

Capital taxation of owners of closely held corporations in Sweden, 1991 to 2018*

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Abstract: This study analyzes the taxation of owners of closely held corporations in Sweden after the introduction of the dual tax system in 1991. The rules are complex and have undergone continuous changes. This study contributes, firstly, by presenting a complete overview of the development of the legal framework. Secondly, by calculating time series data on marginal effective tax rates on capital income (METR) for a marginal investment financed with new share issues, retained earnings or debt for the whole period based on all changes in the legal framework. There are two main findings; firstly, the tax system has become more neutral towards the end of the period, with shrinking differences in effective taxation between sources of finance, secondly, taking the effects of so-called income shifting into account, there is basically no progressivity in taxation for active owner investing in closely held corporations.

JEL-codes: H21, H31, N44

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1. Introduction

The first half of the 1990s was a period of extensive reformation of the Swedish economy. After a period of 100 years of high economic growth, Sweden had dropped in welfare compared to other countries during the 1970s and 1980s. Increased taxation hampering entrepreneurship has been put forward as one explanation to Swedish economy lagging behind, e.g., marginal effective tax rates (METR) on new investments had been pushed well above 100 percent (Johansson et al 2018).

The reformation of the economy was radical, with membership in the EU, deregulations and privatizations (e.g., Bergh 2014). The 1990–1991 tax reform was one of the major reforms. Among other things, it changed the income taxation of capital and labor from being global and progressive to dual, with a flat tax rate on capital income, and a progressive tax rate on labor income (Agell et al 1996). Until now, there has not been any study of how this reform and subsequent changes in the tax code has affected the effective marginal taxation of investments in closely held corporations throughout the period. The taxation of closely held corporations are of great economic importance, since new and growing corporations, with active owners¹, normally are closely held. Activities in such corporations are often thought of as the very essence of entrepreneurship. Moreover, closely held corporations employ approximately one third of the workforce and ninety percent of the Swedish privately-owned limited corporations are closely held (Andersson et al 2018).

This study analyzes the capital income taxation of owners of closely held corporations, including corporate income, personal capital income (i.e., dividend, interest, capital gains) and wealth taxation, in Sweden between 1991 and 2018. The tax rules are complex and unstable (they have been reformed on an almost yearly basis). The rules are hard to make sense of, even in retrospect, for a knowledgeable observer (Alstadsæter and Jacob 2016).

Therefore, it is a demanding task to describe the development of the rules as well as to integrate them into the theoretical framework of King-Fullerton (1984), which has been used in the previous literature to measure the marginal effective tax rates on capital income (METR). In this study, I give a complete overview of the development of the central parts of

¹ An active owner invests both capital and labor, i.e., take active part in the governance and the development of the corporation; a passive owner only provides capital.

the legal framework and I include the rules into the King-Fullerton (1984) approach. Further, I present annual time-series data on the METR for a marginal investment financed with new share issues, retained earnings or debt. In a dual tax system, the definition of the tax base is of crucial importance for the METR, and incorporating these changes in a time series is far more complicated than considering changes in the statutory tax rates. Therefore, research and policy evaluation would benefit from complete time series of the METR for closely held corporations.

A complete overview of the legal framework and METR time series for the whole period has not been presented earlier. Sørensen (2008) has calculated the METR for closely held corporations for the year 2007 and Öberg (2003) for the years 1991 and 1999. In this study the METR is calculated with the extended King-Fullerton model presented in Wykman (2019), which in turn relies on previous work by Lindhe (2003), Öberg (2003) and Sørensen (2008).

The purpose of this article is twofold: First, I document the rules for closely held corporations and their evolution since their introduction. Second I calculate the METR for an investment made by an active owner financed by new share issues, retained earnings and debt for the years 1991 to 2018.²

I find that there has been a shift towards lower METR over time. Comparing the first half with the second half of the period 1991–2018 for an active owner that faces the top marginal tax rate, the METR dropped approximately with 11 percentage points for new share issues (from 38 to 27 percent), 13 percentage points for retained earnings (from 54 to 41 percent) and 11 percentage points for debt financing (from 36 to 25 percent). However, taking all parts of the tax legislation for closely held corporations into account, the process has been less linear than commonly described. Especially, the changes in year 2006, has not been as beneficial for new investments as often described. Further, there is a significant tax discrimination between different sources of financing. The difference in the METR for middle and top income earners varies substantially during the period. It is also important to note that the personal taxation may vary substantially due to other factors than level of

² This study contributes to a long term research project on the Swedish tax system, see for example Stenkula (2014). How to incorporate the tax rules into the King-Fullerton (1984) is explained in Wykman (2019).

income, such as the corporation's wage sum. A middle income earner might face higher marginal tax rates than a top income earner.

The rest of the paper is organized as follows: Section 2 accounts for the main features of how closely held corporations are defined and taxed. Section 3 depicts the statutory marginal tax rates on personal capital income, the corporate tax, the wealth tax and inflation during the period. Section 4 introduces the King-Fullerton framework in a setting for closely held corporations. The results for the METR are presented in Section 5 and, finally, Section 6 discusses the results. Appendix A provides a formal and closed form presentation of the intuitively described rules in Section 2. Appendix B gives a detailed description of the tax rates introduced in Section 3. Finally, Appendix C presents an alternative way of calculating the METR for debt financing, in a situation where the regulation on interest payments for closely held corporations becomes binding and no repayments are made.

2. Rules for closely held corporations (the so-called 3:12 rules)

The 1990–1991 tax reform introduced a dual income tax system in Sweden; capital and labor income were taxed separately, with a progressive tax rate on labor income and a flat and lower tax rate on capital income. Personal capital income taxation includes the taxation of natural persons' income from dividends, capital gains and interest. For individuals subject to the state income tax, the 1990–1991 tax reform made the total marginal tax on labor income, including social security contributions, higher than the combined corporate and personal capital income tax.³ The labor income tax was progressive, starting with a municipality tax and for higher incomes a state tax. The corporate and capital income tax was set at flat rate. This made the legislator fear a massive structural transformation of industry induced by high income earners shifting progressively taxed labor income to lower taxed capital income causing large costs for society. As the architects behind the rules wrote (see below for the definition of qualified owners):

³ The marginal tax rate on labour income decreased from a range between 36 to 72 percent to a range between 31 to 51 percent, and the individual marginal tax rate on personal capital income decreased from 36 to 72 percent, to a flat 30 percent tax rate (Sørensen, 1998). The social security contribution was approximately unchanged (38 percent) and the corporate income tax was cut from approximately 50 percent to 30 percent (Henrekson and Stenkula, 2015).

*Prevention is the decisive reason to have a particular taxation of qualified owners to closely held corporations. Without specific rules we would get a purely tax driven structural transformation where many wage earners would be able to avoid the progressive labor taxation by income shifting—something that would bring about substantial social efficiency losses.*⁴

Specific tax rules—the so-called 3:12 rules⁵—applicable to closely held corporations were therefore introduced to prevent income shifting, i.e. the possibility for owners of closely held corporations to shift higher and progressively taxed labor income to lower and flat rate taxed capital income.

2.1 Defining closely held corporations

The definition of a closely held corporation is that four or fewer owners control more than 50 percent of the ultimate voting rights in the corporation. The rules distinguish between an active owner that invests both capital and labor, i.e., take active part in the governance and the development of the corporation, by calling the shares qualified, and a passive owner than only provides capital by calling the shares unqualified. An owner is regarded active, or synonymously qualified, if (s)he or a close family member is, or during the past five years has been, active in the income generation of the corporation to a “considerable extent” Otherwise (s)he is called passive, or synonymously unqualified⁶ (SFS No. 1999:1229).

2.2 Taxation of passive owners and interest income

The tax rules for passive owners are simpler, since no division between labor and capital taxation is necessary. A passive owner of a closely held corporation is taxed similarly to a shareholder in a widely held unlisted corporation. Capital gains were directly after the tax reform fully taxed independent of holding period at a flat rate of 30 percent, as were dividends and interest. The capital gains and dividend tax was lowered to 25 percent in 1992–1993. The tax on dividends was abolished and the tax on capital gains reduced to half (i.e. to

⁴ Edin et al. (2005, p. 5), in original: ”Det avgörande skälet för att ha en särskild beskattning av kvalificerade ägare till fåmansföretag är preventionen. Utan särskilda regler skulle vi få en renodlat skattedriven strukturomvandling där många löntagare skulle kunna undvika den progressiva beskattningen av tjänsteinkomster genom att ’sätta sig på bolag’ – något som skulle ge påtagliga samhällsekonomiska effektivitetsförluster”.

⁵ The widely used “3:12-rules” is due to the rules original position in the code of laws.

⁶ See Bjuggren et al (2011) for a detailed analysis.

12.5 percent) in 1994. The flat tax rate of 30 percent on capital gains and dividends was reintroduced in 1995 (RSV 292). Similar to unlisted widely held corporations, the tax on capital gains and dividends was decreased to 25 percent as from 2006 (SKV 292). The tax rate on interest has been 30 percent throughout the analyzed period.

2.3 Taxation of active owners

In government proposal 1990/91:54, the government stated that active owners should be taxed equivalently to shareholding employees in publicly listed corporations. The government argued that this was in line with uniformity and neutrality, which was the fundamental principles behind the tax reform. Even though the goal of equivalent taxation might be both effective and fair from an economic perspective, it is in practice difficult to maintain in a dual tax system due to the vast variation of rate of returns and wages in the economy. The main obstacle put forward in traditional analysis is however that for an active owner there is no way to objectively determine whether the source of income is the invested capital or the own work effort. This *uncertainty of source* has been called the Achilles' heel of the dual tax system (Lindhe et al 2003). The division between labor and capital income must be rule based.

The legislator discussed to tax active owners' income according to a normal wage model, a normal return to capital model or a combination of both. In a *normal wage model*, the tax authority specifies a normal wage for the active owner and this is taxed as labor income while any exceeding surplus distributed to the owner will be taxed as capital income. In a *normal return model*, the tax authority specifies a normal rate of return on the invested capital, and depending on this rate of return and on the amount invested, the active owner can tax a share of the total distributed surplus as capital income, and the rest will be taxed as labor income.

Several governmental investigations — both when introducing the dual tax system and afterwards — such as SOU 1989:34, SOU 2002:52 and Edin et al (2005) — have rejected the *normal wage model*. The main reasons, they argued, are that it is more difficult to define a normal wage than a normal return on invested capital, and within a *normal wage model*, active owners would rarely be subject to the progressive labor income tax. The legislation has been in line with the investigations and a normal return model has been applied throughout the analyzed period.

