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Payout Policies of Privately Held Firms: Flexibility and the Role of Income Taxes[*]

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ABSTRACT

We study the importance of owner wages and dividends as alternative payout channels in privately held firms. Using data on all Swedish closely held corporations and their owner–managers over the period 2000–2009, we find that dividends comprise one-fourth of total payout to owner–managers. Dividends are used as a flexible payout channel. Wages are the preferred payout channel and are rather sticky. Choice of payout channel and level of payout are affected by dividend and wage taxation. Consistent with the difference in flexibility across payout channels, shareholder taxes have a stronger impact on dividends than on wages.

Keywords: Payout Policy, Private Firms, Owner–managers, Dividends, Owner wages, Income Taxes

JEL classification: G30, G35, H24, H25

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1. Introduction

Why do firms pay dividends? This question has long attracted theoretical and empirical research. Since the Miller and Modigliani (1961) irrelevance theorem of dividend policy, empirical research (e.g., Allen and Michaely 2003, DeAngelo and DeAngelo 2006, Denis and Osobov 2008) and survey evidence (e.g., Lintner 1956, Brav, Graham, Harvey, and Michaely 2005) have shown that payout policies of firms do matter to markets and managers. For example, firms smooth dividends, as investors respond negatively to dividend decreases (e.g., John and Williams 1985, Miller and Rock 1985, Allen, Bernardo, and Welch 2000, Brav et al. 2005), while firms use share repurchases as a flexible channel to distribute cash to shareholders (e.g., Jagannathan, Stephens, and Weisbach 2000, Grullon and Michaely 2002). Further, payout policies respond to tax changes (Poterba 2004 Chetty and Saez 2005, Brown, Liang, and Weisbenner 2007, Moser 2007, Blouin, Ready, and Shackelford 2011, Jacob and Jacob (2013). However, this extensive literature focuses mainly on listed firms.

The goal of this paper is to shed light on payout policies of privately held corporations and on the economic mechanisms behind payout policies. Very little is known about payout policies of unlisted corporations, largely because of a lack of comprehensive data. There are many differences between public and private firms that potentially explain differences in payout policies. For example, public firms face higher agency costs than privately held firms (Jensen and Meckling 1976, Jensen 1986). Michaely and Roberts (2012) find that privately held firms smooth dividends significantly less than public firms and that private firms pay less dividends. In privately held firms with close ties between management and ownership, agency costs are lower than in corporations with dispersed ownership. Besides low agency costs, there is at least one additional explanation for the lower level of dividend payouts in privately held corporations: owner-managers can receive payouts from the firm in the form of wages or dividends.[1]

The main contribution of the present paper is that we generate empirical evidence on both these payout channels, namely, dividends and wages to owner–managers. We specifically address and provide empirical answers to three main questions. 1) How do privately held corporations distribute cash to shareholders? 2) Do payout channels differ in their flexibility? and 3) How does the owner's income taxation shape payout policies of private firms? While the answers to these questions may appear intuitive, there have been no comprehensive empirical results on the payout behavior of privately held firms. In most countries, such as the United States (see, e.g., Yagan 2013) and the United Kingdom (see, e.g., Michaely and Roberts 2012),

[1] There are other potential payout channels, such as capital decreases. At least empirically, this is a rare event in our sample. Further, there is no tax advantage of share repurchases over dividends. Alternative, yet unobservable payout channels are shareholder loans, wages to family members, or consumption on the job.

privately held firms form an important, yet often overlooked, component of the economy. An empirical confirmation of expected payout behavior of private firms helps us to understand the effect of public policies on a large part of the economy.

Our study is based on a large body of administrative panel data that comprises all corporate tax returns of closely held corporations in Sweden and income tax returns of all their active shareholders. About 60% of all Swedish corporations are closely held corporations.[2] These firms are not listed and have few shareholders, often just one active owner. Since we can link shareholders' individual income tax returns to the corresponding corporate tax data, we can observe dividend and wage payouts from the corporation to the shareholder, as well as shareholder characteristics, such as marginal tax rate on dividends and wages. Summary statistics indicate an answer to our first research question, namely, that wages appear to be the dominant payout channel to owner–managers. Over two-thirds of owner–managers receive wages from their own firms, while just over one-third receives dividends. Wages average three times higher than dividends.

As with listed firms, we argue that there is a difference in flexibility across payout channels. For owner–managers of closely held corporations, the corporation is often their major source of income. Therefore, shareholders require constant payments from their own corporation(s) for consumption purposes. Even though owner–managers directly shape payout policies, there are several reasons as to why wages and dividends may not be perfect substitutes. Other stakeholders can affect the choice of payout channel, and covenants with debtholders may restrict dividend payouts to profits while allowing smooth wages, even in years with losses. Further, owner wages are typically subject to social security contributions on the employer and/or employee level, which generate rights to future unemployment or pension benefits. To grant these benefits to owner–managers, firms pay out a constant level of wages. Moreover, owner–managers can use a constant wage stream to qualify for mortgages at the household level. Taken together, we expect that wages are stickier than dividends.

We empirically test differences in the flexibility of dividend and wage payouts using the Lintner (1956) model (see, e.g., Brav et al. 2005, Skinner 2008, Michaely and Roberts 2012). We find that wages are stickier than dividend payouts. Our speed of adjustment estimate for dividends (0.93) is comparable to the estimate of 0.83 of Michaely and Roberts (2012) for dividends of closely held firms in the United Kingdom. Our estimate for the speed of adjustment

[2] We use the term "Closely Held Corporation" in accordance with Swedish tax law. A closely held corporation is a corporation where four or fewer active shareholders hold at least 50% of voting rights. According to the tax law, a shareholder is regarded as active if he is involved in profit generation to a considerable extent. Firms can have more than four owners if the owners are relatives. Approximately 60% of our sample firms have one active shareholder. About 30% of our sample firms have two active shareholders. Therefore, our definition is close to what Michaely and Roberts (2012) denote as *wholly owned* firms.

of wage income (0.503) is close to prior estimates for smoothness of dividends in listed firms, which range from 0.39 to 0.55 (see, e.g., Brav et al. 2005, van Eije and Megginson 2008, Michaely and Roberts 2012). Our cross-sectional analysis of the variation in flexibility of payout channels across firms shows that firms with high cash holdings and retained earnings have a more flexible dividend payout policy. In contrast, firms that tend to smooth wages have higher cash holdings and higher growth opportunities. Agency costs, which can occur in case of multiple owners in a firm, substantially decrease the flexibility of wages while agency costs have only a small effect on dividend smoothing.[3]

Empirical studies on listed firms show that dividend tax changes affect the level of payouts (e.g., Poterba 2004, Chetty and Saez 2005) and that the choice of payout channel is affected by relative taxation of dividends vis-à-vis share repurchases (e.g., Moser 2007, Jacob and Jacob 2013). We analyze how the owner's income taxation shapes payout policies of private firms. The labor income tax rate schedule is characterized by a large kink, that is, a 20-percentage-point increase in the marginal tax rate at an income level of around USD 43,000 (2006 value). This kink facilitates identification of tax responsiveness of labor income. Dividends are taxed at a proportional rate of 30% prior to 2006 (20% as of 2006) up to a ceiling that varies across individuals—the dividend allowance. Dividends in excess of this allowance are subject to the marginal income tax rate on labor income. This effectively creates a progressive dividend tax. We use the method developed in Chetty, Friedman, Olsen, and Pistaferri (2011) to generate empirical evidence on tax sensitivity of payout channels. More specifically, we test whether there is bunching around large changes in shareholder marginal tax rate (e.g., Saez 2010, Chetty et al. 2011). We find that the number of owner–managers who set their wages around the income tax kink exceeds by more than 300% the expected number of owner–managers at that point in absence of the kink. That is, shareholders set their wage payout at a level around the point where the marginal tax rate increases by 20 percentage points. However, in contrast to wage income, we observe a discontinuity in dividend income around the change in dividend tax rate. Owner–managers pay out dividends as long as dividends are taxed at the preferential rate. They avoid paying dividends as soon as they are at the kink in the tax rate. There are three potential explanations for this effect. First, taxpayers may confuse average taxes with marginal taxes (de Bartolome 1995). Second, the jump in the marginal tax rate is very salient (Chetty, Looney, and Kroft 2009, Finkelstein 2009). Third, owner–managers can defer dividend payouts to later years. This behavior indicates that dividends are more sensitive to taxes than wages.

[3] We repeat all main tests for firms with exactly one active owner and find very similar results for the difference in flexibility as well as for the tax sensitivity of wages and dividends.

The tax sensitivity of dividends has implications for firm cash holdings. When dividend distributions to owners reach the maximum dividend allowance, firms retain earnings instead of paying out more dividends or switching to labor income. Following the empirical approach of Almeida, Campello, and Weisbach (2004), we test whether the income-sensitivity of real investments and cash holdings is higher for firms in which owners face high income taxes on additional dividend payouts. Our results suggest that real investment is not affected. Rather, we find that firms hold more cash. This result implies that the dividend ceiling effectively leads to greater cash holdings at the firm level, at the cost of cash holdings at the shareholder level. These cash holdings can reduce insolvency risk or increase investment in the long run.

Our results imply that wages in private corporations assume the role of dividends in public corporations. Similar to the role of share repurchases for listed firms, dividends are a more flexible payout mechanism for closely held, private corporations. This finding has policy implications. Any policy that targets dividend payouts of firms has heterogeneous effects across listed and unlisted corporations. A tentative policy change that similarly targets both, listed and unlisted corporations mandates integration of labor income taxes and dividend taxes and potentially a differential taxation on listed and unlisted corporations.

2. Institutional Background and Taxation of Corporations in Sweden

2.1 Role of Closely Held Corporations in Sweden

There are about 315,000 corporations registered in Sweden subject to corporate taxes (2009 statistics). In our sample period, a firm required at least Swedish krona (SEK) 100,000 (about USD 13,550) in nominal equity. Closely held corporations play an important role in the Swedish economy. In 2009, 64% of firms are closely held corporations. They account for about 30% of the workforce in all corporations. The status *closely held* relates to the number of active shareholders. A firm is treated as a closely held corporation for tax purposes if it is not listed and if four or fewer active shareholders possess at least 50% of the voting rights.

2.2 Corporate Tax System and Taxation of Payouts

Similar to the United States, Sweden has a classical corporate tax system. All corporations are subject to a proportional corporate income tax of 28% (26.3% as of 2009). The two alternative payout channels, wages and dividends, are treated differently for tax purposes. Wages are tax deductible at the corporate level, but are subject to income taxes at the shareholder level. The progressive labor income tax schedule has three major stages, as shown in Table 1. Up to a certain time-varying threshold, individuals pay a marginal income tax rate of

about 31% at the municipality level. Above this threshold, shareholders pay an additional state tax of 20% on wages (*State Tax Level 1*). At another cutoff, a second level of state tax of 5% applies (*State Tax Level 2*).

Labor income is additionally subject to social security contributions at the corporate level. Up to a certain threshold, these contributions generate benefits in the form of health insurance, unemployment, and pension benefits. However, above this threshold, any marginal social security contribution ceases to generate additional benefits. These contributions become a pure tax. Therefore, we treat these contributions as insurance up to the cutoff, and marginal contributions in excess of the cutoff as a tax. The combined marginal tax burden on labor income ranges from 31.5% to 66.9% (2009 values).[4] Table 1 provides an overview of development in marginal tax rates over the period 2000–2009.

[Insert Table 1 about here]

Dividends are taxed differently from wages in two ways. First, as is commonplace, dividend payouts are not tax deductible at the corporate level. Second and in contrast to wages, capital income (interest, dividends, and capital gains) is taxed at a proportional tax of 30% at the individual level. This results in a combined tax burden of 49.6%, which consists of the corporate tax of 28% and the dividend tax of 30% (49.6% = 28% + (1 - 28%) × 30%). Since the dividend tax burden of 49.6% can be below the top marginal tax rate on wages, shareholders may exploit the tax wedge by choosing the least taxed payout channel.[5] To limit this type of tax minimization in closely held corporations with no or very low agency costs, the tax law defines an upper cap—the dividend allowance—that can be taxed at a combined rate of 49.6%. If closely held corporations pay out dividends in excess of this allowance, dividends are taxed as labor income at the progressive income tax rate. Each shareholder individually calculates the dividend allowance for each of his firms. Any unused dividend allowance can be carried forward indefinitely with interest. In sum, Swedish tax rules effectively engender progressive taxation of dividends from closely held corporations, with tax rates ranging from 42.4% to 68.7%.

Apart from this cross-sectional variation in tax rates, we identify the effect of taxes on payout policies around a tax reform. In 2006, the dividend tax rate for closely held corporations was cut from 30% to 20% and dividend allowances increased substantially (see, e.g., Alstadsæter and Jacob 2013a). This reform is comparable to the 2003 dividend tax cut in the US

[4] See Alstadsæter and Jacob (2012), Appendix I, for a detailed description of the tax system and the calculations. In our calculations, we neglect the standard deduction and the earned income tax credit. This does not alter the relative taxation of wages and dividends, since the standard deduction and earned income tax credit reduce the tax burden only on earned income of individuals who are not subject to the state tax

[5] In widely held corporations (WHCs), income shifting across payout channels is less relevant, since owners may not accept payout choices in the self-interest of the manager. Therefore, there is no cap on dividend payouts for widely held corporations. All dividends are taxed at a rate of 30%. In 2005, the tax rate on dividends from WHCs was reduced to 25%. In our sample, we focus on CHCs.

