies N.

# Employees	0 - 1	2 - 5	6 - 10	11 - 25	26 +	Total
2004 N	41 502	21 776	9 557	10 464	4 852	88 151
2004 Mean	150 358	94 745	200 100	283 831	482 974	176 165
2004 St dev	1 651 240	955 601	1 298 343	1 276 424	2 006 178	1 454 454
2005 N	42 737	21 983	9 628	10 451	4 839	89 638
2005 Mean	213 549	142 321	263 496	442 376	734 795	256 264
2005 St dev	2 002 171	1 133 349	1 394 203	2 029 760	2 648 010	1 820 494
diff	63 191	47 575	63 396	158 545	251 822	80 099
t	4,99	4,75	3,26	6,76	5,28	10,24

Table 2.5.3 Descriptive statistics and t-tests for listed companies and their Swedish subsidiaries and dividend/total assets

This table show the number of listed companies on the Stockholm Exchange and their Swedish subsidiaries, mean dividend share (*Dividend/Total Assets*) and its standard deviation for each of the years 2004 and 2005. The two bottom rows contain the difference between the mean 2005 and 2004, with a t-statistic testing whether the difference is significantly larger than zero.

	# Employees	0 - 1	2 - 5	6 - 10	11 - 25	26 +	Total
	N	791	134	96	164	686	1 871
2004	Mean	0,0277	0,0300	0,0248	0,0384	0,0130	0,0233
	St dev	0,1319	0,0876	0,0915	0,1199	0,0511	0,1030
	N	847	137	97	165	686	1 932
2005	Mean	0,0239	0,0341	0,0317	0,0229	0,0129	0,0210
	St dev	0,1023	0,1039	0,0861	0,0526	0,0434	0,0816
	diff	-0,0039	0,0041	0,0069	-0,0155	-0,0001	-0,0023
	t	-0,66	0,35	0,54	-1,52	-0,06	-0,76

Table 2.5.4 Descriptive statistics and t-tests for listed companies and their Swedish subsidiaries and dividend payout.

This table show the number of listed companies on the Stockholm Exchange and their Swedish subsidiaries, mean dividends in absolute numbers and its standard deviation for each of the years 2004 and 2005. The two bottom rows contain the difference between the mean 2005 and 2004, with a t-statistic testing whether the difference is significantly larger than zero. All absolute figures are in SEK except for number of companies N.

	# Employees	0 - 1	2 - 5	6 - 10	11 - 25	26 +	Total
	N	791	134	96	164	686	1 871
2004	Mean	15 554 576	14 424 896	7 518 833	45 970 457	73 658 276	39 031 077
	St dev	149 800 000	76 448 110	20 766 394	249 500 000	447 800 000	299 300 000
	N	847	137	97	165	686	1 932
2005	Mean	36 428 653	16 243 182	28 050 907	29 646 703	117 000 000	62 591 507
	St dev	288 000 000	79 705 891	102 300 000	137 700 000	839 400 000	539 000 000
	diff	20 874 077	1 818 286	20 532 074	-16 323 754	43 341 724	23 560 430
	t	1,82	0,19	1,93	-0,74	1,19	1,66

Table 2.6 Dividend payouts over the full time period 2001-2008

This table shows the number of companies and the percentage of the total, in the different groups, that pay out dividends within each dividend bracket in thousands SEK. The groups consist of all (1) closely held companies, (2) listed companies on the Stockholm Exchange and their Swedish subsidiaries and (3) Swedish limited companies for the full time period 2001-2008.

	0	0 < x < 25	25 < x < 50	50 < x < 100	100 < x < 200	200 < x < 500	500 < x < 1000	1000 < x < 5000	x > 5000	Total
(1)	556 330 78,21%	18 165 2,55%	12 657 1,78%	29 949 4,21%	22 846 3,21%	26 824 3,77%	16 513 2,32%	21 777 3,06%	6 265 0,88%	711 326 100,00%
(2)	12 994 83,49%	48 0,31%	16 0,10%	38 0,24%	76 0,49%	133 0,85%	146 0,94%	423 2,72%	1 689 10,85%	15 563 100,00%
(3)	1 798 691 80,12%	88 890 3,96%	57 276 2,55%	126 200 5,62%	80 0,00%	72 993 3,25%	36 213 1,61%	43 659 1,94%	20 873 0,93%	2 244 875 100,00%