A normal return model, even though preferred by the legislator, comes with challenges. As long as the labor income tax is higher than the capital income tax there are incentives for income shifting. However, the difficulties with a *normal return model* goes beyond preventing tax avoidance or evasion. For example, active owners who achieve a high rate of return will be taxed much higher than shareholding employees in publicly listed companies, which violates the basic principle for the rules. To prevent too high taxation the rules were from start complemented with thresholds and reliefs. The scope of exceptions have grown over time, often introduced to achieve political goals, such as stimulating employment or small scale entrepreneurship. In turn, this has created new incentives for income shifting, which has been prevented with new regulations. Some rules have had unintended consequences, which has been remedied by changes, reversions or even further regulations. A from start relatively complicated framework has been unstable over time and has become increasingly complex (see Appendix A and B for the evolution of the framework). The normal return is also criticized in itself to be too low for entrepreneurial activities, difficult to determine or even unsuitable for a legal framework for entrepreneurs. (Bjuggren et al 2007)

2.3.1 Taxation of dividends and capital gains: the general rule (*huvudregeln*)

The 3:12 rules divides the total surplus distributed to the owner into a capital income and a labor income component. Distributed surplus below the limit for the so-called dividend allowance (DA, *gränsbeloppet*) are taxed as capital income. This is not a limit for how much dividends the corporation may distribute, only a limit for how much income that may be taxed as capital income at a personal level. Exceeding dividends payment will be taxed as labor income at personal level. The corporation may always distribute its surplus to the owner as wage payments. Capital gains from selling shares are in principle treated as dividends payments. It will be taxed as capital income if the gain is within the dividend allowance, and the excess gain will be taxed as labor income. Before 2006 and between 2007 and 2009 the excess gain was taxed as a combination of labor and capital, see Section 3.2.

The total tax for dividends or capital gains within the dividend allowance includes corporate income tax and personal capital income tax. The total tax for dividends income above the dividend allowance includes corporate income tax and labor income tax, but is not subject to social security contributions. Wage payments are subject to social security contributions and labor income tax. The evolution of the tax rates and important special rules are described in Section 3.

The way that the dividend allowance is calculated has changed over time. It was originally calculated as an imputed return on the equity base, i.e., as:

$$\text{Dividend allowance} = \text{Imputed return} \times \text{equity base} \quad (1)$$

The equity base is the acquisition cost of the shares plus capital injections made by the owner. The imputed return was initially the government borrowing rate (*statslåneräntan*, SLR) plus 5 percentage points.⁷

The imputed return has been changed several times since the introduction of the rules (see Table B3 in appendix, which summarizes the rules for dividend allowance). The imputed return was, e.g., criticized for being low and was raised in 2004, to the government borrowing rate plus 7 percentage points, and again in 2006 to government borrowing rate plus 9 percentage points.⁸ (Government Proposal 2005/06:40).

In 1994, the dividend allowance became more generous by adding a share of the corporation's wage sum, a so-called wage base (*lönesummetillägg*), to the dividend allowance:

$$\text{Dividend allowance} = \text{Imputed return} \times (\text{equity base} + \text{wage base}) \quad (2)$$

Hence, the equity base and the new wage base formed a common base, which was multiplied with the imputed return. The main reason for adding a wage base, the legislator argued, was that the corporation's risk increases with the number of employees (everything else equal), implying that a higher share of the potential surplus could be regarded as a risk premium and should be taxed as capital income. The addition of the wage base to the dividend allowance was also considered as a preferable tax reduction from an income shifting perspective. The legislator argued that no active owner would hire more employees as a way to decrease the tax rate on the own income. Hence, a higher share of the income could be taxed as capital income without increasing the risk for abuse (Lodin 2011). However, these changes also

⁷ The government borrowing rate consists of the average market yield on government bonds with a remaining maturity of at least five years (Swedish national debt office, *Riksgäldskontoret*). The actual rate from the 30th November the year before was to be used, i.e., in year t , the government borrowing rate 30th of November in year $t-1$ was to be used. See Table B4 in appendix.

⁸ SOU 2002:52, Alstadsæter and Jacob (2016).

implied a tax reduction for owners of labor intense corporations relative to capital intense corporations.

When introduced in 1994 the wage base was defined as 10 percent of the corporation's wage sum above 10 price base amount (*prisbasbelopp*, PBB⁹). The owner's wage was excluded from the wage sum, and the increase of the dividend allowance due to the wage base could not exceed the owner's wage. Furthermore, the owner could only add the wage base if his/her own wage was at least 150 percent of the highest paid employee.

The wage base was extended in 1997. Firstly, the wage base was raised from 10 to 70 and then to 100 percent of the total wage sum. Secondly, the restriction that the increase of the dividend allowance due to the wage base could not exceed the owner's own wage was abolished. Instead, a new more generous restriction was imposed that limited the wage base to at most 50 times the owner's wage. Further, the restriction on the owner's wage was reduced to be the lowest amount of 120 percent of the highest paid employee or 10 price base amount. Still the wage to the owner and the wage sum below 10 price base amount were excluded. The purpose with this change was to stimulate growth and employment, in a way that did not reduce the owner's incentive to pay herself wage. The imputed return on the wage base was the same as on the equity base in years 1994–2005.

In year 2006, the common base of equity and wage was abolished, and instead a separate wage based allowance (WBA; *lönebaserat utdelningsutrymme*) was added to the dividend allowance (see appendix A for further explanation):

$$\text{Dividend allowance} = \text{Imputed return} \times \text{equity base} + \text{wage based allowance} \quad (3)$$

Initially, the wage based allowance was 20 percent of the wage sum between 10 and 70 income base amount (*inkomstbasbelopp*, IBB¹⁰) and 50 percent of the wage sum above 70 income base amount. The owner's own wage was now also included in the wage sum. The requirement on the owner's wage was also reformed to the lowest amount of 15 income base amount and 6 income base amount plus 5 percent of the corporation's total wage sum. This was a tightening of the rules for corporations with high wage sum, but a relief for smaller

⁹ A government standard related to the development of prices, used to calculate, e.g., social benefits and tax rules.

¹⁰ As with price base amount a fixed government standard.

corporations. On the other hand, the larger weight to the wage sum in the dividend allowance was in favor of corporations with large wage sum. The limitation of the wage base to at most 50 times the owner's wage was also abolished. In 2007, the reduction of the wage sum with 10 income base amount was abolished.

A part of the dividend allowance was completely exempted from taxation between 1997 and 2006. This was done to reduce the double taxation¹¹ for unlisted corporations, including closely held corporations. The reduction is called the relief amount (*lättnadsbelopp*). Within the relief amount dividends were exempt from capital income taxation (hence only corporate tax was paid on these incomes). The relief amount was calculated in the same way as the dividend allowance, but with a lower imputed rate of return, first at 65 percent of SLR and from 1998 and onward 70 percent. The relief amount was a part within the dividend allowance, which was not increased. The relief amount was abolished in 2006.

The abolishment of the relief amount was done at the same time as the introduction of the wage based allowance. The purpose of the changes in 2006 was to encourage entrepreneurship and employment in family firms (Government Proposal 2005/06:40).

After the reform of the rules in 2006 and 2007, together with the statutory corporate and personal capital income tax cuts in 2006 and 2013, there were strong incentives to transform employees to partners, only holding very small shares, which for instance law corporations and accounting corporations used. To curb overuse, a requirement of holding at least 4 percent of the total shares to use the wage based allowance was introduced in 2013. The wage sum used to calculate the wage based allowance was once again restricted to 50 times the owner's wage. To achieve unchanged tax revenues, the wage requirement was reduced so that the own wage has to be the lowest amount of 9.6 income base amount or 6 income base amount plus 5 percent of the corporation's total wage sum.

Under all three ways of calculating the dividend allowance in Equations 1–3 above, it has been possible to save unused dividend allowance, and carry it forward with a so-called carry forward interest rate, so that:

¹¹ Double taxation means that a surplus is first taxed on corporation level with corporate tax, and then taxed at personal level with either capital or labor income tax.

$$\text{Dividend allowance} = \text{This year's dividend allowance} + \text{carry forward interest rate} \times \text{unused dividend allowance} \quad (4)$$

The carry forward interest rate was the same as the imputed rate of return on the equity base until 2006, when it was lowered to the government borrowing rate plus 3 percentage points. The Swedish tax authority describes the rules annually in RSV 292 and SKV 292. A complete description of the dividend allowance is given in Appendix A and the changes in all parameters are described in Table A1 and in Table B3 in Appendix B.

2.3.2 Taxation of dividends: the simplification rule

A simplification rule (*förenklingsregeln*) was introduced in 2006 as an alternative to the general rule described above. Under the simplification rule the dividend allowance is fixed, regardless of the amount of capital invested or the corporation's wage sum. Initially the rule allowed 1.5 income base amount to be taxed as capital *per corporation, not per shareholder*. The owner was entitled to the dividend allowance multiplied with her/his ownership share. The allowance was raised to 2 income base amount in 2007, 2.5 income base amount in 2009 and 2.75 income base amount in 2012. As of January 1, 2012, an owner can only use the simplification rule in *one* of her/his closely held corporations. This change was made to prevent active owners from reducing their tax by starting many corporations and divide the surplus between them.

2.3.3 Tax ceilings on capital gains and dividends

Since the introduction of the 3:12-rules, a ceiling has limited the amount of capital gains that is taxed as labor income. No more than 100 income base amount of capital gains could be taxed as labor income during a six year period (Lodin et al. 1994).¹² A governmental inquiry discussed the possibility to introduce such a ceiling also for dividends, but did not support the idea. It was argued that the 3:12-rules would become more complex and that an expansion of the wage based allowance gave enough incentives to keep the corporations and pay dividends (Edin et al 2005). However, in 2012 a tax ceiling was introduced also for dividends. No more than 90 income base amount of dividends are taxed as labor income during a specific year.

¹²That is, if an active owner sold shares with a gain, the tax authority has to sum up all capital gains during the previous five years to decide how the capital gains should be taxed.

The main reason for the change was to create neutrality between capital gains and dividends, and thereby eliminating the tax incentives to sell shares (Government budget proposal 2011).¹³ The capital tax rate used for dividends or capital gains above this ceiling is the normal or full capital tax, which throughout the analyzed period has been 30 percent.

The introduction of the ceiling for dividends together with the abolishment of the split rule (the capital gain is split into labor and capital taxation, see Section 3.2) has dampened or removed the tax advantage of selling shares instead of paying dividends.

2.3.4 Summary

All together, the taxation for closely held corporations will depend on several factors besides tax rates and inflation. Different allowances and tax credits will affect the taxation, which will be analyzed in Section 4. As explained above the definitions in the legal framework itself will also play a vital role in the taxation, especially the definition of a normal return and the dividend allowance. The owner's effective marginal tax rate might, besides tax rates, inflation and source of finance depend on nine factors:

1. The acquisition costs of owner's shares + capital injections,
2. the imputed rate of return,
3. the wage sum of the corporation,
4. unused dividend allowance from previous years,
5. the highest wage payment to an employee who is not a shareholder,
6. owner's wage,
7. owner's total labor income
8. the profitability measured as the rate of return on the investment and
9. the corporation's profit in absolute numbers.

It is clear that the tax rules for closely held corporations are complex, even in cases where only the basic rules are analyzed. Section 4 gives a brief description of how to incorporate the

¹³ Another relevant discussion at the time was the taxation of venture capitalists, often located and taxed abroad. A cap on dividends clarified the tax rules and decreased the potential tax burden for this group. A cap had the potential to broaden the tax base by attracting venture capitalists to pay tax in Sweden, and to mitigate the use of cross boarder tax-driven structures with interest payments.

rules in the King-Fullerton framework for calculating the marginal effective tax rate, a complete description is made in Wykman (2019).