(see, e.g., Chetty and Saez 2005 or Yagan 2013). The 2006 Swedish tax reform reduced the combined tax burden on dividends (within the dividend allowance) to 42.4%. Excess dividends are still taxed at a combined tax burden of up to 68.7%. Figure 1 plots the resulting marginal tax rates. Panel A shows the marginal tax rate on labor income for 2002 and 2008. Panel B uses dividend income around the dividend allowance for 2002 and 2008. As indicated by the dotted gray line, the tax burden on dividends within the dividend allowance is 42.4% instead of 49.6% in 2008. The marginal tax rate on excess dividends depends on the marginal tax rate on labor income.

In sum, we exploit time series as well as cross-sectional variation in tax rates to analyze tax sensitivity of wages and dividends. Wages and dividends are taxed at a progressive rate. Further, the 2006 reform and annual changes in the kink change the tax wedge between dividends and wages for high-income individuals over time. As tax rates differ across payout channels, both level of payout and choice of payout channel are potentially affected by shareholder taxes.[6]

[Insert Figure 1 about here]

3. Data and Sample Overview

3.1 Data

We base our study on the Firm Register and Individual Database (FRIDA) provided by Statistics Sweden (see, also, Alstadsæter and Jacob 2012, 2013a, 2013b). The data contain all corporate tax returns of all Swedish corporations. Corporate tax returns comprise the tax balance sheet and profit and loss statements. We focus on unlisted, closely held corporations as defined in Swedish tax law. This has the advantage that we study a relatively homogeneous sample with respect to agency issues. These firms are similar to the definition of *wholly owned* firms in the terminology of Michaely and Roberts (2012). We denote these firms according to legal definition as "closely held corporations." Our data have one unique feature. Each active shareholder of a closely held corporation is required to file a specific tax form—the K10-form—in which the shareholder declares dividend and wage income from the shareholder's closely held corporation. In addition to the full sample of corporate tax returns, we have access to the full sample of K10-forms, which can be individually linked to corporate tax returns. Our data set allows us to link these K10-forms to the full sample of the corresponding income tax returns of shareholders of closely held corporations over the period 2000–2009. The individual data cover income and tax variables, along with demographic characteristics such as age, gender,

[6] In 2007, the Swedish wealth tax was abolished. However, equity invested in closely held corporations was not added to the tax base of the wealth tax and were therefore wealth-tax exempt. Therefore, we believe that the wealth tax and its abolition have no impact on the payout behavior of closely held corporations.

education, and family size. Through unique identifiers in all three pillars of our data set, we link information on firms and their shareholders.

Administrative tax data, such as FRIDA, have the advantage that all firms are required to file a corporate tax statement. Studies based on accounting data face the problem that data coverage of small firms is very poor due to lack of filing requirements for small enterprises (e.g., Burgstahler, Hail, and Leuz 2006, Michaely and Roberts 2012, Gao, Harford, and Li 2013). From the corporate tax data set, we exclude public firms and private firms with dispersed ownership, as we have no data on dividends at the firm level. Since we wish to analyze the role of wages and dividends as payout channels, we require information on wages and dividends to active owners. Therefore, we focus on closely held corporations and their active owners.[7]

Our main data comprise the full sample of individual tax returns of owner–managers, with information on demographic characteristics, income composition, and most importantly for our study, information on wages and dividends from closely held corporations. The data enable us to compare the relative importance of payout channels for owners of closely held corporations. We winsorize shareholder-level and firm-level variables at the 1% and 99% levels to control for outliers. Our final sample contains 1,358,727 observations for owner–managers of closely held corporations from 244,813 firms and 295,729 owner–managers. In contrast to prior studies, we observe payout behavior for corporations at the shareholder level. This has the advantage of allowing us to explicitly control for shareholder-level characteristics.

3.2 Sample Overview

Table 2 presents summary statistics for payout variables, as well as firm-level and shareholder-level characteristics. We use the following payout variables: *Wages CHC* is the wage paid by closely held corporation(s) to the owner–manager (in SEK); *Dividend CHC* is the amount of dividends (in SEK) received from closely held corporation(s); *Wage Payer* is a dummy variable equal to 1 if the individual receives a wage from his closely held corporation(s); *Div Payer* is a dummy variable equal to 1 if the individual receives a wage from his closely held corporation(s); *Wage Increase* is a dummy equal to 1 if the wage from the closely held corporation(s) has increased by more than 50%, or if the closely held corporation(s) pays the owner–manager a wage in year *t* without having paid a wage in year *t-1*. The indicator variables related to dividend payout *Div Payer* and *Div Increase* are defined analogously to the wage

[7] We exclude firm-years with negative values in total assets, nominal capital, sales, turnover, or scheduled depreciation. Using information from the K10-form, we derive the ownership share and the number of owners in a firm. Note that after the 2006 reform, some 5% of all shareholders overstate their ownership share to claim higher dividend allowances (Alstadsæter and Jacob 2013b). This type of tax evasion and misreporting does not alter our results, since we use number of owners as the measure of agency costs. Also, excluding these cases changes none of our results.

indicator variables. Finally, we use a variable on the mix of payout channels. *Percentage Wage* (*Percentage Div*) is the percentage of total payout (wages and dividends) paid out as wages (dividends). If total payout is 0, we set *Percentage Wage* and *Percentage Div* to 0.

[Insert Table 2 about here]

On average, owner–managers receive a wage of SEK 197,051 and a dividend of SEK 66,358. These statistics include both non-payers and payers. Some 68% of owner–managers receive a salary while only 37.5% receive a dividend. Wages are substantially increased in 8.3% of observations. In contrast, dividends are initiated or increased more often; we observe dividend increases in 19.9% of observations.

As firm variables, we use measures for growth opportunities, internal funds, profitability, size, capital structure, and agency costs. Panel B of Table 2 summarizes our main firm-level variables. Since Tobin's q is not observable due to lack of market prices, we proxy growth opportunities through the percentage change in fixed assets from *t-1* to *t* (*Investments*).[8] We include *Cash*, defined as cash and short-term investments over total assets, and *Retained Earnings* (scaled by total assets) as measures for internal funds. We use taxable corporate income over total assets as the measure for profitability (*Profit*). We control for capital structure and include total book debt over total assets (*Leverage*). We use the natural logarithm of total assets (*Ln*(*Total Assets*)) and the number of employees (*Num Employees*) as measures of size. On average, firms hold 15% of their assets as cash and have a retained earnings (debt) to assets ratio of about 11% (34%). The average closely held corporation has about 4 employees. Investment varies considerably from 0% (10^{th} percentile) to 85% (90^{th} percentile) and averages 40.2%. We further include the number of owners (*Number Owners*) in the firm as a measure of agency costs. On average, a closely held corporation has two owners.

As shareholder characteristics (Panel C of Table 2) total income, capital income, labor income, age, and information on number of firms. On average, owner–managers have an average income of SEK 429,962 and total labor income from all income sources of SEK 292,722. Owner–managers derive on average 29.3% of their total income from sources outside the closely held corporation (*Relevance Non-CHC*).[9] We model marginal income tax rate using two dummy variables for the tax status of owner–managers (*State Tax Level 1* and State *Tax Level 2*). Our summary statistics for *State Tax Level 2* in Table 2 indicate that 29.5% of owner–managers are subject to the second level of state tax. In sum, 47.5% (= 18.0% + 29.5%) of all

[8] We control for depreciation when calculating investments. We define investments as the difference between fixed assets in year *t* minus prior year fixed assets plus prior year depreciation. We standardize investments by prior year fixed assets to obtain growth in fixed assets.

[9] For example, Alstadsæter and Jacob (2013a) show that high-income and highly taxed individuals use CHCs for tax sheltering by running the closely held corporation alongside regular employment.

owner–managers are subject to the first level of state tax. The majority of owner–managers participate in exactly one firm. On average, owner–managers hold shares in 1.17 closely held corporations. In 45% of our observations, the owner–manager holds shares in exactly one firm, as the only active owner (*Single CHC*). Such firms correspond very closely to the Jensen and Meckling (1976) notion of 100% owner-managed firms without agency costs. Finally, *Age* is the owner–manager's age in years and *High Education* is a dummy variable equal to 1 of the owner–manager has a university degree, and zero otherwise.

4. Wages and Dividends as Payout Channels—Empirical Results

4.1 Aggregate Results

Figure 2 presents average wages and dividends from closely held corporations to owner–managers over the period 2000–2009. We measure average wages and dividends at the owner level. In case one individual shareholder participates in more than one closely held corporation, we use the sum of wages and dividends across firms. Salaries to owner–managers increase by some 1.6% over the sample period. Average dividends to closely held corporation owners are almost constant between 2000 and 2005. Following reduction in the dividend tax rate and an increase in the dividend allowance in 2006, dividends more than double from SEK 31,689 in 2005 to over SEK 74,000 in 2006; they increase to over SEK 100,000 in subsequent years. This is a first indication that the dividend payout of private firms is sensitive to shareholder taxation. However, in all sample years, wage income is the most important payout channel.

[Insert Figure 2 about here]

Let us now turn our attention to the flexibility of the two payout channels, wages and dividends. There are many reasons as to why dividends and wages are not perfect substitutes and why dividends are more flexible. First, there may be legal frictions in the wage–dividend mix. In Sweden, there is no legal cap on dividends. Yet there are tax consequences at the shareholder level if firms pay out dividends in excess of the individual shareholder's dividend allowance. Second, wage payments from a corporation to the owner–manager are subject to social security contributions at the corporate level. Third, other stakeholders in the firm may limit the use of either payout channel. For example, creditors may restrict dividend payouts as a condition for providing liquidity. They may allow for a constant, yet restricted owner-wage for consumption purposes. Fourth, wages may be perceived as fair remuneration for labor supply in the firm. Owner–managers compensate their efforts through a constant wage, while they use dividends as means of paying out excess profits.

We present two figures that set forth graphical evidence that dividends are more flexible than wages. Figure 3 presents the percentage of owner–managers who receive wages (solid black line) or dividends (solid gray line) in each sample year. Percentage of wages is, similar to average wage income, constant over time and varies between 69% (2001) and 66% (2002 and 2009). Percentage of dividend receivers is also relatively constant in the respective pre-reform and post-reform periods; it is approximately 28% in the pre-reform period and 44% in the period following the dividend tax cut. Figure 3 also shows the percentage of owner–managers who increase wages (dashed black line) or increase dividends (dashed gray line). We find that owner–managers increase dividends more frequently than they increase wage payments. We also observe a strong influence from the 2006 dividend tax reform. The percentage of firms that increase dividends surges from 15% to 32%, while wage increases are unaffected. This is consistent with the Korinek and Stiglitz (2009) predictions. Following a temporary dividend tax cut, firms accelerate dividend payments. Even though the dividend tax rate was reduced permanently, owner–managers apparently react as if the dividend tax cut were temporary.

[Insert Figure 3 about here]

An alternative way of comparing the flexibility of payout channels is to look at the frequency of wage payouts and dividend payouts of firms that exist over the entire sample period. Since the high increase and initiation rates in dividend payouts are not associated with an increase in the number of dividend-paying firms in the pre-reform period, firms apparently omit dividend payouts more frequently than they omit wage payouts. To analyze the frequency of dividend and wage payouts, we restrict the sample to firms extant in all 10 sample years. We count the number of years in which the firm pays out wages and dividends, respectively. Figure 4 presents the distribution of years with either dividend (gray bars) or wage payout (black bars). We observe very few firms that consistently pay out dividends in all sample years (7.9%). More than half of firms pay dividends in only four or fewer years (56.6%). Some 14.5% never pay out dividends and 12.6% pay dividends in only 1 of the 10 sample years. In contrast, 45% of the firms consistently pay wages in all sample years. The median firm pays wages (dividends) in 9 (4) of the 10 sample years.

[Insert Figure 4 about here]

4.2 Stickiness and Flexibility of Wages and Dividends

The aggregate statistics provide the first indications that dividends are more flexible than wages. We next provide more direct evidence of this notion. If dividends are more flexible than wages, firm dividend policies should be more responsive to transitory earnings shocks than wage policies. We test this hypothesis using the Lintner (1956) model (see, also, Fama and

Babiak 1968, Brav et al. 2005, Skinner 2008, van Eije and Megginson 2008, Michaely and Roberts 2012). We formulate the model for owner–manager *i* during period *t*:

$$\Delta Payout_{i,t} = \alpha_1 + \beta_1 Payout_{i,t-1} + \beta_2 Earnings_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

where wages to the owner–manager (*Labor CHC*) and dividends to the owner–manager (*Dividend CHC*) (measured in SEK) are payout variables (*Payout*). We use operating income before owner wages as a measure for earnings. We are interested in the β_1 coefficient. The β_1 coefficient (multiplied by -1) is the measure of the speed of adjustment to the target payout ratio. A high value for β_1 suggests that transitory earnings shocks translate into changes in the level of payout. A β_1 coefficient close to 0 indicates that the respective payout channel is sticky and not responsive to earnings shocks.

