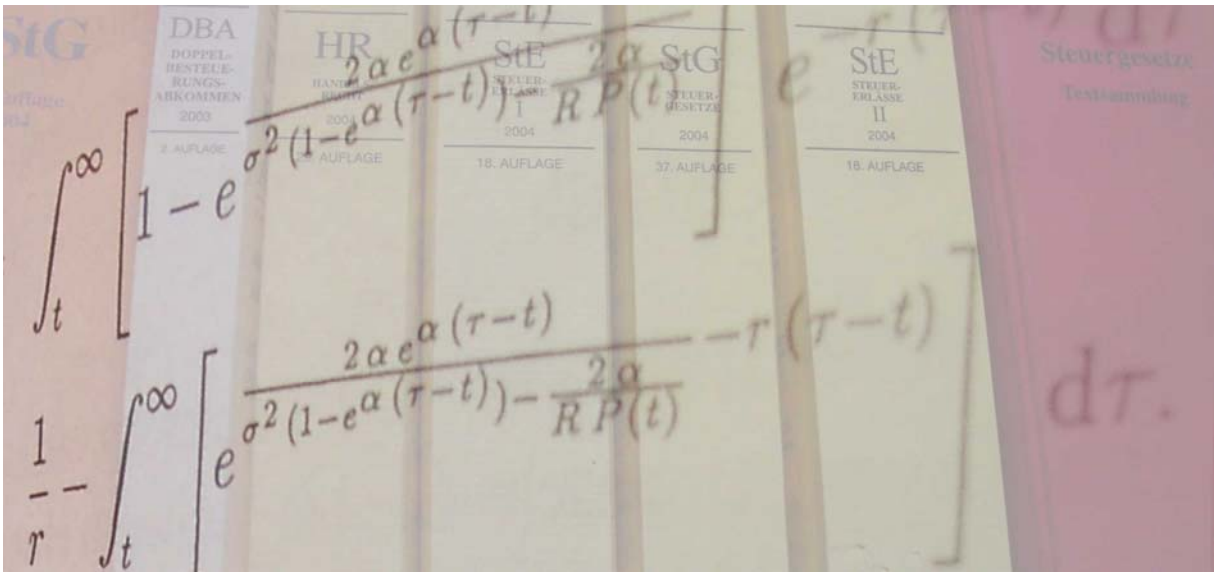
arqus

Arbeitskreis Quantitative Steuerlehre

www.arqus.info



Diskussionsbeitrag Nr. 109

Magdalena Haring / Rainer Niemann

Corporate Financial Policy and Investor Taxation in Austria
— an Empirical Investigation —

Oktober 2010

arqus Diskussionsbeiträge zur Quantitativen Steuerlehre
arqus Discussion Papers in Quantitative Tax Research
ISSN 1861-8944

Corporate Financial Policy and Investor Taxation in Austria

– an Empirical Investigation –

Abstract: The paper analyzes the impact of in investor capital gains taxation on corporate leverage of Austrian corporations. We conduct our analyses for a unique sample of Austrian firms, including a large part of non-listed corporations. By means of regression analyses we show that the capital gains tax rate, the fraction of taxable investors of a corporation as well as the dividend payout ratio are significant determinants of the financing decisions of Austrian firms. Legal status, listing and corporate profitability also affect the debt ratio of corporations in Austria. Additionally we show that family-owned companies behave differently from other corporations, indicating the importance of research on family businesses. Sensitivity analyses accounting for different calculations of the effective tax rate on capital gains show that our obtained results are robust.