3. The evolution of marginal personal income tax, corporate income tax, social security contributions and inflation

The statutory marginal tax rates for owners of closely held corporations vary considerably, both over time and whether the income is within the dividend allowance or the relief amount. Table 1 describes all marginal tax rates that could face an owner within the analyzed period.

Table 1. Marginal tax rates on dividends and capital gains for owners of closely held corporations (%), 1991–2018

Year	Passive owners	Active owners
1991–1993	30	30, local tax, state tax 20
1994	0, 12.5	0, 12.5, 30, local tax, state tax 20
1995–1996	30	30, local tax, state tax 25
1997–1998	0, 30	0, 30, local tax, state tax 25
1999–2005	0, 30	0, 30, local tax, state tax 20, state tax 25
2006–2011	25	20, local tax, state tax 20, state tax 25
2012–2018	25	20, 30, local tax, state tax 20, state tax 25

Note: The local marginal tax rates vary between municipalities. The analysis uses the average local tax, which varies between 30.38 percent (year 2000) and 32.12 percent (year 2018).

Dividends that exceeds the dividend allowance for the period 1991–2011, or exceeds the dividend allowance but not 90 income base amount from 2012 and onwards is taxed with progressive labor income tax. Capital gains that exceeds the dividend allowance but not 100 income base amount are taxed as labor income or a combination of labor and capital income, see Section 3.2 for an explanation of the so-called split rule. As described in Section 2.3.3 incomes exceeding the ceilings of 90 or 100 income base amount are taxed as capital income at 30 percentage points. All dividends and capital gains are subject to corporate tax at corporation level, and not social security contributions, even though taxed as labor income at personal level. Between 1991 and 2005 passive owners and active owners with incomes within the dividend allowance faced the same marginal tax rates on capital incomes, even though they varied between 0 and 30 percent. From 2006 and onwards a passive owner always pays 25 percent and an active owner with incomes within the dividend allowance 20 percent in marginal capital income tax. The reduction from 30 to 25 and respectively 20 percent was made simultaneously as the 0 tax level was abolished (the Relief amount, see section 2.3.1).

Income classified as labor income is due to local income tax and state income tax. The local income tax rate differs between municipalities and was in 2018 about 32 percent on average. The state income tax was set to 20 percent for incomes exceeding a threshold in the 1990–1991 tax reform. In 1995, this tax was increased by 5 percentage points, the so-called *värns katt*, and in 1999 another threshold was introduced dividing the state income tax into two parts, 20 percent for income owners above the first threshold and an additional 5 percentage points on incomes exceeding a second threshold of labor incomes. Hence, from 1995 the total state income tax on higher labor incomes was 25 percent, making the top marginal income tax about 57 percent. Surpluses distributed to the owners as wage is also subject to social security contributions at corporation level.

In the following, we will refer to two types of active owners to illustrate the effects of the rules for closely held corporations: Top Income Earner (TIE) and Middle Income Earner (MIE). We define a TIE as an active owner who pays the top state tax; i.e., 20 percent the years 1991 to 1994 and 25 percent as from year 1995 and onwards. MIE is defined as an active owner who on the margin does not pay state income tax. Both the TIE and the MIE consider the social security contributions a pure tax, see Section 3.5 for further discussion. The TIE is studied to illustrate the METR for a successful entrepreneur and the MIE is studied to illustrate what could be a fairly common livelihood business, or an income level where many might not increase their income level due to the marginal effect.

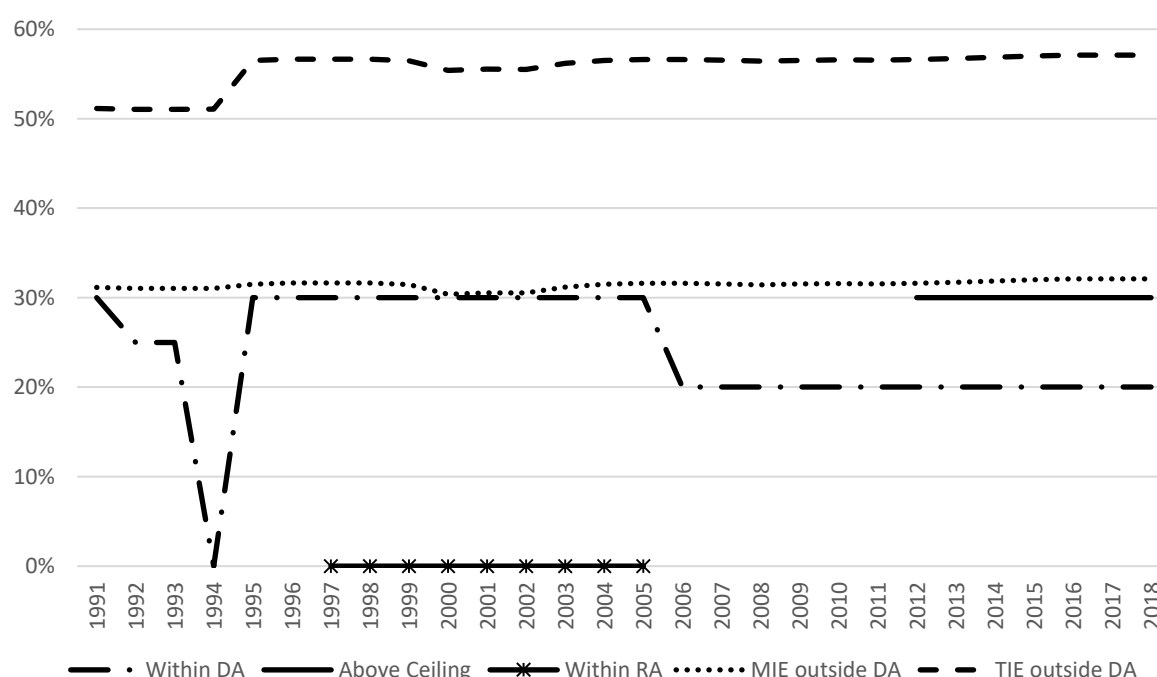
3.1 Dividend income

Figure 1 depicts the marginal tax rates on dividends for active owners of closely held corporations including the marginal tax rate within the dividend allowance (capital income tax), within the relief amount (no tax), above the dividend allowance (labor income tax) and above the tax ceiling of 90 income base amount.

The marginal tax rate could vary considerably – at most between zero and 60 percent – depending on year and if the dividends were within or above the dividend allowance or the relief amount¹⁴.

¹⁴ From year 2000 it is possible not to pay church tax, since we assume a tax minimizing investor, we assume that the investor is not a church member.

Figure 1. Marginal tax rate on dividends for active owners of closely held corporations, 1991–2018



Note: TIE is a top income earner paying the top state income tax and MIE is a middle income earner earning below the threshold for paying state income tax. DA (Dividend allowance) is the tax on dividends taxed as capital income. RA (Relief Amount) is the 0 tax rate on dividends within the relief amount. The TIE and MIE pay the same tax rate within the dividend allowance, above the ceiling and within the relief amount, but different tax rates outside those boundaries. All income exceeding the ceiling (90 income base amount) is taxed as capital.

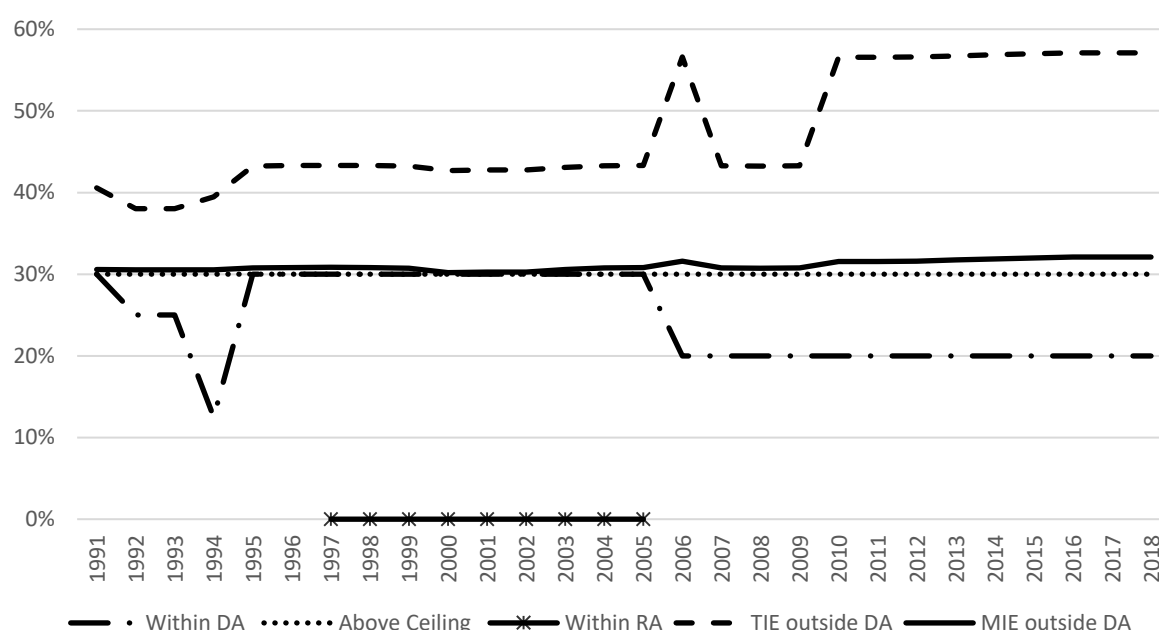
Source: Own figure.

From figure 1 it is clear that the taxation of active owners has several tensions. The taxation outside the dividend allowance differs with 20–25 percentage points between a middle income earner and a top income earner. Between 1997 and 2005 it differs 30 percentage points between being inside or outside the relief amount. For a top income earner outside the dividend allowance the tax is approximately 27 percentage lower if the total amount of dividends exceeds 90 income base amount from 2012 and onwards. A major tension throughout the period is whether the top income earner can derive the surplus from the corporation within the dividend allowance or has to pay the progressive labor income tax. In the beginning of the analysed period, the difference is 20–25 percentage points, 1994 it grew to 50 percentage points, 1995–2005 it was approximately 25 percentage points and 2006–2018 35 percentage points.

3.2 Capital gains and the split rule

Before 2006 and between 2007 and 2009, capital gains were split between capital income and labor income (the so-called “split rule”, *klyvningsregeln*), i.e., half of the gains was taxed as labor income and the other half as capital income, with the exception of 1994 when 70 percent were taxed as labor income. In 2006 and as from 2010 the split rule was abolished, so that all capital gains outside the dividend allowance was taxed as labor. As with dividends, the labor taxed amount could be reduced with (unused) dividend allowance for all years. As mentioned in section 2.3.3 no more than 100 income base amount of capital gains could be taxed as labor income during a six year period.