The estimation of equation (1) presents several empirical challenges, in particular, due to the short time series of 10 years. Therefore, we follow the approach by Brav et al. (2005) and Michaely and Roberts (2012) and estimate equation (1) separately for each owner–manager. If an owner–manager owns more than one firm, we sum dividends, wages, and earnings, respectively, across firms. We normalize all variables by prior year total assets to control for scale effects. We weight earnings with ownership share. Finally, we restrict the sample to active owners where we have information on all 10 sample years. We require firms to pay dividends and wages in at least one sample year.

We present our coefficient estimates for speed of adjustment in two ways. First, Panel A of Figure 5 presents the density function of coefficient estimates for the speed of adjustment (SoA). The black (gray) line represents the density function for wages (dividends). Table 3 presents summary statistics for the distribution of parameter estimates from equation (1) estimated for 19,415 owner–managers. Panel A of Table 3 presents results with wages as the payout variables. Panel B uses dividends as the payout variable. We highlight mean and median of SoA in bold. In Panel C of Table 3, we additionally present summary statistics for the difference in SoA calculated separately for each owner–manager. Panel B of Figure 5 presents the corresponding plot of the density function.

[Table 3 about here]

[Insert Figure 5 about here]

We observe a large difference in SoA across payout channels. The estimates imply that dividends respond more strongly to transitory earnings shocks than wages. The difference between payout channels is large and amounts to 0.430 (median 0.438). To put the estimates for SoA into perspective, Michaely and Roberts (2012) document an SoA of 0.83 for wholly owned, private firms. This is close to our estimate of 0.93 for the SoA of dividends of closely held corporations. Our estimate for owner wages (mean 0.503, median 0.479) corresponds to

estimates of the SoA of dividends in public firms. SoA estimates for public firms, for example, range from 0.39 (Brav et al. 2005, 1984–2002 period) to 0.41 (Michaely and Roberts 2012) to 0.55 (van Eije and Megginson 2008). To address concerns about cross-country differences, we repeat our analysis and use a sample of listed Swedish firms from WorldScope. Using the sample restriction and the same sample period, we obtain an average SoA coefficient of 0.582 (median 0.530) for dividends and an average SoA of 0.932 (median 0.937) for share repurchases (see Figure A.1 of the Online Appendix). Our results suggest that owner wages (dividends) in private firms respond to transitory earnings shocks as dividends (share repurchases) in public firms respond to changes in earnings.

The results in Table 3 show that there is considerable variation in the SoA of both payout channels. For example, SoA of wages varies from 0.140 (25^{th} percentile) to 0.887 (75^{th} percentile). The density plot in Panel A of Figure 5 illustrates the variation in estimated SoA coefficients across payout channels. To understand the differences in SoA in wages and dividends across firms, we use the estimated β_1 coefficients from equation (1) as dependent variables and test whether there is symmetric variation in flexibility of payout channels across firms with respect to firm and shareholder-level variables (see, e.g., Leary and Michaely 2011, for listed firms). Table 4 presents regression results with the SoA estimates as dependent variables. For each independent variable, we use the mean over the sample period.

[Insert Table 4 about here]

Firms with high cash holdings, larger firms, and firms with high retained earnings have a more flexible dividend payout policy. In contrast, firms that tend to smooth wages have higher cash holdings, are larger firms, and have higher levels of investment. We standardize independent variables to have a mean of 0 and a standard deviation of 1 to simplify comparison of economic effects. Debt has the greatest economic effect on the flexibility of wages. A one-standard-deviation increase in leverage decreases the SoA coefficient of wages by 0.088, or 17.5% of the average SoA of wages. The results for wages correspond to explanations of dividend smoothing in public firms, where cash, size, and growth opportunities tend to lead to more dividend smoothing (Leary and Michaely 2011).

Our results from Table 4 show that shareholder characteristics explain some portion of the symmetric variation in the flexibility of wages and dividends in private firms. For example, if the shareholder is subject to the additional surtax on labor income of 20%, wages and dividends become more flexible and respond more quickly to transitory earnings shocks. Married shareholders are also more flexible in wages and in dividends. A higher number of firms is associated with smoother payouts.

Finally, we control for agency costs. In firms with many owners, other shareholders may limit owners' ability to control payouts from the corporation. Hence, wages and dividends become less flexible. We use *Single CHC* and the number of owners (*Number Owners*) as measures of agency costs. Firms with only one active owner–manager follow the definition of Jensen and Meckling (1976), where all agency costs are internalized (*Single CHC = 1*). In firms with many owners, there could be some agency costs and the individual owner manager may not be able to shape the payout policy according to his personal preferences. Consistent with this argument, we find that agency costs substantially decrease flexibility of wages and dividends. However, there are substantial differences in economic magnitude. Flexibility of wages is more responsive to the number of owners than SoA of dividends. A one-standard-deviation increase in the number of owners decreases the SoA_{Wages} by 0.08—16% of the average estimate. The effect on SoA of dividends is only 2.5%. Hence, agency costs have a stronger effect on the smoothness of owner wages than of dividends. To address concerns that agency costs drive the pattern of SoA coefficient estimates in Figure 5, Figure A.2 in the Appendix plots the distribution of SoA coefficients for firms with exactly one owner. Results are very similar.

4.3 Determinants of Payout Policies

In this section, we are interested in the determinants of payout policies of privately held firms. We estimate the following equation using OLS regressions:

$$Payout_{ij,t} = \alpha_1 + \beta \Pi_{j,t} + \gamma + \alpha_i + \alpha_t + \varepsilon_{i,j,t} \quad (2)$$

where the dependent variable is the respective payout variable for shareholder *i* and firm *j* in year *t*. We use *Wage Payer*, *Wage Increase*, *Percentage Wage*, *Div Payer*, *Div Increase*, and *Percentage Div* as alternative dependent variables. Since we set *Percentage Wage* and *Percentage Div* to 0 if the firm does not pay out dividends, both variables do not sum to 1. Therefore, we use both variables as dependent variables.

$\Pi_{j,t}$ is a vector of firm-level variables; it includes six control variables. First, we control for availability of internal resources for distribution to shareholders. We include cash holdings and short-term investments (*Cash*) and operating income relative to total assets (*Profit*) as controls (e.g., Moser 2007, Skinner 2008). Second, we include *Retained Earnings* to control for the life-cycle model of dividend payouts (DeAngelo, DeAngelo, and Stulz 2006). Third, we control for growth opportunities through change in fixed assets (*Investment*). The literature typically uses Tobin's q as a measure for undervaluation and growth opportunities (e.g., Bhattacharya 1979, Miller and Rock 1985, Allen et al. 2000). However, there are no market prices for private firms, thus we cannot compute Tobin's q. Fourth, we include leverage to control for the effect of creditors on payout policies of privately held firms. Creditors may have more direct influence on

payout policies of private firms since, for example, debt covenants could restrict dividend payouts to protect creditor rights and to reduce insolvency risk. Fifth, we control for firm size (*Ln(Total Assets)* and *Num Employees*). For example, Denis and Osobov (2008) show that larger (listed) firms have higher dividend payouts. Finally, we include the number of owners as a firm-level measure of agency problems (Jensen 1986).

We include vector $\chi_{i,t}$ of shareholder-level variables. Specifically, we include dummy variables for tax status (*State Tax Level 1, State Tax Level 2*), percentage of total income derived from income sources other than the closely held corporation (*Relevance Non-CHC*), *Single CHC* as the shareholder-level proxy for agency costs, and demographic characteristics *Age,* marital status (*Married*) and *High Education*. Our tax variables and *Relevance Non-CHC* are measured in year *t-1* to avoid an endogeneity bias, as current payout (wage and dividend) affects tax status and current total income. We include shareholder-fixed effects (α_i) and year-fixed effects (α_t). We measure all variables at the shareholder level. That is, firm-level variables are linked to the respective shareholder. In case a shareholder owns more than one firm, we use the average of firm characteristics across firms weighted by ownership share.[10] We base our statistical inference on robust standard errors clustered at the shareholder level.

Table 5 presents regression results for our payout variables. The first three columns present regression results for owner-wage variables. Columns (4) through (6) use dividend payout variables. The results in Table 5 show that there are some differences in coefficients across payout channels. For example, if firms are in a high cash position, the likelihood of increasing dividends is higher. In contrast, a higher cash position reduces the share of payout through wages. Instead, firms use dividends to distribute excess cash. If firms have high growth opportunities, wage payments increase while dividend payout, with the exception of likelihood to pay, is largely unaffected. We also find a negative effect of leverage on likelihood to pay, to initiate, or to increase dividends. The positive effect of debt on wages indicates an important difference between listed and privately held firms. While debt reduces dividend payout in listed firms, it increases wage payout in private firms. This is consistent with the argument that debt covenants affect payout policies. Owner–managers require some payout from their firm for consumption purposes. Creditors of highly leveraged firms appear to allow owner–managers to pay themselves a wage, but they restrict dividend payouts.

[Insert Table 5 about here]

[10] We choose this research design for data availability reasons. For each shareholder, we observe amount of dividends and wages received from all closely held corporations in which the shareholder actively participates. We cannot identify the exact source of dividend and wage payout if one owner has more than one firm. Therefore, we estimate equation (2) at the shareholder level. We test the robustness of our research design and restrict the sample, where owner–managers fully control exactly one firm. We obtain similar results and report regression results in Table A.1 in the Appendix.

Retained earnings positively affect all six payout variables. The positive coefficient for *Percentage Wage* and *Percentage Div* do not contradict each other, as we set both variables to 0 if there is no payout at all. The positive signs in both regressions imply that firms with higher retained earnings increase both, dividends and wage payments to owners. The economic magnitudes of the effects are of importance in the case of retained earnings. A one-standard-deviation increase in retained earnings relative to total assets (about 0.286) increases the percentage of total payout distributed as wages by only 0.95 percentage points, or 1.5% of the unconditional mean. In contrast, the effect on dividend volume is economically significant. A one-standard-deviation increase in retained earnings increases the percentage of distributions paid through dividends by 12% of the unconditional mean. This shows that dividends are more responsive to changes in retained earnings than wages and corresponds to our findings from above. Further, we find that larger firms (*Ln(Total Assets)*) have higher payouts and are more likely to pay wages and dividends; they are also more likely to increase dividend payouts. This result is consistent with the evidence for listed firms.

Our results in Table 5 indicate that not only firm-level, but also shareholder-level variables affect payout behavior of private corporations. We find a negative effect from our state tax dummy variables on the likelihood to pay or increase wages to owner–managers. Further, owner–managers pay out less funds through wages as opposed to dividends if they are subject to the state tax. We find the opposite results for our three dividend variables. These findings indicate that choice of payout channel and level of payouts are affected by shareholder-level taxation. Again, there are differences in tax sensitivity across payout channels. For example, if the shareholder is subject to the first level (second level) of the state tax, the percentage of total payout received through wages decreases by 0.48 (2.96) percentage points—0.8% (4.7%) of the unconditional mean. This is a rather small effect. In contrast, the percentage of total payout received as a dividend payout increases by 0.97 (2.81) percentage points. This is equivalent to an increase of 6.2% (18%) of the unconditional mean. It thus appears that dividends are more sensitive to the personal income tax than are wages. There are, however, some concerns about identification of tax effects using equation (2), since the dummy variables may correlate with other factors such as income. We address these concerns in Section 5 below, where we use a more compelling identification strategy by exploiting large kinks in the tax rate schedule. Another important aspect of payout policies is shareholder demand for owner wages. If the shareholder generates substantial income outside the closely held corporation (*Relevance Non-CHC*), the propensity to pay wages and the share of income earned through wages decrease. A one-standard-deviation increase in the percentage of total income generated outside the closely held corporation decreases the likelihood to pay wages by 9.5% and reduces the share of payout

in the form of wages by about 10%. We further find a negative effect from age and a positive effect from number of firms in all regressions. In sum, our findings in Table 3 indicate that not only firm-level characteristics, but also shareholder-level characteristics affect payout behavior of unlisted closely held corporations.

5. Tax Sensitivity of Wages and Dividends to Owner–managers

5.1 Tax Sensitivity of Owner Wages

We next take advantage of our detailed information on shareholders and analyze the tax sensitivity of wages and dividends paid to owner–managers. The results in Section 4 are a first indication that dividends are more sensitive to taxes than are wages. We first focus on owner wages. To test how taxes drive the magnitude of owner wages, we exploit the large kink in the marginal tax rate schedule around the first state tax threshold. Below this threshold, wages are taxed at 31.5%. Any marginal wage payment above this threshold is taxed at an additional 20% income tax. In theory, such a large kink in marginal tax rate affects the distribution of wages and leads to bunching of income at the kink point (Saez 2010).