Mag. Magdalena Haring
Institute of Accounting and Taxation
Universitätsstraße 15/G2
A-8010 Graz - Austria
magdalena.haring@uni-graz.at
http://www.uni-graz.at/steuer

Univ.-Prof. Dr. Rainer Niemann
Institute of Accounting and Taxation
Universitätsstraße 15/G2
A-8010 Graz - Austria
niemann@uni-graz.at
http://www.uni-graz.at/steuer

Contents

List of Tables

List of Figures

1 Introduction

The current economic crises and the construction of a safer financial system is one of the topics of interest in daily news. Financial institutions have been saved by public rescue packages, capital markets slowly start to rebound. Now, several issues are discussed, e.g. how to rebuilt the financial system to avoid future breakdowns.

On the one hand, the low equity capitalization of corporations and especially of financial institutions is criticized to be too small to make up for possible loan defaults. The gradual implementation of "Basel II" in the European Union, which is basically a regulatory framework to strengthen the equity base of corporations, is seen as one step towards a stable financial environment.

On the other hand, there is an ongoing discussion about how to confine excessive speculation on capital markets. Not only transaction taxes or taxes on the sum of total assets of banks are being discussed, also is additional taxation of capital gains of individual investors being considered. These taxes additionally should refinance the state's costs of helping corporations out of the financial crises.

The taxation of capital gains is one of the key features of an income tax system[1]. Many jurisdictions, including the U.S., treat capital gains differently from ordinary income. Frequent adjustments of capital gains tax rates initiated many empirical studies concerning corporate investment and financing policy[2]. Other countries do not tax capital gains at all if some preconditions are met. For example, Greece, Latvia, Poland, Romania and Switzerland usually refrain from taxing capital gains from selling non-business property. E.g., according to the Danish, Dutch, Estonian, Finnish, French, German, Hungarian, Spanish and Swedish tax law, gains and losses from the disposal of business property are taxable as ordinary income, whereas gains from selling non-business securities will be subject to a flat capital gains tax rate[3]. In Austria, the Czech Republic, Great Britain, Lithuania, Luxembourg, and Slovenia, private capital gains are tax-exempt if the time

[1] For a comprehensive overview see Zodrow (1993).

[2] See, e.g., Lang / Shackelford (2000), Blouin / Shackelford (2003) and Ayers / Lefanowicz / Robinson (2003).

[3] In Italy and the Netherlands capital gains from selling stocks are only subject to capital gains tax if the shareholder holds a substantial share in the corporation. In Denmark the capital gains tax rate depends on the capital gains tax base. In Germany a flat tax on dividends and capital gains is effective since 2009.

spread between acquisition and disposal exceeds a specific period of time[4]. Even countries with tax systems close to theoretically ideal tax systems like the nordic Dual Income Tax have developed a variety of capital gains tax regimes[5].

Such a capital gains taxation for individuals is also recently discussed in Austria. Especially the Austrian Party of Social Democrats (SPÖ) demands the extension of the current Austrian capital gains taxation system to guarantee a fair taxation of labour income and income from capital. Critics of additional capital gains taxes point out that the capital market in Austria is too small and too weak to carry the additional burden of a broader taxation. It would lead investors to transfer their capital to other low-tax-countries.

The problem of a low market capitalization in Austria has been a focus of earlier governments. In 2001 a law to strengthen the Austrian capital market (Kapitalmarktoffensivgesetz - KMOG) was implemented. The measures should encourage individuals to invest in shares rather than in traditional savings instruments and therefore lead to lower debt financing of Austrian corporations. But the KMOG also introduced additional taxes on investment funds, private foundations and capital gains of individuals.

The KMOG 2001 lowered the threshold of taxable capital gains from 10% to 1%-shareholdings. Since then income from gains of the disposal of shares is tax-exempt if the owner possesses less than 1% of the corporation and if shares are held for more than one year. How a newly constructed capital gains taxation would exactly be designed is not clear at this point, but one of the main aspects would be to eliminate the speculative period of one year and the tax-exemption for capital gains for shareholdings under the threshold of 1%.