Table 2.7 Companies paying dividends exactly at the threshold level calculated according to the simplified rule

This table show how many companies that pay out dividends exactly equal to ($\pm 1\,000$ SEK) the different threshold levels calculated by the *simplified rule* in the 3:12 Swedish tax laws. In our data the dividend payout is recorded on the year before, which mean that the 2006 threshold year apply to the year 2005 in the data. The *2006 threshold* = $1,5 \times IBB = 64\,950\text{ SEK}$, *2007 threshold* = $2 \times IBB = 89\,000\text{ SEK}$, *2008 threshold* = $2 \times IBB = 91\,800\text{ SEK}$ and *2009 threshold* = $2,5 \times IBB = 120\,000\text{ SEK}$. The highlighted cells indicate the threshold levels for each given year.

Threshold	2006	2007	2008	2009	Total
2001	174	354	50	430	1 008
2002	181	338	47	456	1 022
2003	175	334	50	414	973
2004	218	335	40	416	1 009
2005	7 291	701	84	540	8 616
2006	6 284	8 459	233	821	15 797
2007	432	12 246	3 946	1 002	17 626
2008	212	4 324	3 399	9 756	17 691
Total	14 967	27 091	7 849	13 835	63 742

B.4 Tables – Regression results

Table 3.1 Simple mean regression on dividend/total assets

This table describes estimation results for the variable *dividend_share* defined as *Dividend / Total assets* run on the simple regression $dividend_share = \beta_0 + \beta_1 \cdot CHC$ when controlling for heteroskedasticity. The variable *CHC* is a dummy variable representing: *CHC* = 1 closely held companies (treatment group), *CHC* = 0 listed companies on the Stockholm Exchange and their Swedish subsidiaries (control group). Regression (1) was run on 2004 and regression (2) on 2005. The numbers below the regression coefficients are t-statistics testing whether the given coefficient is significantly different from zero.

	(1)	(2)
<i>constant</i>	0,0233 9,78	0,0210 11,31
<i>CHC</i>	-0,0064 -2,69	0,0040 2,15
Time period	2004	2005
R ²	0,0001	0,0000
N	90 022	91 570

Table 3.2 Difference in difference regressions on dividend share

This table describes estimation results for the variable *dividend_share* defined as *Dividend / Total assets* run on the difference in difference regression $dividend_share = \beta_0 + \delta_0 post05 + \beta_1 CHC + \delta_1 post05 \cdot CHC + other\ constants$ when controlling for heteroskedasticity. The variable *CHC* is a dummy variable representing: *CHC* = 1 closely held companies (treatment group), *CHC* = 0 listed companies on the Stockholm Exchange and their Swedish subsidiaries (control group). Regression (1) and (2) was run around the event window 2004 to 2005, while regressions (3) and (4) was run with the whole time period from the PAR dataset. The (3) and (4) regressions also contain dummy variables for each year, of which 2 was dropped due to collinearity. Regression (4) also had the restrictions $-10\ 000\ 000\ SEK < Net\ income < 10\ 000\ 000\ SEK$, $0 < dividend_share \leq 1,0$. The numbers below the regression coefficients are t-statistics testing whether the given coefficient is significantly different from zero.

	(1)	(2)	(3)	(4)
<i>constant</i>	0,0233 9,78	0,0217 6,79	0,0193 12,02	0,1715 8,04
<i>post05</i>	-0,0023 -0,75	-0,0013 -0,33	0,0009 0,39	-0,0335 -1,02
<i>CHC</i>	-0,0064 -2,69	-0,0057 -1,78	-0,0057 -3,56	-0,0926 -4,44
<i>CHC · post05</i>	0,0105 3,44	0,0094 2,30	0,0096 4,04	0,0565 1,70
Other constants	-	<i>EBIT</i> <i>Net income</i> <i>Current ratio</i> <i>Personnel cost</i>	<i>EBIT</i> <i>Net income</i> <i>Current ratio</i> <i>Personnel cost</i>	<i>EBIT</i> <i>Net income</i> <i>Current ratio</i> <i>Personnel cost</i> <i>Dividend payout</i> <i>Total assets</i>
Year dummies	-	-	Yes	Yes
Time period	2004/2005	2004/2005	2001/2008	2001/2008
R ²	0,0021	0,0027	0,0086	0,2274
N	181 592	160 024	642 259	140 980

Table 3.3 Difference in difference regressions on dividend/total assets with fixed effects on company ID.