The concept of bunching is simple. Let us consider two individuals in a tax system without a kink. Depending on individual preferences, both individuals set their labor supply in a labor/leisure decision. We assume that individual 1 provides more labor and, thus, earns a higher before-tax income y than individual 2, who earns less before-tax income (y^L). Under a proportional tax, the labor supply decision is unaffected by taxes and individual 1 provides more labor than individual 2. We now introduce a higher tax rate on before-tax income above y^L. That is, we introduce a progressive tax similar to the U.S. tax code (with more kinks) or the Swedish tax code. The labor supply decision of individual 2 is unaffected, as this individual's marginal tax rate remains constant. However, the labor supply decision of individual 1 is potentially affected by the progressive tax rate. Since additional earnings ($dy = y^H - y^L$) are taxed at a higher tax rate, Saez (2010) shows that individuals with income above the kink reduce labor supply and locate around the kink since the (after-tax) utility of individual 1 is higher *at* the kink point than (slightly) *above* the kink point.

A large jump in marginal tax rate should lead to bunching at the kink point if shareholder wages respond to income taxes (e.g., Chetty et al. 2011). Since owner–managers can set their wages according to their individual tax status and preferences, we expect that wages are set around the first state tax threshold (see Table 1).[11] To test the tax sensitivity of owner wages

[11] Empirical evidence on bunching at kink points suggests that, in particular, self-employed individuals bunch at kink points (e.g., Saez 2010, Bastani and Selin 2013). There is no or very little positive evidence on bunching at kink points for employed individuals in their samples.

empirically, we build on the methodology developed by Chetty et al. (2011). We center labor income in year *t* (from closely held corporation(s) and other employers) around the first state tax threshold in year *t* (see Table 1). Then, we sort individuals into SEK 1,000 bins and count the number of owner–managers in each bin. Figure 6 shows a histogram of the actual distribution of labor income centered around the time-varying state tax threshold. We observe a sharp spike in the actual distribution at the kink and in the SEK 1,000 bin below the kink.

[Insert Figure 6 about here]

To quantify the effect of the kink on wages of owner–managers, we follow the Chetty et al. (2011) approach and compare the actual distribution to a counterfactual distribution. The idea behind this approach is to fit a polynomial to the counts plotted in Figure 6 that excludes values around the kink. This produces a counterfactual distribution that is not affected by the kink in the tax rate schedule. We are interested in the difference between the empirical distribution and the counterfactual distribution around the kink. This area is denoted "excess mass." A positive and significant excess mass around the kink implies that owner–managers bunch wages around the kink point. That is, owner wages are tax sensitive. In our case, we use an SEK 10,000 range around the kink point and obtain an estimate of 3.173 and a t-statistic of 10.34. This result can be interpreted as follows: we observe 317% more owner–managers with wages around the kink point than we would observe in absence of the tax rate schedule kink.

To generate further evidence on bunching of labor income at the major kink point in the marginal income tax rate schedule, we repeat our main analysis from Figure 4 but present the histogram separately for each year (Figure 7). This addresses concerns that our effect may be driven by particular sample years. Further, this approach affords us the advantage of plotting the histogram on actual wages and not on centered wages around the state tax cutoff. In line with our previous results, we consistently find bunching of labor income in all years. Excess mass estimates are large and statistically significant for each year. This indicates that owner wages are indeed tax sensitive and that this effect is observable over a longer time-period.

[Insert Figure 7 about here]

Figure 7 also shows several other interesting spikes in the distribution of labor income at SEK 240,000, SEK 300,000, SEK 360,000, and SEK 420,000. We denote these spikes as an *even-number-effect*. Owner–managers set their wages at even numbers (see, e.g., Kleven and Waseem 2013). In our case, these annual labor income figures correspond to monthly wages of exactly SEK 20,000, 25,000, 30,000, and 35,000, respectively. Bunching of labor income around these round numbers for several years is sign of smooth and sticky wages and corresponds to the lower SoA coefficient of wages in the Linter (1956) model.

We next test tax sensitivity to the two other kinks in the income tax rate schedule. First, we use the cutoff at which social security contributions become a pure tax. Around this kink, the marginal income tax rate increases by 11 percentage points. Second, we use the second level of state tax above which the marginal tax rate increases by 5 percentage points. Figure 8 presents the empirical distributions along with the counterfactual distributions and the excess mass estimates.

[Insert Figure 8 about here]

We find no significant estimates of excess massing around the other two kink points. That is, wages of owner–managers of closely held corporations are not sensitive to the 5% tax rate increase around the second state tax threshold. More importantly, it appears that owner–managers do not respond to a change in social security benefits obtained from paying wages. Therefore, the fact that wages create benefits from social security contributions cannot in itself explain the difference in the importance of wages vis-à-vis dividends. At first glance, this result appears surprising, since the marginal tax rate also increases substantially, by 11 percentage points. Two effects can explain this behavior and the lack of tax response. First, individuals are usually slow in their response to new circumstances and changing rules (Jones 2012). Second, individuals show greater response to taxes if such taxes are salient (Chetty et al. 2009, Finkelstein 2009). The social security cutoff and the second state tax threshold used in Figure 8 are not very salient. In contrast, the first state tax cutoff (Figure 6), is very salient since the owner–manager is now subject to municipal and state tax.

5.2 Tax Sensitivity of Dividends

We next consider the tax effect on dividend payouts. Dividends from closely held corporations are taxed at a progressive tax rate. In contrast to wages, the threshold varies across owners, since the dividend allowance is calculated and accumulated by each shareholder on his own.[12] Therefore, each shareholder has an individual cutoff in the dividend tax rate schedule. We follow the approach from above and repeat the analysis for dividends around the kink point created by the dividend allowance. From bunching theory, we expect that the distribution of dividend payouts around the dividend allowance is similar to the distribution of labor income around the state tax cutoff. We again sort dividend income (centered around the individual shareholder's accumulated dividend allowance) into SEK 1,000 and plot the histogram in Figure 9. Instead of a smooth distribution with bunching around the kink point at 0, we observe a

[12] Alstadsæter and Jacob (2013b) find that some 5% of shareholders systematically overstate the dividend allowance. This has been overlooked by the tax authorities. Since these outrightly claimed dividend allowances are approved by the tax authority, we do not correct for overstated dividend allowances. Excluding these individuals does not alter our results.

discontinuity in the distribution. The number of individuals with dividends close to the accumulated dividend allowance first declines and then increases sharply up the accumulated dividend allowance. Individuals, who pay out exactly the accumulated dividend allowance, are counted in the [-1,000;0]-bin just left of the vertical line. Above 0, that is, when dividends are taxed as regular labor income, frequencies drop to a very low level. Even though shareholders face a kink, that is, an increase in the *marginal* tax rate, shareholders set dividends as if they face a notch, that is, an increase in the *average* tax rate (see Kleven and Waseem 2013, on notches). This finding indicates that dividends are highly tax sensitive and that they are more sensitive to taxes than wage income. One explanation for this finding is that dividends are set at year-end when the tax situation of the fiscal year is very certain while monthly wages are set during the year or at the beginning of the fiscal year.

[Insert Figure 9 about here]

There are four potential explanations for this effect. First, individuals could confuse *marginal* tax rates and *average* tax rates (de Bartolome 1995). However, owner–managers show a notch-like reaction only in the case of dividends and not in the case of wages. Therefore, this argument alone is not a sufficient explanation. Second, the dividend allowance is very salient, even more salient than the first state tax cutoff (e.g., Chetty et al. 2009, Finkelstein 2009, on tax salience). Every year, owner–managers file a K10-form in which they state their current-year dividend allowance, the accumulated allowance, and the dividend payout on the very same page. The salience of the dividend allowance and the resulting kink may explain why owner–managers locate right below or at the kink instead of paying excess dividends. Third, dividends are more flexible, as shown above. Owner–managers can retain earnings and shift dividend income over time to utilize future dividend allowances. Fourth, the tax rate increase around the kink can be large, and thus owner–managers are very responsive to the increase in the dividend tax rate.

We test the validity of this last explanation. We exploit cross-sectional and time series variation in dividend tax rates and test whether different groups respond differently. We split the data according to two variables. First, we use a pre-reform and post-reform sample. Second, we split the sample using the variable *State Tax Level 1*. That is, we divide the sample into owner–managers who are subject to state and municipality tax and into owner–managers who pay municipality tax only. Using these four groups, we create substantial tax rate variation to test tax rate sensitivity. The increase in the dividend tax rate around the dividend allowance ranges from 1.08 percentage points (*Municipality tax only, 2000–2005*) to over 8.28 percentage points (*Municipality tax only, 2006–2009*), to approximately 22 percentage points (*Municipality and State Tax, 2006–2009*). Figure 10 repeats the analysis from Figure 9 for these four groups. We consistently find a similar pattern for dividend income in all four cases. That is, we rule out that

dividend payouts are driven by the magnitude of the tax rate increase around the kink. Instead, our result suggests that dividend income is driven by the existence of the kink in the dividend tax rate schedule. The high salience of this kink, the opportunity to defer dividend payouts, and the potential confusion between average and marginal income tax rates may explain the tax sensitivity of dividend income of private firms.

[Insert Figure 10 about here]

Finally, we test whether our results are driven by agency costs. We repeat our main tests of tax sensitivity from Figure 6 and Figure 9 and restrict the sample to firms with no agency costs, that is, to firms with only one active owner. Owner–managers in firms without agency costs can set wages and dividends according to their own individual preferences. Hence dividends and wages should be more responsive to tax changes. Figure 11 shows that owner–managers of wholly integrated firms without agency costs also bunch labor income around the state tax threshold. The excess mass estimate is above the estimate for the whole population. If all agency costs are internalized, wages of owner–managers show greater tax sensitivity, since they can set payout policies according to their own preferences. For dividend income, we again find a similar pattern around the dividend allowance, but we find fewer individuals with dividend income above the kink. This result indicates that dividends and wage are more responsive to taxes when there are no agency costs. Yet, dividends are still more responsive to taxes than is labor income.

[Insert Figure 11 about here]

5.3 Dividend Taxes and Retention Policy

The strong reaction to the increase in the dividend tax rate around the dividend allowance has potential consequences on firm cash and investment policies. One implication of our findings in Section 4 is that dividends are used as a payout channel for excess cash holdings and retained earnings. If firms pay dividends only up to the owners' dividends allowances, firm retention and investment policies are affected. Firms are likely to retain their earnings to pay out dividends in later years. Firms can use this locked-in capital to invest in real and/or cash investments. To test whether firms retain earnings in response to shareholder taxes and whether retained earnings are used for cash or real investments, we follow the approach of Almeida et al. (2004) and run the following regression:

$$\begin{aligned} y_{j,t} \quad &= \alpha_1 + \beta_1 Profit_{j,t} + \beta_2 Ceiling \times Profit_{j,t} + \beta_3 Ceiling_{j,t} \\ &+ \beta_4 Sales\ Growth_{j,t-2,t} + \beta_5 Ln(Total\ Assets)_{j,t} \\ &+ \beta_6 \Delta Working\ Capital_{j,t} + \beta_7 \Delta Short\text{–}Term\ Debt_{j,t} + \\ &+ \alpha_j + \alpha_t + \varepsilon_{i,j,t} \end{aligned} \tag{3}$$

where we use three different dependent variables $y_{j,t}$. First, we use the change in retained earnings (*ΔRetained Earnings*). We use two different investment variables, which capture different types of investment. We use the first difference in cash holdings as a proxy for cash investments (*ΔCash Holding*). We further use the change in fixed assets as a proxy for real investments (*ΔReal Investment*).

We are interested mainly in the profit sensitivity of retained earnings, cash holdings, and real investments and how dividend taxes affect this sensitivity. Therefore, we include a dummy variable, *Ceiling*, which takes the value 1 if at least one shareholder is dividend tax constrained, that is, any marginal dividend payout would be taxed as labor income. If capital is locked-in by the dividend allowance, we expect the profit sensitivity of retained earnings to be higher if additional dividend payouts are taxed at a higher rate ($\beta_2>0$). We expect that the direct effect of *Ceiling* is negative. This is due to a mechanical effect, since *Ceiling = 1* implies that dividends are distributed up to the dividend allowance, and this payout reduces retained earnings and cash holdings. As additional control variables, we include size (*Ln(Total Assets)*), a measure for growth opportunities (*Sales Growth*), change in working capital (*ΔWorking Capital*), and *ΔShort-Term Debt* as a measure of change in short-term liabilities (see Almeida et al. 2004). We estimate equation (3) at the firm level. We include firm-fixed effects as well as year-fixed effects. We use robust standard errors clustered at the firm level.

Table 6 presents regression results for our three dependent variables. We find a positive effect from profits for each dependent variable. That is, higher profits are correlated with more retained earnings, cash holdings, and real investments. Our focus is on the interaction between *Profit* and *Ceiling*. The positive coefficient in Column 1 indicates that the profit sensitivity of retained earnings increases if shareholders face a higher tax rate on dividends. The coefficient estimates of β_2 in Column 3 show that real investments are not correlated with the dividend ceiling. Real investments of privately held firms respond to changes in earnings, but the earnings-sensitivity of real investments is not affected by the dividend allowance. Rather, the dividend allowance has a substantial effect on cash holdings. The profit sensitivity of cash holdings increases by 0.0297 if the owner cannot receive more dividends at the preferential rate. This is equivalent to an increase in the profit sensitivity of cash holdings of 49%. Hence, the dividend ceiling effectively leads to higher cash holdings at the firm level at the cost of cash holdings at the shareholder level. However, these cash holdings can reduce insolvency risk or increase investment in the long run.