A lower threshold of taxable capital gains raises the costs for an investor holding shares as an additional taxation has to be borne. Investment in shares becomes less attractive, especially compared to investment in bonds. Debt financing is already treated preferentially, as interest payments for debt are tax-deductible in Austria on the corporate level and therefore create an interest tax-shield while payments to shareholders are not deductible. Equity ratios tend to be small in Austria anyway and a potential additional incentive for debt financing might lead to even lower equity capitalization.

Whereas the proponents of a possible new form of individual capital gains taxation try

[4] This period varies between six months in Luxembourg, five years under specific conditions in the Czech Republic and 20 years in Slovenia. In most countries there are special rules for real estate. The U.K. provide a limited, i.e., partial, tax-exemption of capital gains depending on the holding period.

[5] See, e.g., Nielsen / Sørensen (1997).

to point out their arguments of justice, tax revenues and abolishment of excessive speculation, the involved parties seem to forget to look at the impact of such taxation on the financing decisions of corporations.

So far there has been no research on the economic impact of investor capital gains taxation on corporate financing in Austria and only a few studies for European countries exist. This paper aims to close this research gap by investigating the impact of personal capital gains taxation on debt financing of Austrian corporations. Additionally, our sample includes family-dominated companies, which may differ from widely held corporations.

We use a unique data sample of Austrian corporations from 1999 to 2004 to find out if there were significant changes in the capital structure due to the implementation of a higher capital gains taxation at investor level. Our sample includes data of non-listed corporations, which represent the predominant part of companies in Austria.

Our results show a significant reaction to the tax reform of 2001, although the sign is not the one we expected. Instead of levering-up due to higher taxation of investor capital gains, debt ratios are significantly lower after the year 2001. When looking at the descriptive statistics of the combined tax rate of equity income τ_e we see that investor taxation decreased in the period observed. This surprising result implies, that investors might have sold or reorganized their shareholdings to avoid future capital gains taxation. The findings suggest further research on this topic.

The remainder of this paper is organized as follows: Section 2 gives an overview of prior research on the impact of taxes on corporate financing. Section 3.1 describes the legal background, section 3.2 shows the measurement of the effective tax rate on capital gains. A model of capital structure choice is described in section 3.3, in section 3.4 we develop our hypotheses. Our data and descriptive statistics are summarized in chapter 4. The empirical methodology and the specification of our regression are shown in chapter 5.1. Results of our regression analysis and alternative specifications are presented in chapter 5.2, sensitivity analyses are conducted in chapter 5.3. Section 6 concludes.

2 Literature Review

There has been extensive research on the impact of taxes on the capital structure of companies. Modigliani and Miller (1958) showed that in a world without taxes the capital structure of a company is irrelevant for its value as the value is only determined by the

discounted cash flows generated by the assets of a company.[6] As their conclusions are only valid for perfect capital markets the authors implemented corporate taxes in an extension to their article. By doing so the best financing strategy for a company would be to maximize debt financing as this adds value to the levered firm due to the tax shield generated by deductible interest payments.[7] Stiglitz (1969) criticised the assumptions of the Modigliani-Miller Theorem that individuals can borrow at the same market rate as firms and the assumption of no bankruptcy costs.[8]

Based on the work of Modigliani and Miller several theories were developed by the scientific community in the following years. The trade-off theory is considered to be the main theory regarding the impact of taxes on the capital structure of corporations.[9] The trade-off theory explains corporate financing by the hypothesis that companies try to balance the tax advantage of debt against the disadvantage of financial distress. Baxter (1967) shows that extreme leverage causes the cost of capital of a company to rise.[10] Kraus and Litzenberger (1973) show analytically that the value of a company is not only determined by its discounted future cash flows and the present value of the tax shield of interest payments but also has to be reduced by the present value of bankruptcy costs.[11]

Miller (1977) criticized the trade-off theory by mentioning that the costs of financial distress were too small to affect the capital structure decisions of a company. He was the first who stated that also investor taxes have to be included when looking at the capital structure of a company. As income from interest is taxed at a higher rate than income from equity he concludes that the capital structure is irrelevant for the value of a firm as the tax-advantage of debt on company level is offset by the tax-disadvantage at investor level. This is the case if the taxation of interest for the investor is equal to the combined taxation of equity income at company and investor level.[12]

In the context of the trade-off theory Scott (1977) sets up a multiperiod model and arrives at the conclusion that companies with more tangible assets can have a higher debt-level, because the possibility of bankruptcy becomes smaller the higher the liquidation value of

[6] See Modigliani / Miller (1958), p. 268.