Figure 2. Marginal tax rate on capital gains for owners of closely held corporations, 1991–2018



Note: TIE is a top income earner paying the top state income tax and MIE is a middle income earner earning below the threshold for paying state income tax. DA (Dividend allowance) is the tax on dividends and/or capital gains taxed as capital income. RA (Relief Amount) is the 0 tax rate on dividends within the relief amount. The TIE and MIE pay the same tax rate within the dividend allowance, above the ceiling and within the relief amount, but different tax rates outside those boundaries. All income exceeding the ceiling (100 income base amount) is taxed as capital.

Source: Own figure.

The tax rates in figure 1 and figure 2 coincide with three exceptions. First, in 1994 dividends were tax-exempted but the tax rate on capital gains was 12.5 percent. Second, the split-rule does not apply for dividends income (making the marginal tax for capital gains relatively lower). Third, the ceiling for dividends was introduced much later (2012) than for capital gains (1991) and with a different threshold.

Tables B1 and B2 in Appendix B summarize the marginal tax rates on dividends and capital gains for active owners of closely held corporations. Passive owners and shareholders of listed and unlisted widely held corporations are included for comparison.

3.3 Interest tax

The marginal tax rate on interest income is 30 percent from 1991 and onward. There are rules to prevent active owners to shift labor income to interest rate income by giving loans to the

corporation. Especially loans must be on “commercial grounds”. Such interest income is taxed as ordinary interest income, i.e., 30 percent at personal level and the interest payment is deductible at corporation level. Excess interest payments, above market level are reclassified and taxed as “hidden” dividend payments¹⁵. (Alstadsæter and Jacob 2016)

3.4 Wealth tax

The personal wealth tax was at a flat 1.5 percent rate (except 1991 when it was progressive with 2.5 percent at max) until 2007¹⁶ when it was eliminated (see Du Rietz and Henrekson 2015 for further details).

¹⁵ “Commercial grounds” refer to the interest rate that the corporation would have to pay for a comparable loan from a third party taking, for instance, the market interest rate, business risk and collateral into account. There is no fixed regulation of how high interest the corporation is allowed to pay the owner, SLR+3 percentage points is always accepted by the Tax Authority, but it is a case-by-case decision.

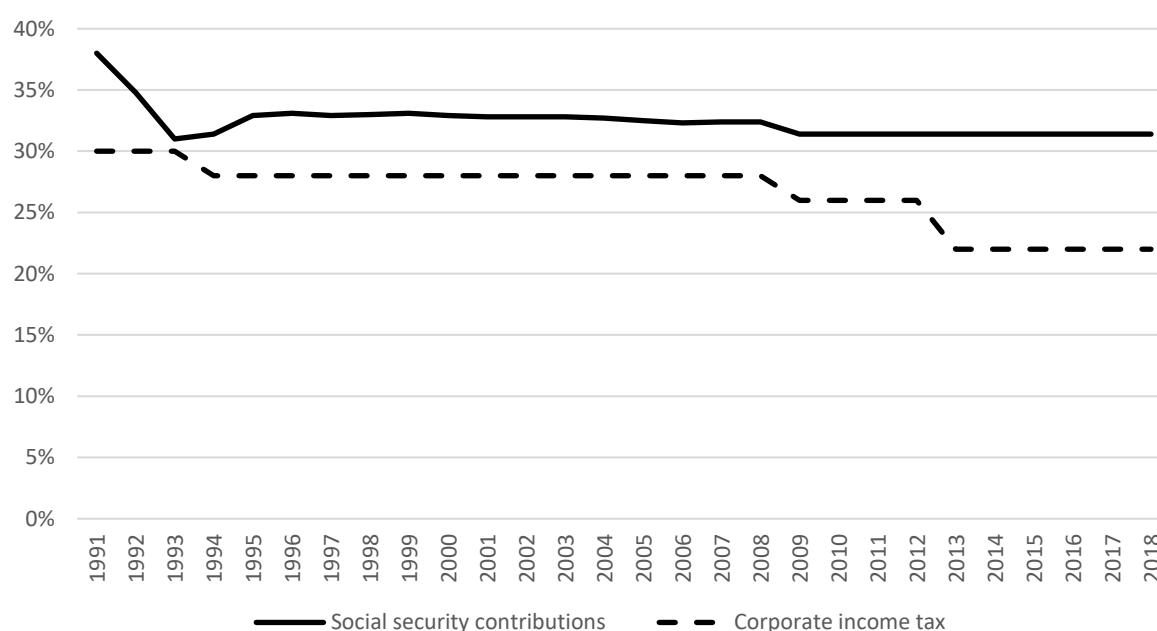
¹⁶ It was abolished retroactively for the whole of 2007 in the end of the year. A forward-looking investor in the beginning of 2007 could therefor take the tax into account, but we will disregard this and consider the tax as abolished from the start 2007 and onwards.

3.5 Corporate income tax and social security contributions

The tax reform in 1990–1991 lowered the statutory corporate tax rate and aimed at weakening the possibilities to reduce the tax by allowances and grants.¹⁷ The statutory corporate tax rate was cut to 30 percent in 1991 and was further reduced step-by-step to 22 percent in 2013.

After cuts in the beginning of the period, the social security contributions have been fairly stable just above 30 percent.

Figure 3. Statutory marginal corporate tax rate and statutory social security contributions, 1991–2018



Source: Du Rietz et al (2014) and Swedish tax authority.

The different development of the corporate income tax and the social security contributions shown in figure 3 has further increased the tax tension between dividend payments within the dividend allowance and wage payments.

However, the interpretation of the social security contributions for the METR is less straight forward than with other taxes. For the top income earner it is clear that the social security

¹⁷ See Lodin (2011, chapter 7) for a further discussion about the design of the new corporate taxation.

contributions is a pure tax on the margin, as the social security contributions has no insurance value. Even though the benefit ceilings for pension funds, sick leave benefits, parental benefits and other social benefits differs, a top income earner is clearly above all of those ceiling.

It is more complicated for the middle income earner. The ceiling is normally generalized to 7.5 price base amount. Between 2006 and 2018 this ceiling is below the threshold for state tax and it is clear that the social security contributions can be a pure tax also for owners not obliged to pay state income tax on the marginal. This is precisely our definition for a middle income earner. However, between 2002 and 2005 the ceiling and threshold coincides, and before that the threshold for state tax is even below the ceiling. This could motivate a reduction of the social security contributions in the calculations below. For annual incomes between 0.5 and 7.5 price base amount Flood et al (2013) calculate the tax component to be 40 percent of the social security contributions. For simplicity, I consider the social security contributions as a pure tax throughout the analysis, but with the notion that it could be argued that METR is overestimated for the middle income earner in 1991 to 2006.¹⁸

There are other aspects of the social security contributions that are not accounted for, such as reductions for special groups of employees¹⁹ and the 5 percentage point reduction for closely held corporations with small wage sums between 1997 and 2006.

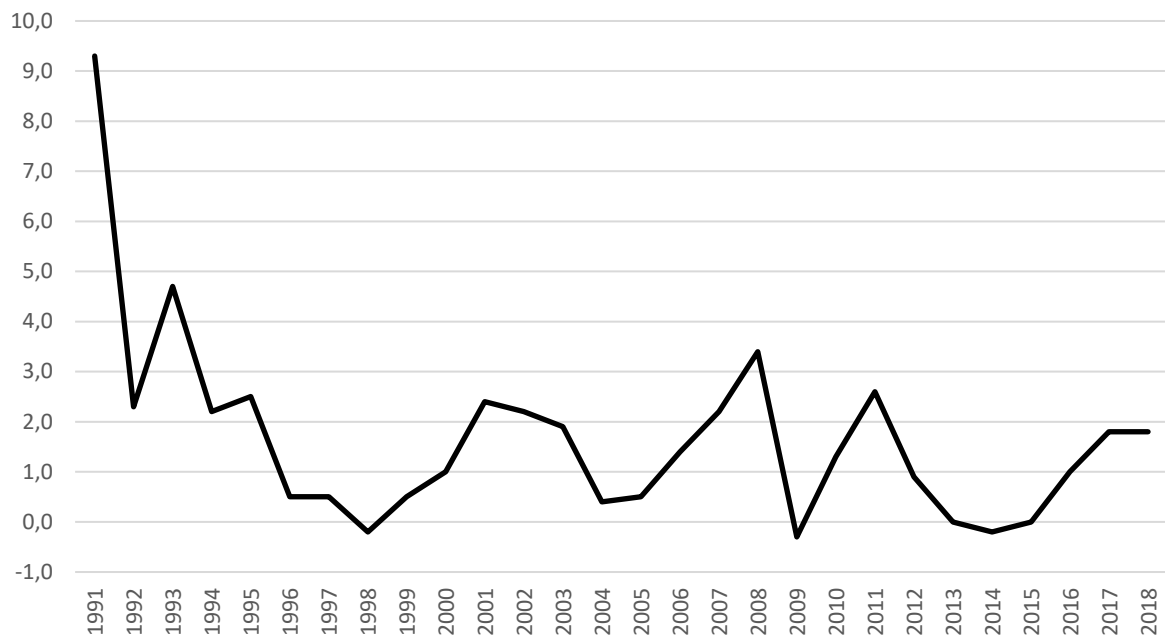
3.6 Inflation

The tax reform was one significant reform in Sweden in the beginning of the 1990s. Another reform was that the central bank was granted independence and that price stability was made prime goal of monetary policy. Inflation fell and has been about 1 percent on average between 1994 and 2018.

¹⁸For simplicity and in line with Öberg (2003), Lindhe (2003) and Sørensen (2008), I consider the whole social security contribution as tax. This assumption does not affect the conclusions.

¹⁹Such as young, elderly and people living in remote areas.