[Insert Table 6 about here]

6. Conclusion

This paper provides empirical evidence on payout channels of privately held firms. Our results have three main implications. First, while listed corporations use dividends and share repurchases as alternative payout channels, privately held firms differ substantially in their preferred payout channels. Owner–managers of closely held corporations distribute the majority of funds in the form of owner wages. We find that wages are rather sticky and that dividends are used as a flexible payout channel. Share repurchases or capital decreases are empirically irrelevant. This finding explains the observation that privately held corporations distribute lower dividends than listed firms (Michaely and Roberts 2012).

Second, this paper adds to the literature on the flexibility of payout channels (e.g., Jagannathan et al. 2000, Grullon and Michaely 2002). Our results imply that wages in private corporations assume the role of dividends in public corporations. Similar to the role of share repurchases in listed firms, dividends are the more flexible payout mechanism for privately held corporations. In private firms, dividends are paid out less frequently than owner wages.

Finally, this paper points toward the importance of shareholder taxes in firm payout choices. While the ownership structure of large corporations may include many tax-exempt institutional investors, payout policies of privately held corporations, particularly of closely held corporations where the owner is active as a manager, are driven by tax rates. Our findings show that both wages and dividends are tax sensitive, but that dividends are more responsive to taxes. The close tie between owner–managers and firms explains the strong effects of taxes on payout policies of closely held corporations. Our findings point to the importance of implementing shareholder taxes on dividends and wages in modeling payout decisions of private corporations. This finding also has policy implications. Any policy that targets dividend payouts of firms can have heterogeneous effects on listed and unlisted corporations. A policy change that targets both listed and unlisted corporations should mandate integration of labor income taxes and dividend taxes.

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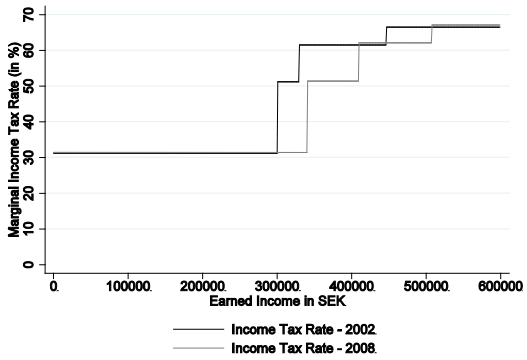
Figure 1: Marginal Tax Rates on Labor Income and Dividend Income

Panel A: Marginal Tax Rate on Labor Income, 2002 and 2008



Panel B: Marginal Tax Rate on Dividend Income, 2002 and 2008

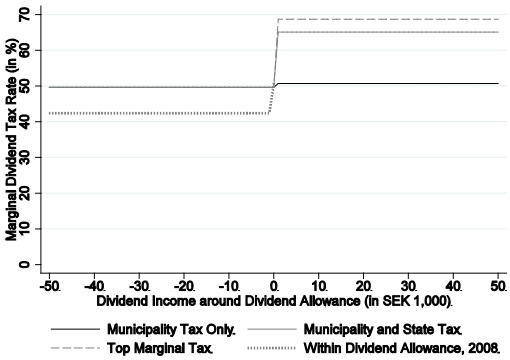


Figure 2: Wages and Dividends to Owner–managers of Closely Held Corporations

This figure illustrates the importance of wages and dividends as alternative payout channels for closely held corporations in Sweden over the period 2000-2009. The black (gray) line comprises average owner wages (*average dividends*). The vertical line separates the sample period into the pre-reform and post-reform periods.

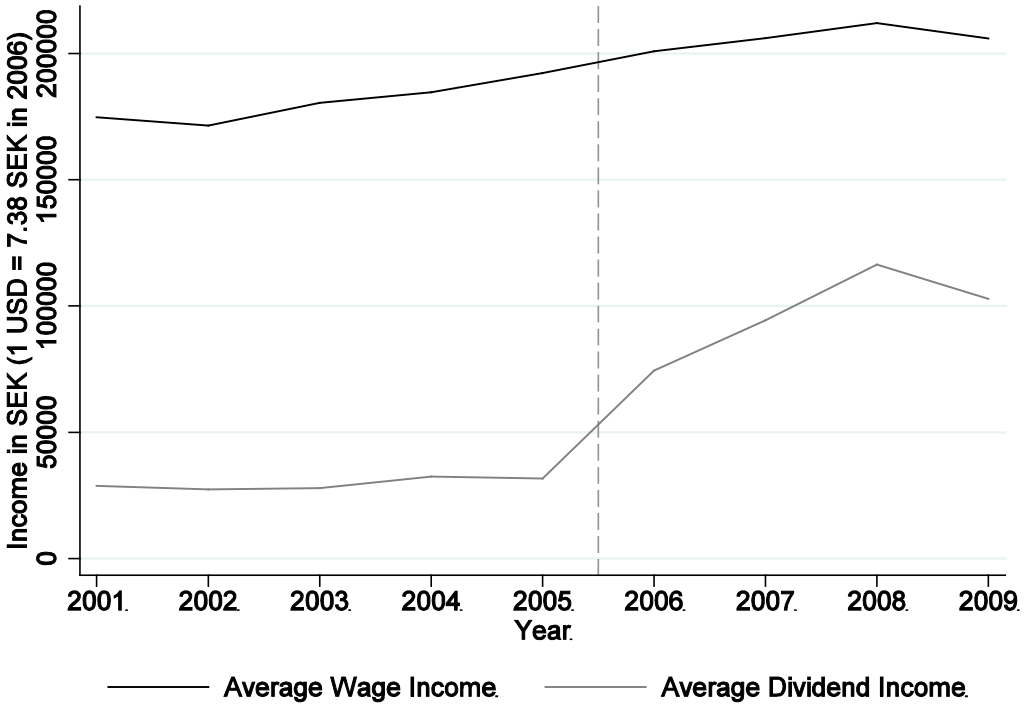


Figure 3: Wage and Dividend Initiations, 2001-2009

This figure shows the percentage of owner–managers who receive wages from the closely held corporation (solid black line) or dividend payout (solid gray line) over the 2001-2009 sample period. We further show the percentage of owner–managers who increase wages (dashed black line) and dividends (dashed gray line) by more than 50%.

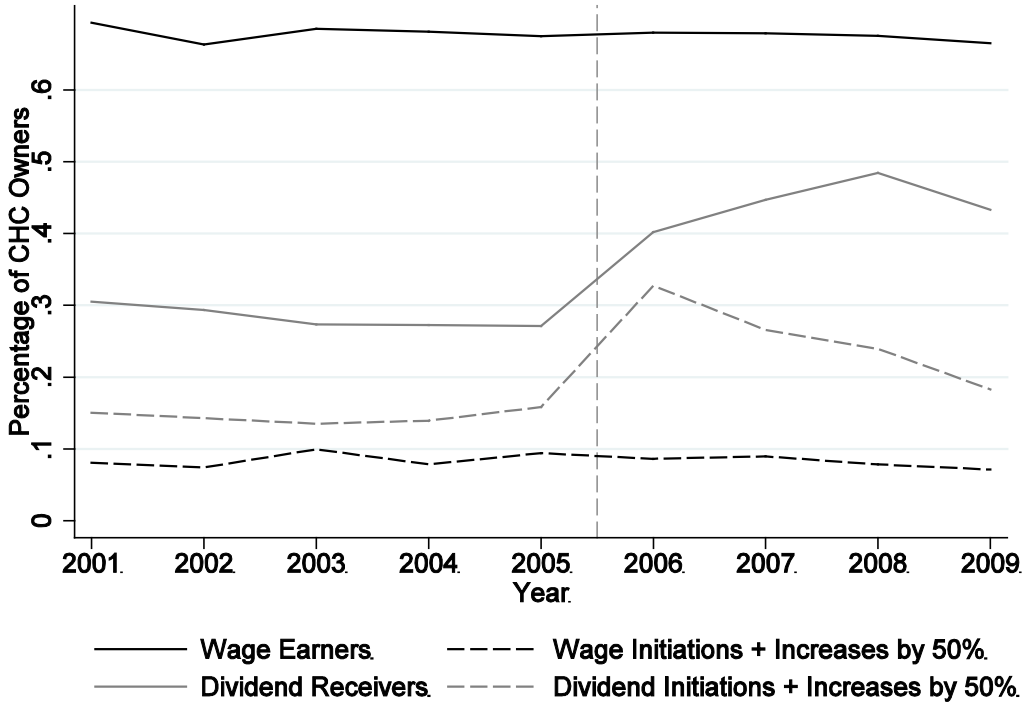


Figure 4: Frequency of Dividend and Wage Payouts, 2000-2009

This figure plots the frequency of years with wage payouts (black bars) and dividend payouts (gray bars) over the 2000-2009 period. We restrict the sample to owner–managers with data in all sample years.

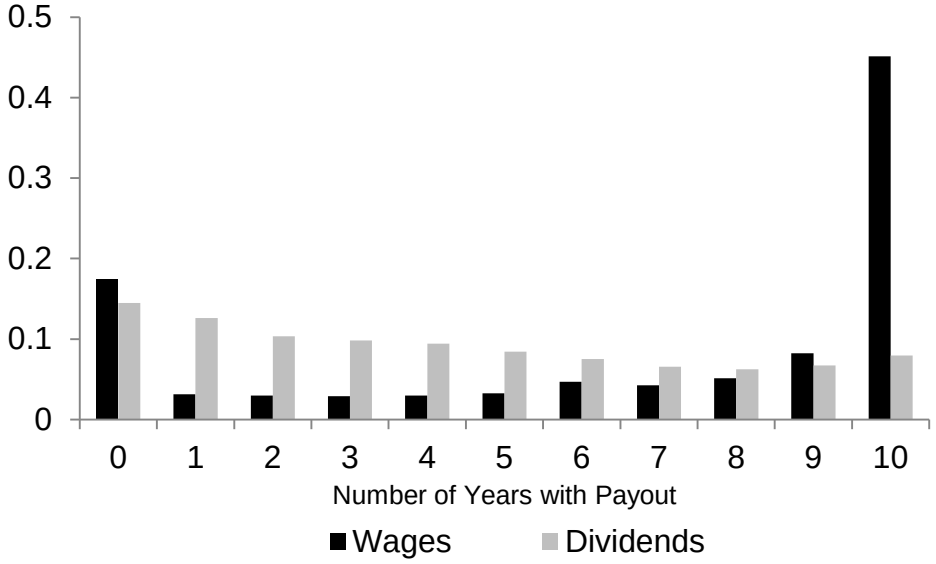
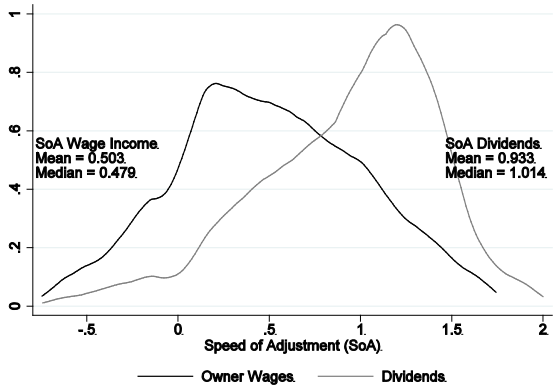


Figure 5: Speed of Adjustment of Wages and Dividends

This figure shows the density function for the distribution of speed of adjustment estimates from the Lintner (1956) model from equation (1) estimated separately for each sample firm. We restrict the sample to firms existing over 10 consecutive years. In Panel A, we present estimates for wages (black line) and dividends (gray line). Panel B presents the density function of the difference in speed of adjustment coefficients for each firm. A positive difference indicates that the speed of adjustment of dividends is higher than the speed of adjustment of wages.

Panel A: Distribution of Speed of Adjustment Coefficients



Panel B: Distribution of Difference in Speed of Adjustment Coefficients

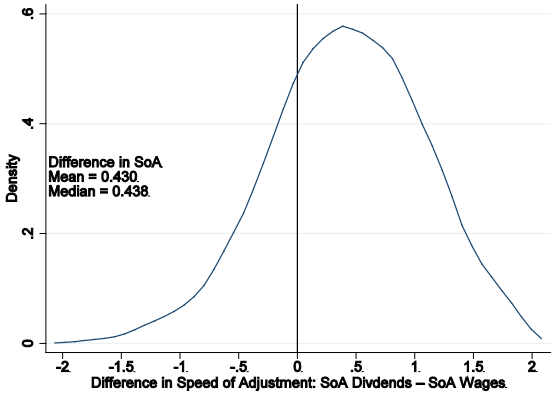


Figure 6: Labor income distribution around first state tax cutoff, 2000-2009

This figure plots the empirical distribution of labor income around the first state tax threshold (*Actual Distribution*). Each point represents number of observations in an SEK 1,000 bin. The solid gray line is the counterfactual distribution based on the methodology of Chetty et al. (2011). We use a 7th-degree polynomial fitted to the empirical distribution excluding bins within the range of [-5,000;+5,000] around the threshold.