This table describes estimation results for the variable *dividend_share* defined as *Dividend / Total assets* run on the difference in difference regression $dividend_share = \beta_0 + \delta_0 post05 + \beta_1 CHC + \delta_1 post05 \cdot CHC + other\ constants + company\ fixed\ effects$ when controlling for heteroskedasticity and company fixed effects. The variable *CHC* is a dummy variable representing: *CHC* = 1 closely held companies (treatment group), *CHC* = 0 listed companies on the Stockholm Exchange and their Swedish subsidiaries (control group). Regression (1) was run around the event window 2004 to 2005, while regressions (2) was run with the whole time period from the PAR dataset with dummy variables for each year, of which 2 was omitted due to collinearity. For both regressions (1) and (2) the dummy variable *CHC* was dropped due to collinearity among the regressing variables. The numbers below the regression coefficients are t-statistics testing whether the given coefficient is significantly different from zero.

	(1)	(2)
<i>constant</i>	0,0154 76,16	0,0113 25,37
<i>post05</i>	0,0001 0,03	0,0044 1,48
<i>CHC</i>	(omitted)	(omitted)
<i>CHC · post05</i>	0,0092 2,12	0,0089 3,03
Other constants	<i>EBIT</i> <i>Net income</i> <i>Current ratio</i> <i>Personnel cost</i>	<i>EBIT</i> <i>Net income</i> <i>Current ratio</i> <i>Personnel cost</i>
Year dummies	-	Yes
Time period	2004/2005	2001/2008
R ²	0,0071	0,0146
N	160 024	642 259

Table 3.4.1 Descriptive statistics of the placebo group in 2004

Descriptive statistics for all Swedish limited partnerships (placebo group) in the data during the event window between 2004-2005. The descriptive statistics include the mean value, minimum value, different percentiles, maximum values and the standard deviation. All absolute figures are in SEK. N = 1 460 for 2004 and N = 1 412 for 2005.

	mean	min	p25	p50	p75	max	sd
Dividend / Total assets	0,001	0,000	0,000	0,000	0,000	0,912	0,027
# Employees	783	0	8	26	626	43 905	2 845
2004 Personnel cost	26 599 623	0	986 000	4 227 000	11 268 000	4778700000	199 270 921
Dividend payout	705 266	0	0	0	0	355 644 000	12 094 466
Total assets	1 179 100 000	1 000	9 952 500	193 745 500	808 186 000	92 120 000 000	4 638 900 000
Dividend / Total assets	0,000	0,000	0,000	0,000	0,000	0,078	0,004
# Employees	927	0	8	32	745	44 646	3 356
2005 Personnel cost	21 180 381	0	18 000	1 880 000	10 154 000	5 317 000 000	203 134 651
Dividend payout	33 650	0	0	0	0	10 787 000	454 978
Total assets	1 195 900 000	56 000	15 278 500	183 549 500	827 884 500	99 117 000 000	4 679 500 000

Table 3.4.2 Placebo difference in difference regressions on dividend/total assets

This table describes estimation results for the variable *dividend_share* defined as Dividend / Total assets run on the difference in difference regression $dividend_share = \beta_0 + \delta_0 post05 + \beta_1 placebo + \delta_1 post05 \cdot placebo$ when controlling for heteroskedasticity and company fixed effects. The variable *placebo* is a dummy variable representing: *placebo* = 1 limited partnership (treatment group), *placebo* = 0 listed companies on the Stockholm Exchange and their Swedish subsidiaries (control group). Regression (1) and (2) was run around the event window 2004 to 2005. The numbers below the regression coefficients are t-statistics testing whether the given coefficient is significantly different from zero.

	(1)	(2)
<i>constant</i>	0,0014 2,05	0,0030 2,03
<i>post05</i>	-0,0012 -1,63	-0,0024 -1,63
<i>placebo</i>	0,0218 8,80	0,0194 5,56
<i>placebo · post05</i>	-0,0011 -0,36	0,0010 0,23
Other constants	-	<i>EBIT</i> <i>Net income</i> <i>Current ratio</i> <i>Personnel cost</i>
Year dummies	-	-
Time period	2004/2005	2004/2005
R ²	0,0216	0,0306
N	6 675	3 041