Figure 4. The inflation rate (%), 1991–2018



Source: <http://www.scb.se/hitta-statistik/statistik-efter-amne/priser-och-konsumtion/konsumentprisindex/konsumentprisindex-kpi/pong/tabell-och-diagram/konsumentprisindex-kpi/kpi-faststallda-tal-1980100/>

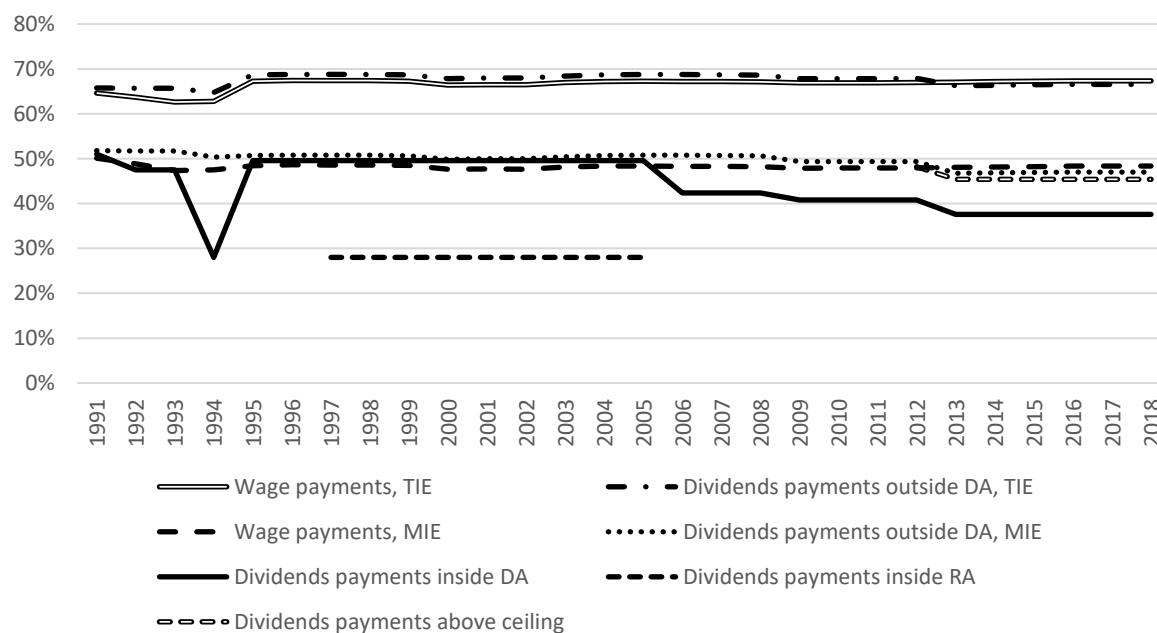
3.7 Pecking order

To analyse the marginal effective tax rate one needs to understand how the active owner responds to the tax schedule. Öberg (2003) claims that the Swedish tax system is characterized by the following inequality:

$$(1 - \tau)(1 - \tau_d) > \frac{1 - \tau_w}{(1 + \sigma)} > (1 - \tau)(1 - \tau_w) \quad (5)$$

where τ is the corporate tax rate, τ_d is the dividends tax rate, τ_w is the labor income tax and σ the social security contributions. This inequality states that the after tax return to the owner from a marginal surplus in the closely held corporation is highest when it is distributed as dividends within the dividend allowance. The second highest after tax return is achieved when the marginal surplus is paid to the owner as wage and the lowest return follows from dividend payments outside the dividend allowance.

Figure 5. Total marginal tax rates



Note: Total marginal statutory tax rates refers to the combined effect of corporate income tax and personal income tax. TIE is a top income earner paying the top state income tax and MIE is a middle income earner earning below the threshold for paying state income tax. DA (Dividend allowance) is the tax on dividends taxed as capital income. RA (Relief Amount) is the 0 tax rate on dividends within the relief amount. The TIE and MIE pay the same tax rate within the dividend allowance, above the ceiling and within the relief amount, but different tax rates outside those boundaries. All income exceeding the ceiling (90 income base amount) is taxed as capital.

Source: Own figure.

Figure 5 depicts the pecking order between wage and dividends payments for different level of incomes²⁰. The figure shows that the inequality above does not always hold. There is no fixed pecking order over time, and it should be noticed that:

1. Wages under the threshold for state tax are preferred to dividends inside the dividend allowance for the years 1995–2005, violating the left inequality for those years.
2. From 2013, dividend payments outside the dividend allowance is preferred to wage payments violating the right inequality for those years. However due to the fact that the own wage may be included in the wage base from 2006, this will not be the case in practice, since half of the wage payment will be transformed to payments inside the

²⁰ The pecking order is derived given that the owner's own wage does not restrict the size of the dividend allowance and fulfills the minimum required size to add a wage base/wage based allowance. If the owner's wage restricts the size of the dividend allowance, the pecking order and the combination between wage and dividends will change.

dividend allowance. However, the middle income earner may be restricted to use the waged base allowance and the violation of the right inequality may be binding.

3. Tax relieved dividends 1997–2005 are always preferred to wages.

These results are used when calculating the METR in Section 5.

4. The marginal effective tax rate on capital income (METR)

The aim of King-Fullerton (1984) is to calculate the METR on investment projects in the nonfinancial corporate sector using a framework that takes all personal income taxes, corporate taxes, wealth taxes and inflation that concern the investment decision of the saver into account. The King-Fullerton framework is a standard technique in academic research and in practical use, for example by the OECD. The model is described in, e.g., King-Fullerton (1984), Södersten (1993) and Johansson et al (2016). Since the introduction of the framework in 1984, several extensions have been made to tackle changes in tax systems and broaden the analysis, to include for example risk (Sørensen 2004).

The original King-Fullerton framework is not, without extensive revision, applicable to a dual tax system and consequently not the 3:12-rules. No country in the original study had such rules. The challenge is to incorporate the list of factors presented in Section 2.3.4 that affects the METR, besides the tax rates, inflation and allowances. In particular the division of the surplus into capital taxed income and labor taxed income is of critical importance. As is known from earlier studies the incorporation of the 3:12-rules into the King Fullerton framework is a difficult challenge, not least since they are frequently changed.

Extensions to include the rules into the framework have been made by Lindhe et al (2003), Öberg (2003) and Sørensen (2008). Wykman (2019) presents an overview of the different extensions and develops the framework further to be able to analyze long periods within a cohesive method and to increase the accuracy in the calculations. The time series calculated in this study relies on the extensions in Wykman (2019). METR calculations for active owners have earlier been done for occasionally years, but with the further generalized method complete time series from the tax reform in 1990-1991 can be achieved. The method is thoroughly presented in Wykman (2019) and this paper only gives an intuition for the calculations behind the results.

4.1 The basics behind the model

The METR is an equilibrium model, more sophisticated than just arithmetic with tax rates controlling for inflation. The METR is formally the difference between the pretax and post-tax real rate of return in relation to the pretax real rate of return, on a marginal investment project.

$$METR = \frac{\text{Pretax real rate of return} - \text{Post-tax real rate of return}}{\text{Pretax real rate of return}} \quad (6)$$

Taxes drive a wedge between the pretax rate of return on investments by corporations and the post-tax return received by savers. The pretax return is often denoted p and the post-tax return s . Since it is an equilibrium model, the pretax return p must equal the corporation's *cost of capital*, often denoted c .

The METR can be calculated either for a given fixed pretax real rate of return, p , or a given fixed real interest rate, r . The post-tax return s , is in both cases a function of r .

King-Fullerton base their calculations on the pretax real rate of return, p . In other words it is assumed that all investments have the same marginal rate of return, MRR and that all capital depreciate at the same rate δ , so that:

$$p = MRR - \delta \quad (7)$$

King-Fullerton assume p to be 10 percent and this study conforms to that standard by assuming MRR to be 20 percent and δ to be 10 percent.

In the model the investor has the option to do alternative investments, such as buying government bonds receiving a post-tax rate of return:

$$s = (1 - m)i - \pi - w_p \quad (8)$$

where m is the tax on interest income, i is the nominal interest rate, π is the rate of inflation and w_p is the wealth tax. With this information, Equation (6) can be written as:

$$METR = \frac{p-s}{p} \quad (9)$$

The interest i is also defined as the corporation's (post-tax) discount factor and can be calculated by defining an equilibrium condition:

$$V(0) = 1 \quad (10)$$

and a non-arbitrage condition:

$$i(1 - m)V(t) = (1 - \tau_w)W(t) + (1 - \tau_d)D(t) + (1 - \tau_c)\frac{d}{dt}V(t) \quad (11)$$

Equation (10) states that the present value of a unit invested must be the investment itself. Equation (11) states that the post-tax of all revenues (Wage W and/or dividends D) from the investment project, together with the growth in corporation value $\frac{d}{dt}V(t)$, must at any time t be as valuable as the return of holding the value of the investment project in government bonds²¹.

The METR calculations described above can be summarized in a 5-step procedure:

1. Define a non-arbitrage condition, where it is equally profitable on the marginal to hold the corporation's value as government bond, as owning the corporation itself.
2. In 1), define the value of the marginal project as the discounted cash flow it generates
3. Define how the generated cash flow is divided between different sorts of income and how they are taxed
4. Utilize that, in equilibrium, the present value of the infinite cash flow must equal the opportunity cost.
5. Use the discount rate (interest rate) in 4) to calculate s in Equation (8), and finally solve Equation (9) for that s and with the given value for p .

²¹ In Equation (11), m is the tax on interest income, τ_w is the labor income tax, τ_d is the capital income tax within the dividend allowance and τ_c is the effective tax on capital gains. For simplicity this study assumes the effective capital tax to be half of the statutory rate. The same assumption is made by King and Fullerton (1984, p. 146).

Major complications to the calculations are how to divide the total surplus between wage and dividends and that the investment depreciates, generating an ever lower amount in return over time. The impact of an investment on the dividend allowance is on the other hand constant. To solve this, and to include the relief amount and other special rules²² the value Equations (10) and (11) must be further developed. This is explained thoroughly in Wykman (2019) together with the differences between how to calculate the METR for new share issues, retained earnings and debt.

²² The Annell deduction, the SURV and the periodization funds.

5. Results

Below is the METR for different sources of finance, with a special focus on new share issues. New share issue are most interesting for two reasons. Own capital has been proven to be of significant importance for the establishment of new corporations that use new or different technology (e.g., Gompers and Lerner 2001; Bornhäll et al 2016; Wallmeroth 2018). The second reason is that the tax system treats incomes from new share issues different depending on income level, while for financing with debt or retained earnings²³ the METR will be independent of income level.²⁴

5.1 METR for different income earners and different sources of finance

Figure 7 depicts that the frequent changes in the tax rules for closely held corporations has a significant impact on the METR. The METR for investments projects financed with new share issues vary between 13 and 67 percent during the analyzed period. The METR for retained earnings vary between 31 and 73 percent and for debt financing the variation is between 19 and 39 percent. The large variations are expected since the tax rules and rates varies substantially within the analyzed period. It is also expected that the METR for investment projects financed with new share issues varies most, since many changes are made in the dividend allowance, which only affect new share issues.