[7] See Modigliani / Miller (1963), p. 433ff.

[8] See Stiglitz (1969), p. 784ff.

[9] See Jensen / Meckling (1976), Myers (1977) and Jensen (1986) on the free cashflow theory and see Myers / Majluf (1984), Myers (1984) and D'Mello / Ferris (2000) on the pecking-order theory.

[10] See Baxter (1967), p. 395ff.

[11] See Kraus / Litzenberger (1973), p. 911ff; for studies on the level of bancruptcy costs see Andrade / Kaplan (1998), p. 1443ff and Warner (1977), p. 337ff.

[12] See Miller (1977), p. 261.

assets is.[13]

DeAngelo and Masulis (1980) developed the approach that corporate leverage is also determined by the existence of other tax-shields than interest payments. Depreciation or investment tax credits can be substitutes for debt which causes debt levels to be smaller.[14]

MacKie-Mason (1990) also tests the trade-off theory including the substitution hypothesis but sets up a model including incremental financing decisions instead of debt-to-equity-ratios. He finds a significant influence of taxes on investment decisions: The higher the marginal tax rate, the more debt financing occurs.[15] Future empirical studies were based on the article of MacKie-Mason.[16]

Graham (1996a, 1996b) and Gropp (1997) calculate marginal tax rates and find out that the level of the tax rate has a significant influence on the incremental decision for debt or equity.[17] Graham (2000) shows that corporations do not use all tax shields of interest, especially when other tax deductible items exist. He estimates that US-corporations could increase their firm value by 7,3% if they would lever up to use interest tax shields.[18]

Gordon and Lee (2001) test the trade-off theory including also small companies in their sample and find out, that taxes have the highest impact on very small and very big firms.[19] Pfaffermayr et al. (2008) analyze the relationship between capital structure, corporate taxation and firm age. They find a significant influence of the corporate tax rate on corporate financing and observe that older firms have smaller debt ratios as younger firms lack internal funds.[20]

Articles using international data are provided by Shum (1996) and Alworth/Arachi (2000) who find evidence for the impact of taxes on corporate capital structure with Canadian and Italian data sets.[21] Rajan and Zingales (1995) analyze different countries with different tax and accounting systems and test the effect of these regulations on the financing policy of

[13] See Scott (1977), p. 33ff.

[14] See DeAngelo / Masulis (1980), p. 3ff., Papers of Ang / Peterson (1986), Bradley / Jarrell / Kim (1984), Fischer / Heinkel / Zechner (1989), Long / Malitz (1985) and Titman / Wessels (1988) try to test the model of DeAngelo and Masulis empirically but could not achieve significant results.

[15] See MacKie-Mason (1990), p. 1471ff.

[16] See Dhaliwal / Trezevant / Wang (1992), Trezevant (1992) and Cloyd / Limberg / Robinson (1997).

[17] See Graham (1996a), p. 41ff., Graham (1996b), p. 187ff. and Gropp (1997), p. 488ff.

[18] See Graham (2000), p. 1901ff.

[19] See Gordon / Lee (2001), p. 196ff.

[20] See Pfaffermayr / Stöckl / Winner (2008), p. 1ff.