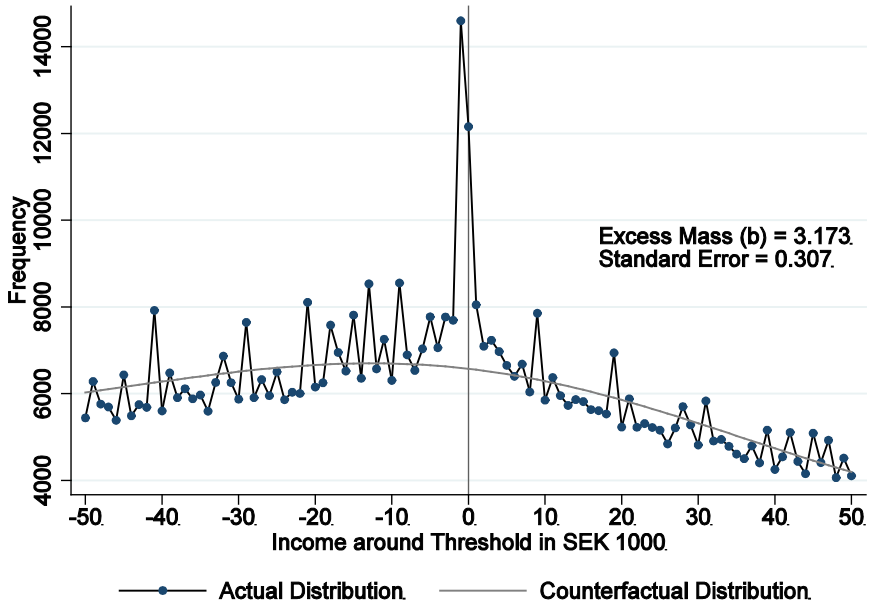


Figure 7: Labor income distributions around state tax cutoff, breakdown by year

This figure replicates the results of Figure 4, but presents distributions and excess mass estimates separately for each year. In contrast to Figure 4, we do not center labor income around the respective state tax threshold. The vertical black line indicates the state tax cutoff in the respective year.

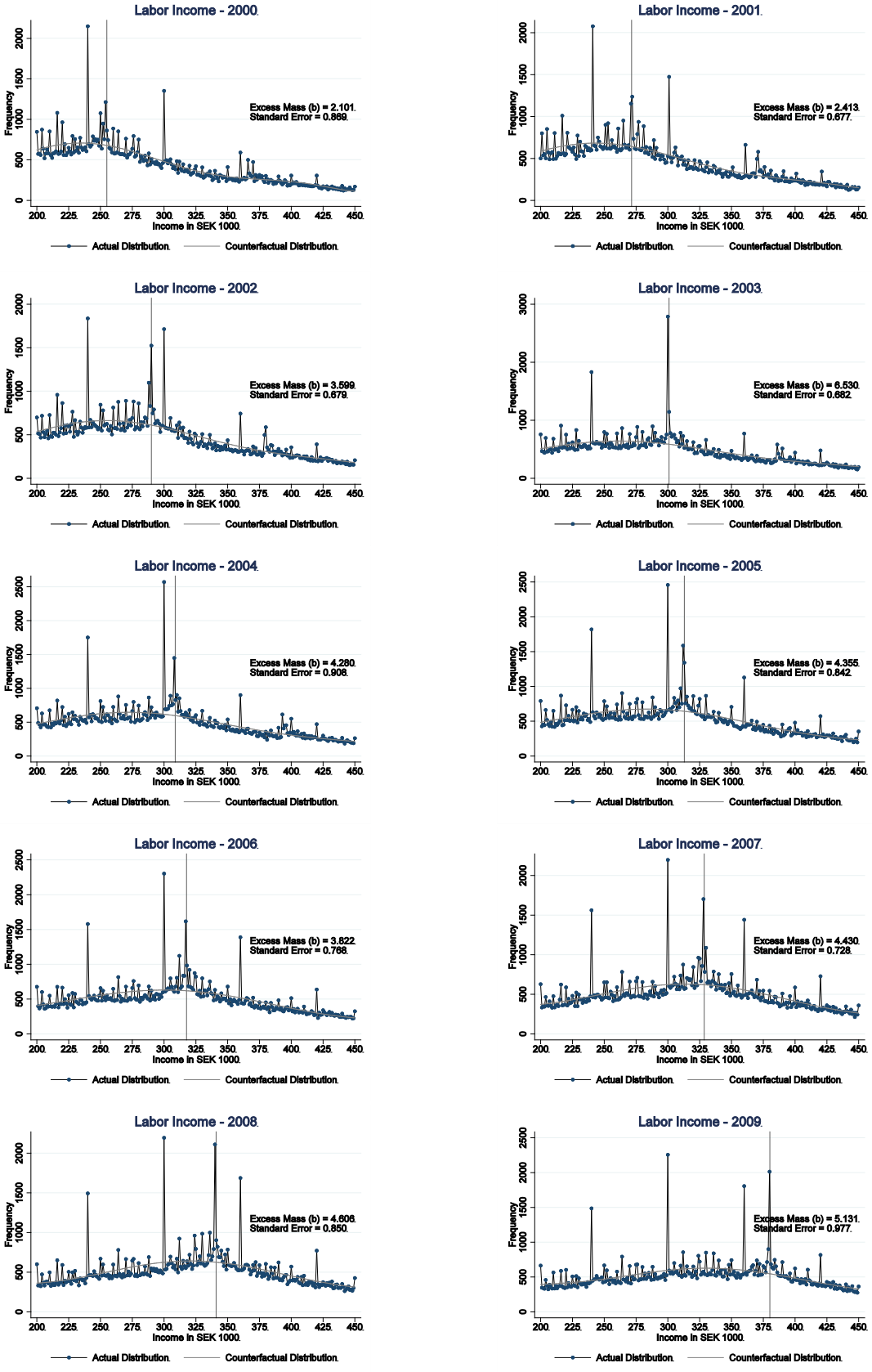


Figure 8: Labor income distributions around alternative cutoffs, 2000-2009

This figure plots empirical distribution of labor income (*Actual Distribution*). The left figure uses the threshold at which social security contributions become a pure tax. The right figure uses the second state tax cutoff. See Table 2 for thresholds. Each point represents the number of observations in an SEK 1,000 bin around the respective threshold. The solid gray line is the counterfactual distribution based on the methodology of Chetty et al. (2011). We use a 7th-degree polynomial fitted to the empirical distribution excluding bins within the range of [-5,000;+5,000] around the respective threshold.

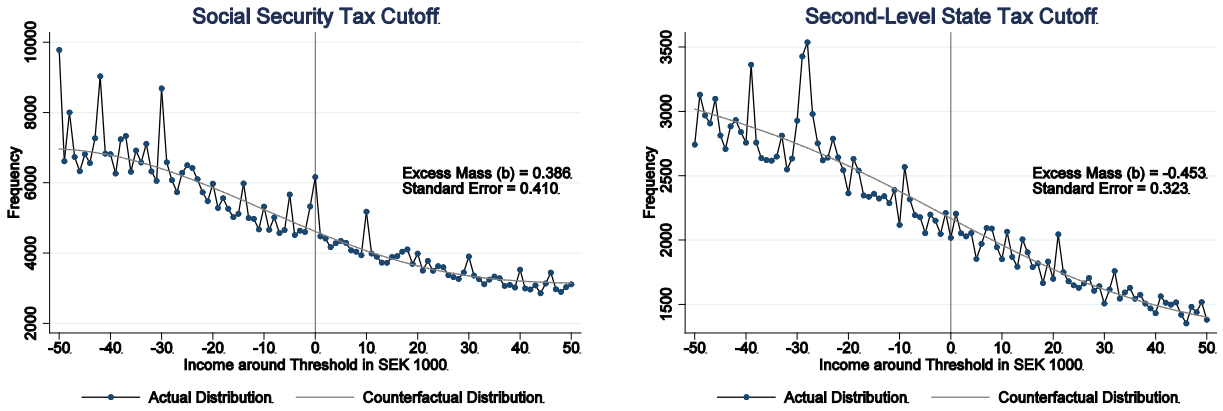


Figure 9: Dividend income distribution around total dividend allowance, 2000-2009

This figure plots the frequency of dividends relative to the accumulated dividend allowance in the SEK 1,000 bin around 0. The black line is a 7th-degree polynomial fitted separately for bins below and above 0.

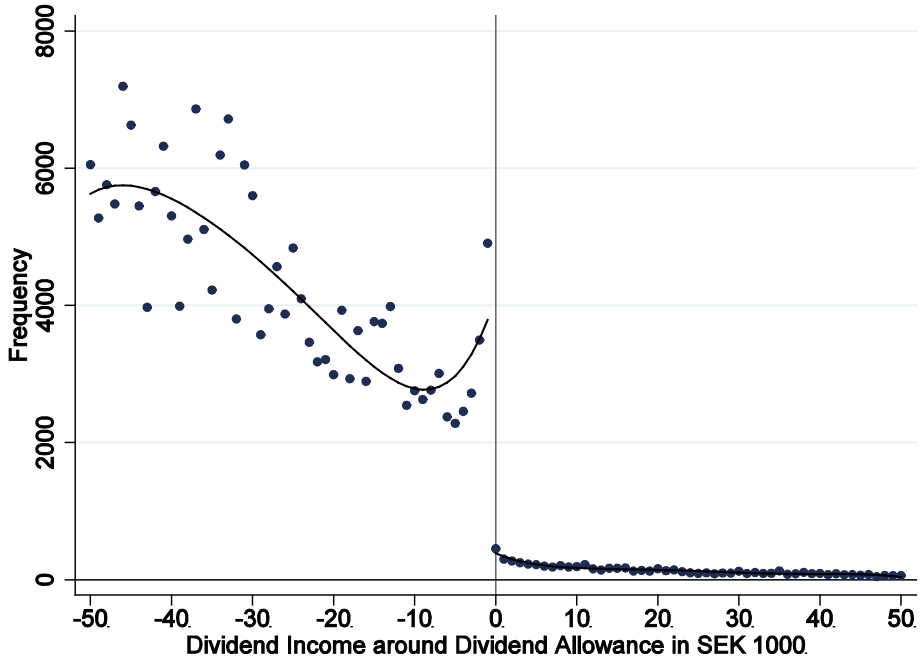
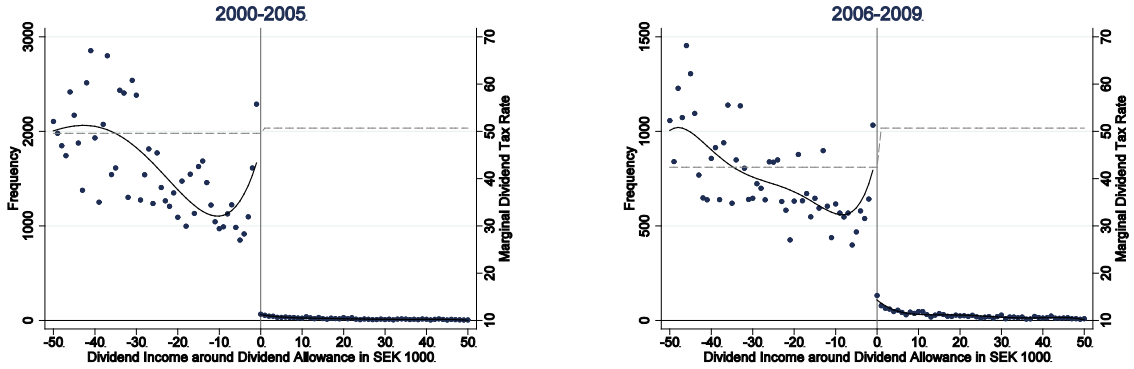


Figure 10: Dividend Income and Tax Rates

This figure plots frequency of dividends relative to accumulated dividend allowance in the SEK 1,000 bin around 0. The black line is a 7th-degree polynomial fitted separately for bins below and above 0. Panel A uses owner–managers who are subject to the municipality tax of 31.5% only. Panel B uses owner–managers who are additionally subject to the state tax of 20%. The left figures use the pre-reform period. The right figures use the post-reform period. We plot the frequencies on the primary y-axis. The dashed gray line illustrates marginal dividend tax rate (secondary y-axis)

Panel A: Individuals Subject to Municipality Tax



Panel B: Individuals Subject to Municipality and State Tax

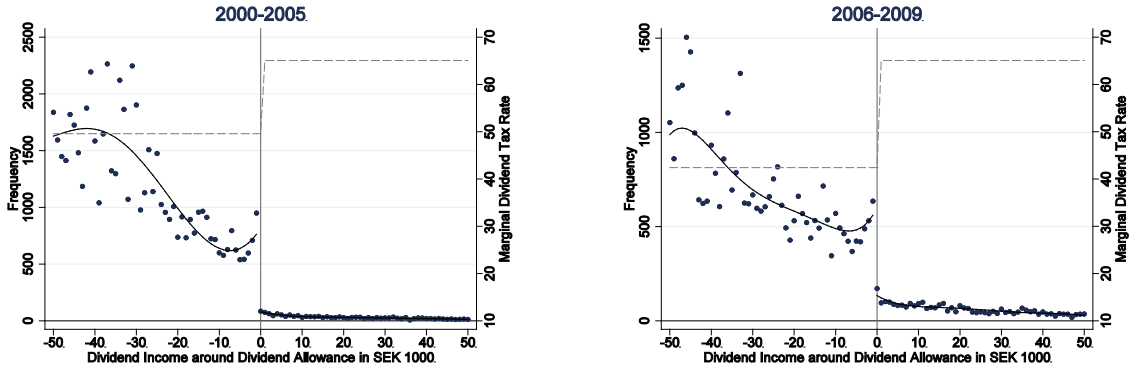


Figure 11: Tax sensitivity of payout channels in firms without agency costs

This figure replicates Figure 4 (left figure) and Figure 7 (right figure), but uses owner–managers who run exactly one closely held corporation in which they are the only active owner.