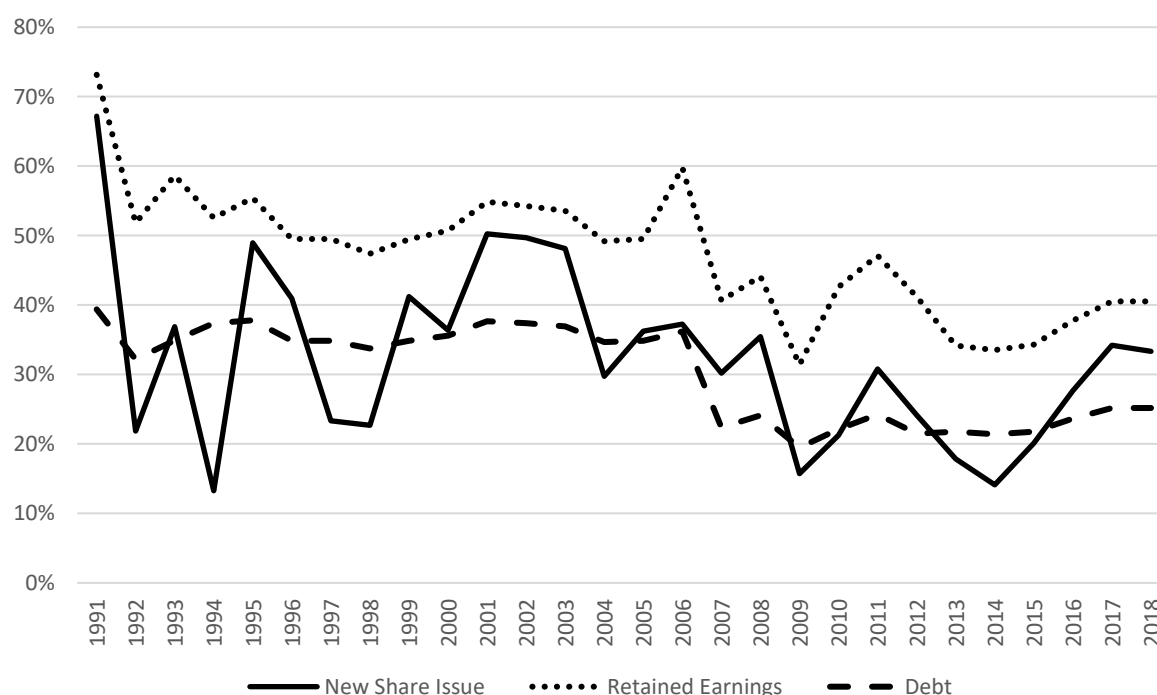
Investment projects financed with retained earnings has the highest METR for all years. In line with expectations, retained earnings do not increase the dividend allowance, and hence, do not yield the same tax advantage as an investment financed with new share issues. The whole surplus from an investment project financed with retained earnings will, at personal level, be subject to capital income tax, which on the margin will be the labor income tax, or for parts of the analyzed period, a combination of the labor income tax and the statutory capital tax. Debt financing is more advantageous than retained earnings for two reasons:

²³ We assume that all income earners face the highest split-tax on capital gains, since the threshold for the highest marginal income tax is quite low compared to the expected revenue of selling a corporation.

²⁴ For debt this is straightforward since both corporate and interest tax rates are flat. For retained earnings, it holds as long as the future surplus from the investment is taxed at the same rate as the present surplus forgone to carry out the investment. However, the METR could depend on the income level, for example if the forgone income would have been taxed within the relief amount, and the investment generate an income that will be taxed outside the relief amount, the METR will be higher, how much higher depends on the income level. Or, on the other side, if the investor today give up some income at a personal level, that would have been taxed outside the dividend allowance, to finance an investment, that tomorrow generates an income that will be taxed above the ceiling, the METR will be lower.

Interest payments are deductible at corporation level and the interest rate tax is lower than the statutory tax on capital gains. Further, the most tax efficient source of finance varies over time between new share issues and debt.

Figure 7. Marginal effective tax rate (METR) for top income earner, new share issue, retained earnings and debt, 1991–2018



Source: Own figure.

Note: The 5 percentage point reduction on the social security contributions between 1997 and 2006 for closely held corporations with small wage sum (Edin et al 2005) is excluded throughout the calculations. A sensitivity analysis shows that this overestimates the METR with 2 percentage points for the affected owners in the new share issue case, for debt and retained earnings it does not affect the results.

The corporate income tax affects the METR for all sources of finance. The cut in the corporate tax in 2009 (from 28 to 26.3 percent) and 2012 (to 22 percent) lowers the METR substantially for retained earnings and new share issues. The impact on the METR for debt financing is weak. The surplus is taxed at a lower rate at corporation level; but on the other hand, a lower corporate tax rate reduces the value of the deductible interest rate payments. The abolishment of the wealth tax in 2007 has an unambiguous effect on the METR for all three sources of finance. The larger drop in the METR for retained earnings is explained by the reintroduction of the split rule, reducing the statutory tax rate on capital gains with approximately 13 percentage points between 2006 and 2007.

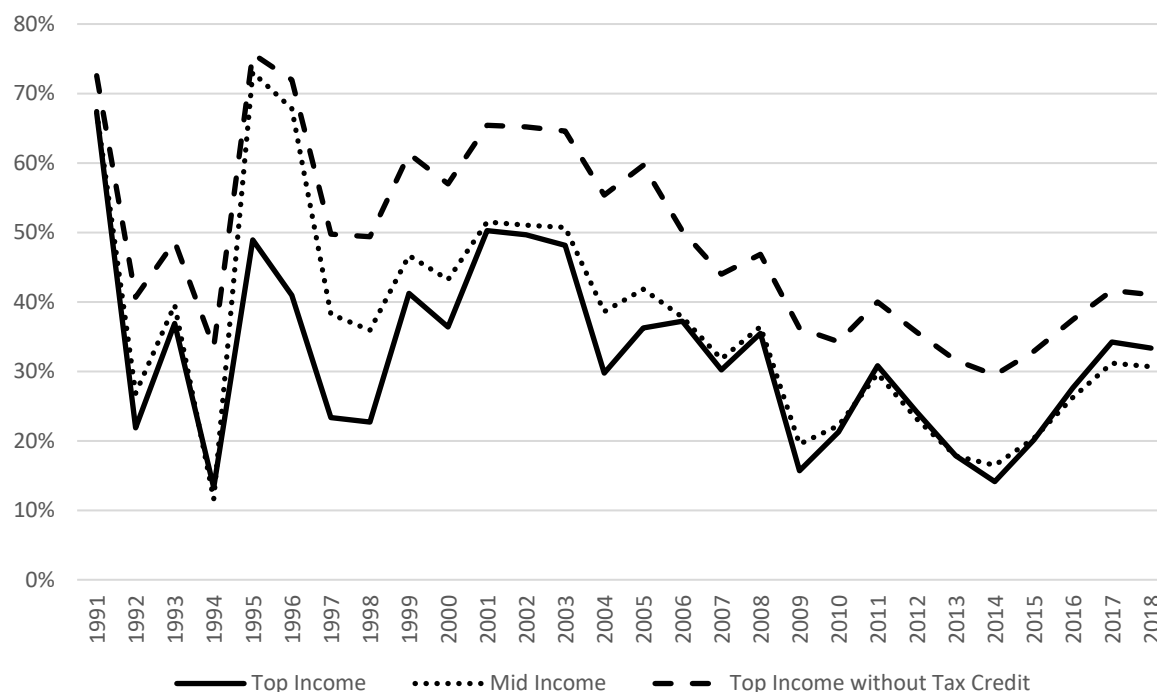
Other changes in the regulations and rates affect METR differently, depending on the source of finance. The METR for new share issues is more volatile, since the rules for the dividend allowance changes frequently and because of variation in the partly exogenously given imputed return. The spikes are explained by significant changes in the tax code, such as the abolishment of the double taxation on dividends in 1994 and the introduction of the relief amount in 1997 or several small changes that influence the METR in the same direction.

Figure 7 depicts the METR for a top income earner, which is the more interesting of the two analyzed income levels, since the purpose of the rules for closely held corporations is to prevent high income earners to shift income from progressively taxed labor income to capital. Moreover, the METR for top income earner reflects the tax incentives for high impact entrepreneurship, which research has identified as most important for economic development (Henrekson et al, 2010).

Figure 8 depicts a comparison of the METR between top income earners and middle income earners for investment projects financed with new share issues.²⁵ The dotted line is the METR for a middle income earner, the solid line is a top income earner, and the dashed line represents a top income earner that cannot utilize the tax credits from an expanded dividend allowance described in Section 4.1 and Figure 6. If the dashed or the solid line is the best representation of the METR depends on the circumstances. As is also described in Section 4.1 the King-Fullerton framework assumes that all tax credits, allowances and grants can be utilized, which corresponds to the solid line. If there is no other surplus, except from the investment itself, which could be shifted from progressive labor income taxation to flat capital income taxation, the dashed line is the best representation of the METR. The solid and dashed line could be thought of as two different calculations of the METR depending on the situation, or as one calculated span for the METR.

²⁵ Since the interest rate tax is flat, a debt financed project will have the same METR for both levels of income, as will a project financed with retained earnings, under the conditions described in footnote 24.

Figure 8. Marginal effective tax rate (METR), top income earner and middle income earner, new share issues, 1991–2018



Source: Own figure.

Comparing a top income earner that can utilize the tax credits with a middle income earner, the latter pays a higher METR between 1995 and 2005. This period coincides with the period described in Figure 5, where wage payment to middle income earners was more tax efficient than dividends payment within the dividend allowance. Hence, during this period, top income earners will benefit from the whole increase of the dividend allowance, while middle income earners can only benefit from the smaller relief amount (from 1997). Especially a top income earner will gain substantially from the tax credits, allowing shifting other surplus form progressive labor income tax, to flat capital tax. From 2006 and onwards there is in practice no progressivity in the taxation of an active owner investing in a closely held corporation, if (s)he can fully utilize all tax credits. However, the uncertainty, whether this could be done must be considered high at the time for the investment.

In figure 7 the METR for new share issues is lower than for retained earnings, which contradicts the Swedish after war policy of giving advantages for the mature industry, which mostly uses retained earnings, compared with entrepreneurship with new capital (Henrekson and Johansson 1999). However, if the tax credit cannot be used, the METR for new share issue will be higher or in parity with the METR for retained earnings during the period.

If the tax credit is not taken into account, figure 8 shows that the years with the highest METR for new share issue for both the middle income earner and the top income earner is 1995 and 1996. This is explained by raised taxes to restore public finances after the crisis in the beginning of the 1990s. The tax rate for dividends inside the dividend allowance was raised from 0 to 30 percent in 1995 giving a steep push to the METR. The state tax was raised with 5 percentage points, this however did not increase the tax discrimination between the middle income earner and the top income earner, it was outweighed by the changes within the dividend allowance. If tax credits are taken into account the result is less intuitive. The value of the credit decreases with higher capital taxes and increases with higher labour taxes, which both happened simultaneously.

The reform in 2006 is often mentioned as being a substantial tax cut for closely held corporations. This analysis however gives a more nuanced picture. As clear as the 2006 reform gave a substantial tax cut for established corporations with large paychecks and/or large equity base, as unclear is the effect for new investments. Established corporations with large wage sums could benefit from the increased wage based allowance, but a new investment is on the marginal not necessarily benefited by this tax relief. The abolishment of the tax relief was a substantial tax raise for many corporations. The graph is however somewhat misleading since the drop in SLR between 2004 and 2005 raises the METR, and the raise in SLR lowers it the following year.²⁶ Overall, the tax effect of expanding the equity base is strong for top income earners. The average METR for a top income earner who can utilize the tax credit is approximately 24 percent between 2012 and 2018, but if the tax credits cannot be utilized the METR is on average 36 percent during the period.

6. Concluding remarks

This paper presents an overview of the legal framework and the tax rates for investments in closely held corporations since the introduction of the dual tax system. This detailed summary is in itself a contribution. The tax rules for closely held corporations are complex. Different tax rates are applied and the marginal effective tax rate on capital income (METR) of investments depends on, e.g., corporation specific characteristics such as profit and

²⁶ Recalling that the dividend allowance is calculated with the SLR from the year before.

profitability, the wage sum, owner's wage and source of finance. The rules also often change, which introduces political risk and makes long run investments more hazardous.