[21] See Alworth / Arachi (2001), p. 353ff. and Shum (1996), p. 556ff.

corporations.[22] Wald (1999) expands the investigation of international debt financing by data for size, risk and turnover. He concludes that the most profitable corporations have the lowest debt ratios.[23] Desai et al. (2004) find significantly higher debt levels in Anglo-American countries than in bank orientated countries like Japan, Germany or France.[24] Huizinga, Laeven and Nicodème (2006) investigate a European sample and show that corporations within Europe have an incentive to borrow in high-tax countries.[25] Dwenger and Steiner (2009) construct a pseudo-panel using German corporate income tax return data. Their results show that a 10 % decrease of the statutory corporate tax rate would reduce corporate debt by 5 %.[26]

There are only a few papers that draw attention to the impact of investor capital gains taxation on corporate financing decisions. Gordon and McKie-Mason (1990) investigate whether the Tax Reform Act (TRA) 1986 in the USA had an impact on the debt-ratio of corporations. They find out that capital gains taxation has an influence on corporate financial structure although the magnitude is not as high as expected.[27]

Schulman et al. (1996) hypothesize that the tax reform in 1972 in Canada had an impact on the capital structure of Canadian companies. They point out that the magnitude of the impact of the imputation method and capital gains taxation depends upon the type of return to the investor. Corporations, which are growth firms and offer significant returns to shareholders in the form of stock appreciation are most likely to react on capital gains taxation.[28] Graham (1999) also tests whether taxes, including capital gains taxation, have a significant impact on corporate capital structure using firm-specific data. He finds a significant relationship between the tax rate including investor capital gain taxes and the corporate debt level.[29] Overesch and Voeller (2008) investigate the tax effects including investor taxes on capital structure choices using a data set from 23 European Countries and identify a significant positive effect of the relative tax benefit of debt on the use of debt of corporations.[30]

Other studies including investor capital gains taxation take incremental financing deci-

[22] See Rajan / Zingales (1995), p. 1113ff.

[23] See Wald (1999), p. 161ff.

[24] See Desai / Foley / Hines (2004), p. 2451ff.

[25] See Huizinga / Laeven / Nicodème (2008), p. 1ff.

[26] See Dwenger / Steiner (2009), p. 1ff.

[27] See Gordon / MacKie-Mason (1990), p. 91ff.

[28] See Schulman / Thomas / Sellers / Kennedy (1996), p. 31ff.

[29] See Graham (1999), p. 181ff.

[30] See Overesch / Voeller (2008), p. 1ff.

sions as the dependent variable in a regression analysis. Givoly et al. (1992) look at financing decisions of corporations. They find a significant impact of taxation including investor taxes on corporate financing. Additionally, they find out that corporations with a high dividend ratio acquire less additional debt, which is evidence for the dividend clientele effect.[31] Campello (2001) also tests for the clientele effect and the interaction with corporate financing. His results show that companies which pay no dividends decide for 4.7% more debt financing than an average corporation.[32] Dhaliwal et al. (2007) investigate the impacts of tax reform acts from 1997 to 2003, where several changes in taxation of capital gains, dividends and interest payments took place. They also find evidence for a dividend clientele effect.[33]

3 Institutional Background

In Austria capital gains from the disposal of shareholdings are tax-exempt if they fulfill certain conditions: The shares have to be held for at least one year and the holding must have been below the threshold for significant stakes of 1% in the last five years. If a share is sold within one year after acquisition the capital gain is treated as income from speculation and is taxed at the ordinary tax rate of the Austrian tax schedule. If a sold holding exceeds the threshold for significant stakes the capital gain is taxed at the half of the average tax rate using the Austrian tax schedule. Capital losses can only be offset against capital gain realizations of the same tax period.

The threshold for significant stakes was lowered twice during the last 25 years. In 1988 this threshold was reduced from 25% to 10% in line with the introduction of the revised income tax code of 1988. In 2001 a law to strengthen the Austrian capital market (Kapitalmarktoffensivgesetz 2001) was enacted. It should counteract the high savings rate, the low market capitalization of the Austrian stock exchange and lead to higher equity financing of corporations. Additonally, it lowered the threshold for tax-exempt capital gains from 10%- to 1%-holdings.