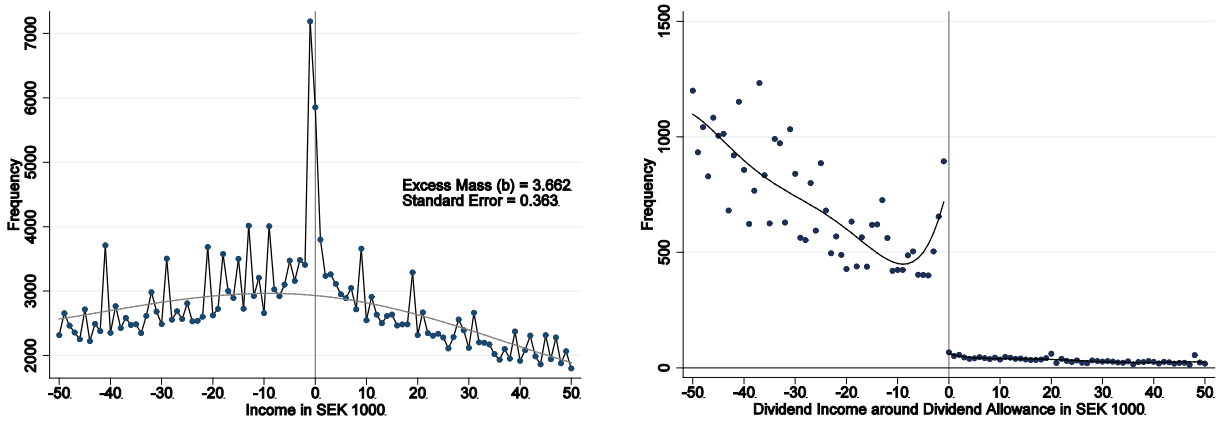


Table 1: Marginal Labor Income Tax Rates, 2000-2009

This table presents marginal tax rates on labor income over the 2000-2009 period. Labor income is subject to a municipality tax, two levels of state tax, and social security contributions. Above a certain level, social security contributions cease to generate additional benefits and become a pure tax.

Year	Municipality tax	State tax level 1		State tax level 2		Social security contributions become pure tax
		Rate	Threshold (in SEK)	Rate	Threshold (in SEK)	Threshold (in SEK)
2000	30.4%	20%	254,600	5%	398,500	301,000
2001	30.5%	20%	271,500	5%	411,100	304,200
2002	30.5%	20%	290,100	5%	430,900	313,100
2003	31.2%	20%	301,000	5%	447,200	330,000
2004	31.5%	20%	308,800	5%	458,900	341,300
2005	31.6%	20%	313,000	5%	465,200	349,500
2006	31.6%	20%	317,700	5%	472,300	359,100
2007	31.6%	20%	328,600	5%	488,600	403,000
2008	31.4%	20%	340,900	5%	507,100	410,000
2009	31.5%	20%	380,200	5%	538,800	428,000

Table 2: Summary Statistics

This table presents descriptive statistics of our main variables over the 2000-2009 period. Panel A presents summary statistics for our payout variables. Panel B (Panel C) presents statistics on firm-level (shareholder-level) variables. *Wages CHC* (*Dividend CHC*) is the wage (dividend) paid by the closely held corporation(s) (CHC) to the owner–manager in Swedish krona (SEK) (USD 1 = SEK 7.38 in 2006). *Wage Payer* (*Div Payer*) is a dummy variable equal to 1 if the individual receives a wage (dividend) from his CHC, and 0 otherwise. *Wage Increase* (*Div Increase*) is a dummy equal to 1 if the wage (dividend) from the CHC has increased by more than 50% or if wage (dividend) payout is initiated at 1, and 0 otherwise. *%Wage (%Div)* is the percentage of total payouts, defined as the sum of wages and dividends, paid as wages (dividends). If total payout is 0, we set *%Wage (%Div)* to 0. *Cash* is defined as cash and short-term investments over total assets. *Profit* is taxable operating income over total assets. We use the natural logarithm of total assets as the measure of size (*Ln(Total Assets)*). *Leverage* is defined as total book debt over total assets. *Retained Earnings* are SEK retained earnings amount in year *t* scaled by prior year total assets. *Investments* is the percentage change in fixed assets from *t*-1 to *t*. *Num Employees* is the number of employees in the firm. *Number Owners* is the number of active owner–managers in a firm. *Total Income* is the overall income of the owner–manager in year *t* over all income sources. *Labor income* comprises wages from the closely held corporation and other employers. *Capital Income* is the sum of interest income, dividends from all sources, capital gains, capital losses, and all capital income related expenses. *Relevance Non-CHC* is the percentage of total income unrelated to CHC(s) in year *t*-1. *Single CHC* is a dummy variable equal to 1 if the owner–manager is the only active owner and if he owns exactly one CHC. *State Tax Level 1* (*State Tax Level 2*) is a dummy variable equal to 1 if the shareholder is subject to the first (second) level of the state tax. *Number of Firms* is the number of firms in which the owner–manager actively participates. *Age* is shareholder age in years. *Married* is a variable indicating whether the individual is married. *High Education* is a dummy variable equal to 1 if the shareholder has a university degree.

Variable	N	Mean	Standard Deviation	10^{th} percentile	Median	90^{th} percentile
Panel A: Payout Variables						
Labor CHC	1,358,727	197,051	198,894	0	195,000	420,000
Dividend CHC	1,358,727	66,358	670,140	0	0	120,000
Wage Payer	1,358,727	0.687	0.464	0.000	1.000	1.000
Wage Increase	1,358,727	0.083	0.276	0.000	0.000	0.000
Percentage Wage	1,358,727	0.624	0.444	0.000	0.900	1.000
Div Payer	1,358,727	0.375	0.484	0.000	0.000	1.000
Div Increase	1,358,727	0.199	0.399	0.000	0.000	1.000
Percentage Div	1,358,727	0.157	0.309	0.000	0.000	0.807
Panel B: Firm-Level Variables						
Cash	1,358,727	0.152	0.220	0.001	0.066	0.415
Profit	1,358,727	0.313	0.685	-0.025	0.074	0.891
Ln(Total Assets)	1,358,727	13.430	1.494	11.740	13.460	15.210
Leverage	1,358,727	0.336	0.432	0.032	0.222	0.719
Retained Earnings	1,358,727	0.111	0.286	-0.023	0.079	0.389
Investment	1,358,727	0.402	1.361	0.000	0.033	0.852
Num Employees	1,358,727	4.353	6.486	0.000	2.000	11.000
Number Owners	1,358,727	2.009	1.035	1.000	2.000	4.000
Panel C: Shareholder-Level Variables						
Total Income	1,358,727	429,962	413,317	139,715	327,908	761,377
Labor Income	1,358,727	292,722	201,327	31,617	280,000	524,066
Capital Income	1,358,727	75,496	245,442	-26,405	4,836	189,656
Relevance Non-CHC	1,358,727	0.293	0.420	0.000	0.103	1.016
Single CHC	1,358,727	0.446	0.497	0.000	0.000	1.000
State Tax Level 1	1,358,727	0.295	0.456	0.000	0.000	1.000
State Tax Level 2	1,358,727	0.180	0.384	0.000	0.000	1.000
Number of Firms	1,358,727	1.169	0.497	1.000	1.000	2.000
Age	1,358,727	49.670	11.620	34.000	50.000	64.000
Married	1,358,727	0.636	0.481	0.000	1.000	1.000
High Education	1,358,727	0.176	0.381	0.000	0.000	1.000

Table 3: Lintner Model Regressions of Wages and Dividends

This table presents summary statistics for the distribution of parameter estimates from the Lintner (1956) model estimated separately for each sample firm. We restrict the sample to firms that exist for 10 consecutive years. In Panel A, we use wages as our payout variable. Panel B uses dividend payout. In Panel C, we present summary statistics on the difference in speed of adjustment coefficients between dividends ($SoA_{Dividends}$) and wages (SoA_{Wages}).

	Firms	Mean	SD	25%	Median	75%
Panel A: Wages						
Constant	19,415	0.226	0.399	0.029	0.105	0.277
Speed of Adjustment (SoA)	19,415	**0.503**	0.516	0.140	**0.479**	0.877
Target Payout Ratio	19,415	0.884	6.668	-0.245	0.017	0.637
R-squared	19,415	0.326	0.324	0.083	0.323	0.574
Panel B: Dividends						
Constant	19,415	0.038	0.053	0.005	0.021	0.052
Speed of Adjustment (SoA)	19,415	**0.933**	0.495	0.621	**1.014**	1.288
Target Payout Ratio	19,415	0.023	0.316	-0.013	0.013	0.080
R-squared	19,415	0.371	0.305	0.167	0.419	0.580
Panel C: Difference in Speed of Adjustment						
$SoA_{Dividends}$–SoA_{Wages}	19,415	**0.430**	0.679	-0.020	0**.438**	0.900

Table 4: Analysis of Cross-Sectional Differences in Speed of Adjustment

This table presents regression results on cross-sectional differences in the flexibility of payout policies. We use the speed of adjustment coefficients on wages (SoAWage) and on dividends (SoADividends) as dependent variables. These coefficients are obtained from estimating equation (1) and are summarized in Table 3. Independent variables are described in Table 2. We use the mean over sample period for each owner as the independent variable. We use robust standard errors (s.e.). ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	SoA_{Wages}		$SoA_{Dividend}$	
	b	s.e.	b	s.e.
Firm-Level Variables				
Cash	-0.0182***	0.0046	0.0280***	0.0046
Profit	-0.0404***	0.0040	-0.0457***	0.0037
Ln(Total Assets)	-0.0184***	0.0049	0.0135***	0.0047
Leverage	-0.0885***	0.0057	-0.0143***	0.0054
Retained Earnings	-0.0080	0.0060	0.0219***	0.0055
Investment	0.0108***	0.0041	0.0077*	0.0040
Num Employees	0.0078*	0.0047	-0.0194***	0.0043
Number Owners	-0.0807***	0.0060	-0.0238***	0.0053
Shareholder-Level Variables				
State Tax Level 1_{t-1}	0.0354***	0.0039	0.0382***	0.0037
State Tax Level 2_{t-1}	0.0162***	0.0042	0.0431***	0.0042
Ln(Non-CHC Inc)	-0.0036	0.0038	-0.0069*	0.0036
Age	0.0055	0.0038	-0.0027	0.0037
Married	0.0116***	0.0038	0.0100***	0.0035
High Education	-0.0121***	0.0035	0.0116***	0.0037
Single CHC	0.0513***	0.0061	-0.0062	0.0056
Number Firms	-0.0174***	0.0037	-0.0096***	0.0034
Observations	19,310		19,310	
R-squared	0.057		0.042	