To illustrate the taxation of investments in closely held corporations I use the King-Fullerton framework, which is a standard way measuring the METR. To incorporate the tax rules for closely held corporations within the King-Fullerton framework is complicated and this paper utilizes the technique introduced in Wykman (2019).

It could be argued that the normal return model, where the legislator determines a normal return and defines any additional income as labor income, contradicts the very essence of entrepreneurial activities; to try to overachieve a normal return. The fact that entrepreneurs might overachieve the normal return creates the situations where the METR can vary substantially and causes a need for complex regulations to handle those overachievers.

Another major complication is that the legal framework is a mixture of real economic variables and booked values, that evolves differently over time. This difference gives rise to (significant) tax consequences, which has not been studied in detail before this study.

The analysis shows that the METR has declined for all sources of finance. Comparing 1991 with 2018 for a top income earner, the METR for new share issues fell from 67 to 33 percent, for retained earnings from 73 to 41 percent and for debt from 39 to 25 percent. Comparing the first half of 1991–2018 with the second half, the METR has declined with 10–13 percentage points dependent on the source of finance. Especially the METR decreased between the years 2006–2014. It also became more stable during those years. There is no evidence for the traditional Swedish tax policy of favoring mature capital over new investments. This suggests that the potential for entrepreneurial activities has been improved from 1991 and onwards.,

The aim of the tax reform in 1990/1991 was to create a simple and neutral tax system. A stable, predictable and broadly accepted legal framework for closely held corporations has, however, not been found. The rules change often and in an unpredictable manner. Changes are often carried out at the same time, and it is difficult to intuitively determine the impact on the METR. The individual characteristics of the corporation as well as the source of finance will have a significant impact on the result. My calculations show precisely this, i.e. jumpy changes in the METR over time and circumstances, such as the level of return and source of

finance. The tax system is obviously not simple nor is it neutral. The analysis in this paper clearly shows that the effective tax rate will depend on the source of finance, profitability and the corporation's ability to make use of excess tax credits. Altogether, this makes it difficult for an active owner to predict the effective tax rate on an investment.

Taxing owners of closely held corporations is difficult within a dual income tax system because of the opportunity of income shifting. During the period 1991–2018 the difference between labor and capital income tax has gradually increased from 14 to 30 percentage points, which has increased the incentives for income shifting. One must note that the high tax progressivity on labor income (close to 70 percent, including social security contributions) is the driving force for income shifting.

Economic theory suggests that it is inefficient to tax capital heavier than other countries in a world with free capital mobility. It is also recognized that closely held corporations have an important role for entrepreneurship and hence for employment and economic growth.

My results provide relevant information about the marginal effective tax rates facing an active owner on an investment in closely held corporations. Especially one should note that a new investment will give rise to future tax credits, which has not been accounted for in earlier studies. Even though distortions between different sources of finance have shrunk, the tax rules for closely held corporations still give rise to many distortions.

Finally, the complexity, instability and distortions inherent in the tax rules for closely held corporations give incentives for unproductive activities in the economy, at the expense of productive entrepreneurial and growth oriented investments.

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Appendix A: A general formula for the size of the dividend allowance 1991–2018

The size of the dividend allowance²⁷, and how to calculate it, is the core story of the so-called 3:12-rules. Here, a closed form for the dividend allowance for the whole period is given:

Up to 2005, the dividend allowance was calculated as:

$$\text{Dividend allowance} = \text{Imputed return} \times (\text{Equity base} + \text{Wage base}) \quad (\text{A1})$$

From 2006, the dividend allowance was calculated as:

$$\begin{aligned} \text{Dividend allowance} = & \text{Imputed return} \times \text{Equity base} + \\ & + \text{Wage based allowance} \end{aligned} \quad (\text{A2})$$

The wage based allowance was calculated as a share of the wage base (Equation A4). Unused dividend allowance could be used later years and is carried forward with the carry forward interest rate.

For the whole period, the expression for the dividend allowance could be formulated as:

$$\begin{aligned} \text{Dividend allowance} = & \alpha \times \text{Equity base} + \beta \times \text{Wage base} + \gamma \times \\ & \text{Unused dividend allowance from previous years} \end{aligned} \quad (\text{A3})$$

Where the equity base is the acquisition cost of the shares plus capital injections made by the owner. The wage base is a time-variant function of the corporation's total wage bill, in this setting referred to as wage sum:

$$\text{Wage base} = \delta(\text{wage sum} - \varepsilon \times \text{owner's wage} - \theta) \quad (\text{A4})$$

²⁷ The tax relief, giving some tax-exempt dividends between 1997 and 2005 is calculated in the same way, but at a lower imputed rate of return.

Table A1. The parameters of the dividend allowance 1991-2018

<i>Year</i>	α	β	γ	δ	ε	θ
1991–1993	SLR+0.05	0	SLR+0.05	0	-	-
1994–1996	SLR+0.05	SLR+0.05	SLR+0.05	0.1	1	$10 \times PBB$
1997	SLR+0.05	SLR+0.05	SLR+0.05	0.7 and 1	1	$10 \times PBB$
1997–2003	SLR+0.05	SLR+0.05	SLR+0.05	1	1	$10 \times PBB$
2004–2005	SLR+0.07	SLR+0.07	SLR+0.07	1	1	$10 \times PBB$
2006	SLR+0.09	0.2 or 0.5	SLR+0.03	1	0	$10 \times IBB$
2007–2013	SLR+0.09	0.25 or 0.5	SLR+0.03	1	0	0
2014–2018	SLR+0.09	0.5	SLR+0.03	1	0	0

Note: SLR refers to *statslåneränta* (government borrowing rate), PBB to *prisbasbelopp* (price base amount) and IBB to *inkomstbasbelopp* (income base amount). In 1997, the wage base includes 70 percent of the wage sum before 1 July and 100 percent of the wage sum for the rest of the year. In 2006–2013, β takes the lower value for $WB < 60$ IBB and the higher for $WB > 60$ IBB.

For further explanation and details see Table B3 and for values of SLR, PBB and IBB see Table B4.

Appendix B: Tax Tables

Table B1. Marginal tax rates on dividends (%), 1991–2018.

Widely held corporations				Closely held corporations			
Year	Listed shares	Unlisted shares	Within relief amount	Passive owner	Active owner	Exceeding 90 IBB	
				Within dividend allowance	Above dividend allowance		
1991	30	30		30	30	31.15 or 51.15	
1992	25	25		25	25	31.04 or 51.04	
1993	25	25		25	25	31.04 or 51.04	
1994	0	0		0	0	31.05 or 51.05	
1995	30	30		30	30	31.5 or 56.5	
1996	30	30		30	30	31.65 or 56.65	
1997	30	30	0	30	30	31.66 or 56.66	
1998	30	30	0	30	30	31.65 or 56.65	
1999	30	30	0	30	30	31.48, 51.49 or 56.48	
2000	30	30	0	30	30	30.38, 50.38 or 55.38	
2001	30	30	0	30	30	30.53, 50.53 or 55.53	
2002	30	30	0	30	30	30.52, 50.52 or 55.52	
2003	30	30	0	30	30	31.17, 51.17 or 56.17	
2004	30	30	0	30	30	31.51, 51.51 or 56.51	
2005	30	30	0	30	30	31.6, 51.6 or 56.6	
2006	30	25		25	20	31.6, 51.6 or 56.6	
2007	30	25		25	20	31.55, 51.55 or 56.55	
2008	30	25		25	20	31.44, 51.44 or 56.44	
2009	30	25		25	20	31.52, 51.52 or 56.52	
2010	30	25		25	20	31.56, 51.56 or 56.56	
2011	30	25		25	20	31.55, 51.55 or 56.55	
2012	30	25		25	20	31.6, 51.6 or 56.6	30
2013	30	25		25	20	31.73, 51.73 or 56.73	30
2014	30	25		25	20	31.86, 51.86 or 56.86	30
2015	30	25		25	20	31.99, 51.99 or 56.99	30
2016	30	25		25	20	32.21, 52.21 or 57.21	30
2017	30	25		25	20	32.21, 52.21 or 57.21	30
2018	30	25		25	20	32.21, 52.21 or 57.21	30

Source: Own Table after RSV 292 edition 2-8 and SKV 292 edition 15-25 and Statistic Sweden (SCB).

Note: IBB refers to *inkomstbasbelopp* (income base amount). Church tax is excluded from year 2000, which reduces the tax rate by approximately 1 percentage point.

Table B2. Marginal tax rates on capital gains (%), 1991–2018.

Widely held corporations			Closely held corporations				
Year	Listed shares	Unlisted shares	Passive owner		Active owner		Exceeding 100 IBB
			Within relief amount	Within dividend allowance	Above dividend allowance		
1991	30	30		30	30	50% labor (31.15;51.15); 50% capital (30)	30
1992	25	25		25	25	50% labor (31.04;51.04); 50% capital (25)	30
1993	25	25		25	25	50% labor (31.04;51.04); 50% capital (25)	30
1994	12.5	12.5		12.5	12.5	70% labor (31.05;51.05); 30% capital (12.5)	30
1995	30	30		30	30	50% labor (31.5;56.5); 50% capital (30)	30
1996	30	30		30	30	50% labor (31.65;56.65); 50% capital (30)	30
1997	30	30	0	30	30	50% labor (31.66;56.66); 50% capital (30)	30
1998	30	30	0	30	30	50% labor (31.65;56.65); 50 % capital (30)	30
1999	30	30	0	30	30	50% labor (31.48;51.49;56.48); 50% capital (30)	30
2000	30	30	0	30	30	50% labor (30.38;50.38;55.38); 50% capital (30)	30
2001	30	30	0	30	30	50% labor (30.53;50.53;55.53); 50% capital (30)	30
2002	30	30	0	30	30	50% labor (30.52;50.52;55.52); 50% capital (30)	30
2003	30	30	0	30	30	50% labor (31.17;51.17;56.17); 50% capital (30)	30
2004	30	30	0	30	30	50% labor (31.51;51.51;56.51); 50% capital (30)	30
2005	30	30	0	30	30	50% labor (31.6;51.6;56.6); 50% capital (30)	30
2006	30	25		25	20	100% labor (31.6;51.6;56.6)	30
2007	30	25		25	20	50% labor (31.55;51.55;56.55); 50% capital (30)	30
2008	30	25		25	20	50% labor (31.44;51.44;56.44); 50% capital (30)	30
2009	30	25		25	20	50% labor (31.52;51.52;56.52); 50% capital (30)	30
2010	30	25		25	20	100% labor (31.56;51.56;56.56)	30
2011	30	25		25	20	100% labor (31.55;51.55;56.55)	30
2012	30	25		25	20	100% labor (31.6;51.6;56.6)	30
2013	30	25		25	20	100% labor (31.73;51.73;56.73)	30
2014	30	25		25	20	100% labor (31.86;51.86;56.86)	30
2015	30	25		25	20	100% labor (31.99;51.99;56.99)	30
2016	30	25		25	20	100% labor (32.21;52.21;57.21)	30
2017	30	25		25	20	100% labor (32.21;52.21;57.21)	30
2018	30	25		25	20	100% labor (32.21;52.21;57.21)	30

Source: Own Table after RSV 292 edition 1-8 and SKV 292 edition 15-25 and Statistic Sweden (SCB).

Note. IBB refers to *inkomstbasbelopp* (income base amount). Between 1991 and 2000 the ceiling was calculated with price base amount, not income base amount.

Table B3. Overview of rules and rates for dividend allowances in closely held corporations, 1991–2018.

Year		Imputed return	Carry forward interest	Wage base (WB)	Minimum owner's wage for wage base
1991		SLR+5%	SLR+5%		
1992		SLR+5%	SLR+5%		
1993		SLR+5%	SLR+5%		
1994		SLR+5%	SLR+5%	10% * (W – owner's wage – 10 PBB)	150% of Wmax
1995		SLR+5%	SLR+5%	10% * (W – owner's wage – 10 PBB)	150% of Wmax
1996		SLR+5%	SLR+5%	10% * (W – owner's wage – 10 PBB)	150% of Wmax
1997		SLR+5%	SLR+5%	70%/100% * (W – owner's wage – 10 PBB)	Lowest amount of 120% of Wmax and 10 PBB
1998		SLR+5%	SLR+5%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
1999		SLR+5%	SLR+5%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
2000		SLR+5%	SLR+5%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
2001		SLR+5%	SLR+5%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
2002		SLR+5%	SLR+5%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
2003		SLR+5%	SLR+5%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
2004		SLR+7%	SLR+7%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
2005		SLR+7%	SLR+7%	W – owner's wage – 10 PBB	Lowest amount of 120% of Wmax and 10 PBB
Year	Simplification rule	Imputed return	Carry forward interest	Wage based allowance (WBA)	Minimum owner's wage for wage based allowance
				20% of (W – 10 IBB)<60 IBB, and	
2006	1.5 IBB	SLR+9%	SLR+3%	50% of (W – 10 IBB)>60 IBB	Lowest amount of 15 IBB and 6 IBB+0.05*W
2007	2 IBB	SLR+9%	SLR+3%	25% of W<60 IBB, and 50% of W>60 IBB	Lowest amount of 15 IBB and 6 IBB+0.05*W
2008	2 IBB	SLR+9%	SLR+3%	25% of W<60 IBB, and 50% of W>60 IBB	Lowest amount of 15 IBB and 6 IBB+0.05*W
2009	2.5 IBB	SLR+9%	SLR+3%	25% of W<60 IBB, and 50% of W>60 IBB	Lowest amount of 10 IBB and 6 IBB+0.05*W
2010	2.5 IBB	SLR+9%	SLR+3%	25% of W<60 IBB, and 50% of W>60 IBB	Lowest amount of 10 IBB and 6 IBB+0.05*W
2011	2.5 IBB	SLR+9%	SLR+3%	25% of W<60 IBB, and 50% of W>60 IBB	Lowest amount of 10 IBB and 6 IBB+0.05*W
2012	2.75 IBB	SLR+9%	SLR+3%	25% of W<60 IBB, and 50% of W>60 IBB	Lowest amount of 10 IBB and 6 IBB+0.05*W
2013	2.75 IBB	SLR+9%	SLR+3%	25% of W<60 IBB, and 50% of W>60 IBB	Lowest amount of 10 IBB and 6 IBB+0.05*W
2014	2.75 IBB	SLR+9%	SLR+3%	50% of W	Lowest amount of 9.6 IBB and 6 IBB+0.05*W
2015	2.75 IBB	SLR+9%	SLR+3%	50% of W	Lowest amount of 9.6 IBB and 6 IBB+0.05*W
2016	2.75 IBB	SLR+9%	SLR+3%	50% of W	Lowest amount of 9.6 IBB and 6 IBB+0.05*W
2017	2.75 IBB	SLR+9%	SLR+3%	50% of W	Lowest amount of 9.6 IBB and 6 IBB+0.05*W
2018	2.75 IBB	SLR+9%	SLR+3%	50% of W	Lowest amount of 9.6 IBB and 6 IBB+0.05*W

Source: Own Table after RSV 292 edition 1-8 and SKV 292 edition 15-25.

Note:

SLR: Interest rate on government bonds (*statslåneräntan*).

PBB: Price base amount (*prisbasbelopp*)

IBB: Income base amount (*Inkomstbasbelopp*).

W: Total wage bill of the corporation

Wmax: The highest wage payment to an employee (not shareholder)

SLR, IBB and PBB are presented in Table B4. SLR, IBB and PBB to be used in calculations in year t are taken from year $(t-1)$.

As from 2014 there is a requirement of holding 4 percent of the shares to use the wage based allowance.

In 1997, the wage base includes 70 percent of the wage sum before 1 July and 100 percent of the wage sum for the rest of the year.

The following restrictions were also applied

1994–1996: (WB * imputed rent) may not exceed owner's wage.

1997–2005: WB may not exceed 50*owner's wage.

2014–2015: Wage sum used to calculate WBA may not exceed 50*owner's wage.

Table B4. Income base amount (IBB), price base amount (PBB) and government bond interest (SLR), 1991–2018.

Year	SLR (%)	IBB (SEK)	PBB (SEK)
1991	12.66		32 200
1992	9.87		33 700
1993	10.47		34 400
1994	7.54		35 200
1995	10.86		35 700
1996	8.88		36 200
1997	7.02		36 300
1998	6.17		36 400
1999	4.38		36 400
2000	5.57		36 600
2001	5.06	37 700	36 900
2002	4.94	38 800	37 900
2003	4.85	40 900	38 600
2004	4.71	42 300	39 300
2005	3.95	43 300	39 400
2006	3.26	44 500	39 700
2007	3.54	45 900	40 300
2008	4.16	48 000	41 000
2009	2.89	50 900	42 800
2010	3.20	51 100	42 400
2011	2.84	52 100	42 800
2012	1.65	54 600	44 000
2013	1.49	56 600	44 500
2014	2.09	56 900	44 400
2015	0.90	58 100	44 500
2016	0.65	59 300	44 300
2017	0.27	61 500	44 800
2018	0.48	62 500	44 500

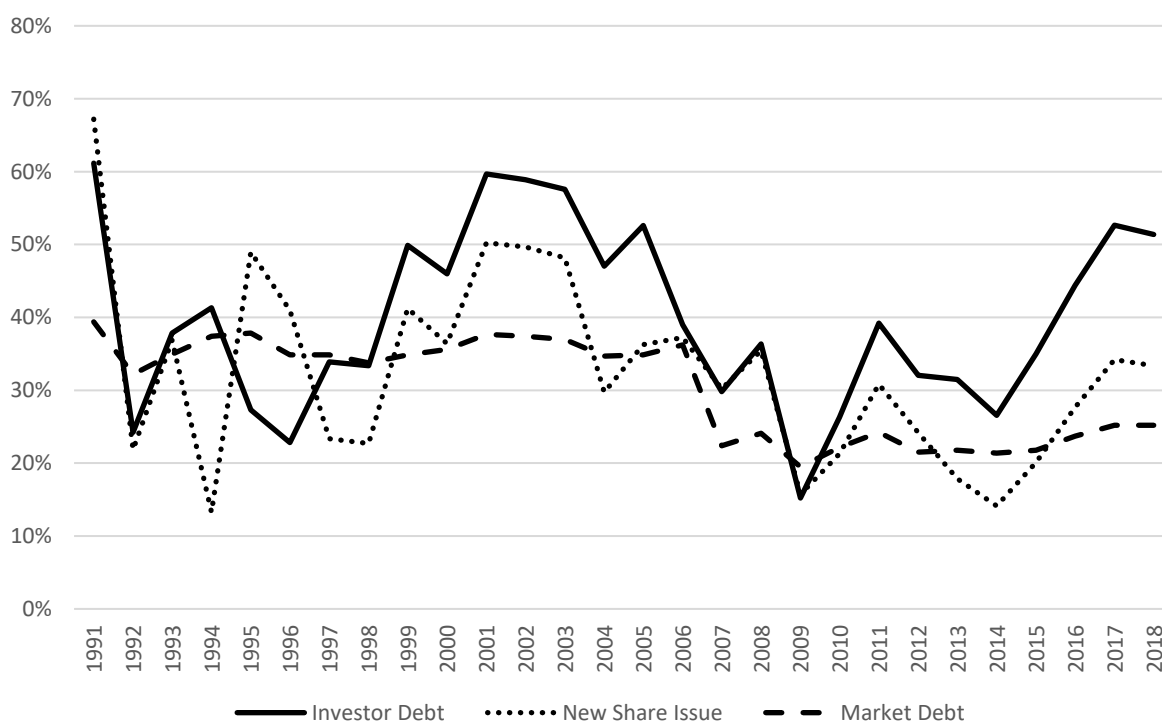
Note: IBB refers to *inkomstbasbelopp*, PBB to *prisbasbelopp* and SLR to *statslåneränta*.

Source: Statistic Sweden (SCB) <https://www.scb.se/hitta-statistik/statistik-efter-amne/priser-och-konsumtion/konsumentprisindex/konsumentprisindex-kpi/pong/tabell-och-diagram/prisbasbelopp/prisbasbelopp/Pensionsmyndigheten: https://www.pensionsmyndigheten.se/content/dam/pensionsmyndigheten/blanketter---broschyrer---faktablad/f%C3%B6rst%C3%A5-din-pension/basbelopp-och-v%C3%A4rdereregler/historik%20ber%C3%A4kningsfaktorer%20inkomstpension.xlsx>

Appendix C: Active owner and debt Wykman (2019) presents an alternative way of how to calculate the METR for debt financing. Instead of analyzing a situation where the corporation finance an investment by borrowing money on the market from an arbitrary debtholder (as depict in Figure 7) this method allows an analysis where the active owner lends his/her own money to the corporation. When the active owner is the debt holder, special rules regulate the interest payments. The interest rate must be on market conditions, and in the calculations below, I assume an interest rate of 3 percentage points.

To make a distinction between the two cases, investor debt represents the situation where the interest rate payments are regulated within the rules for closely held corporations, and market debt represent the debt case, as depicted in Figure 7.

Figure C1. METR for top income earners when using investor debt, market debt or new share issues as source of finance, 1991–2018



Note: Investor debt refers to the case where the owner lends money to the own corporation. Market debt – the corporation borrows on the market.

Source: Own figure.

Figure C1 depicts the METR for investments financed with new share issues, investor's debt and market debt. As can be seen in the figure, the difference between market and investor debt is up to approximately 25 percentage points. The regulation on interest rate payments may make lending own money to the corporation a tax inefficient way of financing an investment. If a high interest rate could not be motivated, the owner should try to increase the

equity base by new share issues, instead of lending the corporation money, when possible. There are two reasons for this, firstly the rules of how to calculate the equity base and secondly restrictions on the interest rate payments. This result does not hold for a middle income earner. The METR is approximately 10 percentage points lower for investor debt compared to new share issues, the investor debt is also approximately 3 percentage point lower than market debt.

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