Table 5: Payout Policies of Closely Held Corporations

This table presents regression results on payout policies of closely held corporations over the period 2001-2009. We use six alternative dependent variables measured at the owner level: *Wage Payer* (*Div Payer*) is a dummy variable equal to 1 if the individual receives a wage (dividend) from the individual's CHC, and 0 otherwise. *Wage Increase* (*Div Increase*) is a dummy equal to 1 if the wage (dividend) from the CHC has increased by more than 50% or if wage (dividend payout) is initiated, and 0 otherwise. *%Wage (%Div*) is the percentage of total payouts, defined as the sum of wages and dividends, paid as wages (dividends). If total payout is 0, we set *%Wage (%Div*) to 0. Independent variables are described in Table 2. We include owner–manager-fixed effects and year-fixed effects in all models. We report robust standard errors clustered at the CHC-owner level in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Wage Payer	***Wage Increase***	***%Wage***	***Div Payer***	***Div Increase***	***%Div***
Sample Mean	0.6776	0.0834	0.6177	0.3612	0.1987	0.1525
	(1)	(2)	(3)	(4)	(5)	(6)
Firm-Level Variables						
Cash	0.0038	0.0560***	-0.0266***	0.0980***	0.0972***	0.0344***
	(0.0027)	(0.0026)	(0.0027)	(0.0035)	(0.0033)	(0.0023)
Profit	0.0066***	0.0089***	0.0096***	0.0019*	-0.0023**	0.0029***
	(0.0007)	(0.0007)	(0.0007)	(0.0010)	(0.0009)	(0.0006)
Ln(Total Assets)	0.0210***	-0.0001	0.0085***	0.0412***	0.0196***	0.0196***
	(0.0007)	(0.0005)	(0.0006)	(0.0009)	(0.0007)	(0.0006)
Leverage	0.0245***	0.0236***	0.0354***	-0.0426***	-0.0185***	-0.0295***
	(0.0012)	(0.0013)	(0.0013)	(0.0015)	(0.0014)	(0.0010)
Retained Earnings	0.0550***	0.0336***	0.0333***	0.1022***	0.0833***	0.0627***
	(0.0026)	(0.0023)	(0.0026)	(0.0028)	(0.0024)	(0.0019)
Investment	0.0020***	0.0016***	0.0013***	0.0022***	0.0011***	0.0004**
	(0.0002)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0002)
Num Employees	0.0151***	0.0012***	0.0113***	0.0037***	0.0011***	-0.0030***
	(0.0002)	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Number Owners	-0.0115***	-0.0030***	-0.0139***	0.0336***	0.0207***	0.0185***
	(0.0013)	(0.0010)	(0.0013)	(0.0017)	(0.0014)	(0.0011)
Shareholder-Level Variables						
State Tax Level 1_{t-1}	0.0059***	-0.0859***	-0.0048***	0.0476***	0.0285***	0.0097***
	(0.0010)	(0.0011)	(0.0010)	(0.0015)	(0.0014)	(0.0009)
State Tax Level 2_{t-1}	-0.0064***	-0.1393***	-0.0296***	0.0563***	0.0352***	0.0281***
	(0.0017)	(0.0017)	(0.0017)	(0.0023)	(0.0022)	(0.0015)
Relevance Non-CHC	-0.1547***	0.2415***	-0.1456***	-0.0334***	-0.0238***	0.0345***
	(0.0017)	(0.0018)	(0.0017)	(0.0016)	(0.0015)	(0.0013)
Age	-0.2137***	-0.0219***	-0.2097***	-0.0343***	-0.0420***	-0.0023***
	(0.0008)	(0.0008)	(0.0008)	(0.0010)	(0.0010)	(0.0006)
Married	0.0036*	-0.0103***	0.0057***	0.0040	-0.0032	-0.0035**
	(0.0021)	(0.0019)	(0.0021)	(0.0030)	(0.0024)	(0.0018)
High Education	0.0019	-0.0100*	0.0247***	0.0020	0.0048	0.0077
	(0.0069)	(0.0054)	(0.0064)	(0.0081)	(0.0068)	(0.0071)
Single CHC	-0.0171***	-0.0059***	-0.0157***	-0.0155***	-0.0147***	-0.0020
	(0.0026)	(0.0021)	(0.0025)	(0.0031)	(0.0027)	(0.0021)
Number Firms	0.0848***	0.0331***	0.0580***	0.0638***	0.0384***	0.0138***
	(0.0020)	(0.0015)	(0.0019)	(0.0021)	(0.0018)	(0.0016)
Year-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Owner-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,358,727	1,358,727	1,358,727	1,358,727	1,358,727	1,358,727
R-squared	0.8033	0.3288	0.7812	0.5501	0.2644	0.5744

Table 6: Dividend Ceiling, Cash Holdings, and Investment Policy

This Table presents regression results on firms' cash and investment policy over the 2002-2009 period. We estimate equation (3) at the firm level. We use five different dependent variables. *ΔRetained Earnings* is change in retained earnings to asset ratio. *ΔCash Holding* is change in cash holdings (relative to assets). We use three different investment measures. *ΔReal Investment* is percentage change in fixed assets. Our variable of interest is the interaction between *Ceiling* and *Profit*. *Profit* is the ratio of operating income to total assets. *Ceiling* is a variable equal to 1, if any marginal dividend payout is subject to labor income taxation at the shareholder level. In case of multiple owners, we use the average of this dummy across shareholders. As independent variables, we use growth in sales from *t*-2 to *t* (*Sales Growth*), size measured as the log of total assets (*Ln(Total Assets)*), change in noncash working capital to assets ratio (*ΔWorking Capital*), and change in short-term debt to assets (*ΔShort-Term Debt*). We include firm-fixed effects and year-fixed effects in all specifications. We report robust standard errors clustered at the firm level in parentheses. ***, **, and * denote a significant difference at the 1%, 5%, and 10% levels.

	ΔRetained Earnings	***ΔCash Holding***	***ΔReal Investment***
	(1)	(2)	(3)
Ceiling × Profit	0.0448***	0.0297***	-0.1253
	(0.0156)	(0.0105)	(0.1111)
Profit	0.0724***	0.0607***	0.1435***
	(0.0015)	(0.0009)	(0.0078)
Ceiling	-0.0895***	-0.0636***	0.0307
	(0.0102)	(0.0097)	(0.1192)
Sales Growth	0.0150***	-0.0083***	-0.0683***
	(0.0010)	(0.0007)	(0.0090)
Ln(Total Assets)	0.0851***	0.0185***	0.0637***
	(0.0024)	(0.0013)	(0.0125)
ΔWorking Capital	0.1873***	-0.2494***	-0.2128***
	(0.0043)	(0.0034)	(0.0319)
ΔShort-Term Debt	-0.1046***	0.4661***	1.5117***
	(0.0052)	(0.0038)	(0.0361)
Firm-Fixed Effects	Yes	Yes	Yes
Year-Fixed Effects	Yes	Yes	Yes
Observations	883,472	883,472	803,456
R-squared	0.3055	0.3999	0.1265

Online Appendix

Figure A.1: Speed of Adjustment of Dividends and Share Repurchases

This figure shows the density function for the distribution of speed of adjustment estimates from the Lintner (1956) model from equation (1) estimated separately for each listed firm in Sweden over the period 2000-2009. We use data from Datastream. We restrict the sample to firms existing over 10 consecutive years. We present estimates for dividends (black line) and share repurchases (gray line).

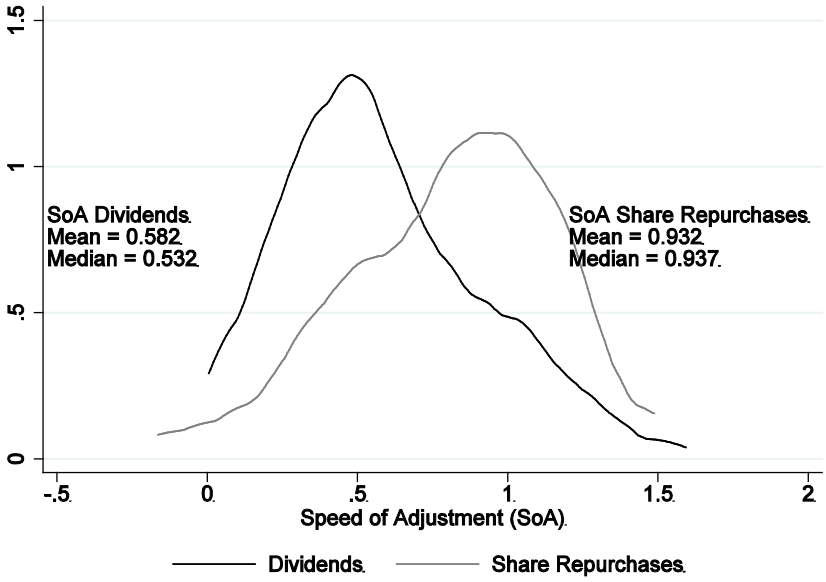


Figure A.2: Speed of Adjustment of Wages and Dividends—Restricting Sample to Fully Owned Firms of Shareholders with One Closely Held Corporation

This figure shows the density function for the distribution of speed of adjustment estimates from the Lintner (1956) model from equation (1) estimated separately for each sample firm. We restrict the sample to firms existing over 10 consecutive years. We present estimates for wages (black line) and dividends (gray line). We restrict the sample to firms with only one owner–manager who runs exactly one closely held corporation.

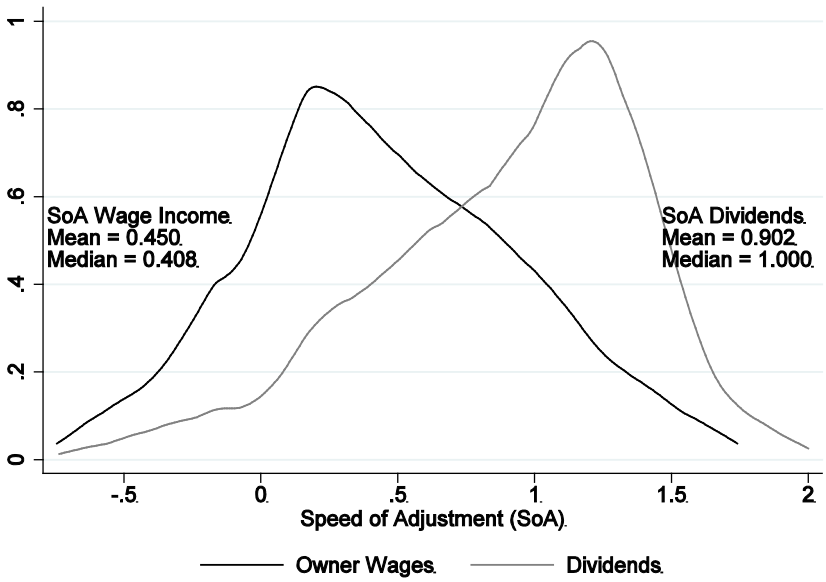


Table A.1: Payout Policies of Closely Held Corporations—Restricting Sample to Fully Owned Firms of Shareholders with One Closely Held Corporation

This table presents regression results on payout policies of closely held corporations over the period 2001-2009. We only include firms where only one active owner–manager who run exactly one closely held corporation. We use six alternative dependent variables measured at the owner level: *Wage Payer* (*Div Payer*) is a dummy variable equal to 1 if the individual receives a wage (dividend) from his CHC, and 0 otherwise. *Wage Increase* (*Div Increase*) is a dummy equal to 1 if the wage (dividend) from the CHC has increased by more than 50% or if wage (dividend payout) is initiated, and 0 otherwise. *%Wage (%Div*) is the percentage of total payouts (wages and dividends) paid as wages (dividends). If total payout is 0, we set *%Wage (%Div*) to 0. Independent variables are described in Table 2. We include owner–manager-fixed effects and year-fixed effects in all models. We report robust standard errors clustered at the CHC-owner level in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Wage Payer	***Wage Increase***	***%Wage***	***Div Payer***	***Div Increase***	***%Div***
	(1)	(2)	(3)	(4)	(5)	(6)
Firm-Level Variables						
Cash	-0.0045	0.0549***	-0.0234***	0.0685***	0.0746***	0.0188***
	(0.0037)	(0.0037)	(0.0036)	(0.0048)	(0.0046)	(0.0030)
Profit	0.0024**	0.0071***	0.0018*	0.0061***	-0.0026*	0.0044***
	(0.0010)	(0.0011)	(0.0011)	(0.0015)	(0.0014)	(0.0008)
Ln(Total Assets)	0.0286***	0.0030***	0.0155***	0.0433***	0.0196***	0.0176***
	(0.0015)	(0.0011)	(0.0013)	(0.0019)	(0.0012)	(0.0010)
Leverage	0.0371***	0.0345***	0.0512***	-0.0420***	-0.0134***	-0.0322***
	(0.0019)	(0.0020)	(0.0019)	(0.0022)	(0.0021)	(0.0013)
Retained Earnings	0.0901***	0.0517***	0.0666***	0.1105***	0.0956***	0.0577***
	(0.0040)	(0.0036)	(0.0040)	(0.0039)	(0.0035)	(0.0025)
Investment	0.0014***	0.0008**	0.0005	0.0030***	0.0014***	0.0010***
	(0.0003)	(0.0004)	(0.0003)	(0.0005)	(0.0005)	(0.0003)
Num Employees	0.0173***	-0.0016***	0.0130***	0.0037***	0.0013***	-0.0027***
	(0.0005)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0003)
Shareholder-Level Variables						
State Tax Level 1_{t-1}	0.0020	-0.0998***	-0.0098***	0.0495***	0.0320***	0.0135***
	(0.0018)	(0.0019)	(0.0018)	(0.0027)	(0.0025)	(0.0015)
State Tax Level 2_{t-1}	-0.0087***	-0.1531***	-0.0271***	0.0506***	0.0391***	0.0234***
	(0.0030)	(0.0032)	(0.0030)	(0.0041)	(0.0039)	(0.0025)
Relevance Non-CHC	-0.1208***	0.2600***	-0.1157***	-0.0285***	-0.0368***	0.0210***
	(0.0031)	(0.0034)	(0.0030)	(0.0028)	(0.0027)	(0.0020)
Age	-0.2161***	-0.0244***	-0.2095***	-0.0385***	-0.0432***	-0.0025***
	(0.0012)	(0.0013)	(0.0012)	(0.0016)	(0.0015)	(0.0009)
Married	0.0012	-0.0073**	0.0033	-0.0049	-0.0070	-0.0056**
	(0.0038)	(0.0036)	(0.0039)	(0.0052)	(0.0043)	(0.0028)
High Education	0.0252	0.0313**	0.0330**	-0.0081	0.0078	-0.0141
	(0.0155)	(0.0125)	(0.0144)	(0.0172)	(0.0157)	(0.0134)
Year-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Owner-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	445,001	445,001	445,001	445,001	445,001	445,001
R-squared	0.7943	0.3725	0.7699	0.5740	0.3040	0.5884

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