Income from interest as well as from dividends received are taxed at a flat withholding rate of 25%. This withholding tax was introduced in Austria in 1993, the statutory flat

[31] See Givoly / Hayn / Ofer / Sarig (1992), p. 334ff.

[32] See Campello (2001), p. 1ff.

[33] See Dhaliwal / Erickson / Krull (2007), p. 6ff.

tax rate of 25% is unchanged since 1996.[34]

For realized capital gains exeeding the threshold for significant holdings of 1%, we assume that the investor is taxed at the top statutory tax rate of 50% and therefore faces a statutory tax rate on capital gains (τ_g) of 25%. However, capital gains are taxed only upon realization whilst dividends are taxed on an annual basis. This leads to a lower effective taxation of capital gains due to a discounting effect.

4 Hypotheses Development

Based on Feldstein and Summers (1979), Gordon and McKie-Mason (1990) as well as Graham (1999) use the term α to account for the discounting effect in the capital gains tax rate. They calculate the effective tax rate on capital gains as $\tau_g^e = \alpha\tau_g$. Feldstein and Summers (1979) state that the taxation upon realization as well as the possible deferral of the realization to the future each halve the effective tax rate on capital gains. Therefore the factor α is calculated to be 0.25.[35]

When looking at the literature on the cost of capital and the recent discussion of the Tax-CAPM in Germany we find that Wiese (2007) calculates an effective capital gains tax rate based on the accrual-equivalent capital gains tax rate of Auerbach (1983), which is dependent on the holding period T as well as the growth rate r of the underlying asset:[36]

$$\tau_g^e = 1 - \frac{((1-\tau_g)[(1+r)^T - 1] + 1)^{\frac{1}{T}} - 1}{r} \tag{4.1}$$

We will use the latter approach to calculate the effective capital gains tax rate in our empirical analysis in chapter 6.

Gordon/MacKie-Mason (1990) offer a model of the impact of taxes on corporate financing decisions explicitly referring to the tax rate on investor capital gains:

If a firm adds an extra Euro of debt its investor receives $(1-\tau_i)$, where τ_i is the tax rate on interest payments. If a company however decides to finance by extra equity, an investor receives $(1-\tau_c)(1-\tau_e)$, where τ_c is the corporate tax rate and τ_e is the tax rate on income

[34] See Austrian Federal Official Journal, BGBl 2001/1996.

[35] See Feldstein / Summers (1979), p. 450ff.

[36] See Auerbach (1983), p. 905ff. and Wiese (2007), p. 368ff.

from equity. Income from equity can either be dividends or capital gains. Graham (1999) decomposes τ_e into

$$\tau_e = [d + (1 - d)g\alpha]\tau_i \tag{4.2}$$

In this equation d is the dividend payout ratio, g is the proportion of long-term gains that are taxable and α represents the benefit from deferring capital gains.[37]

In Austria - as well as in many other countries - the deductibility of interest payments from debt on company level causes a beneficial treatment of debt financing compared to equity financing. If personal taxes are also taken into account this tax advantage can change depending on the tax rates on interest and dividend payments.

Following Gordon and MacKie-Mason (1990) and Graham (1999) and adjusting for the Austrian Tax Law one can state that

$$\tau_e = d\tau_d + (1 - d)g\tau_g^e \tag{4.3}$$

where τ_d ist the tax rate on dividends and the variable g represents the fraction of taxable Austrian investors and captures the effect that before 2001 only capital gains over a 10% shareholding are taxed, whilst since 2001 also capital gains from a 1% on shareholding are taxed. By transposing the equation above we get the advantage of debt versus equity (G_L):[38]

$$G_L = (1 - \tau_i) - (1 - \tau_c)(1 - (d\tau_d + (1 - d)g\tau_g^e)) \tag{4.4}$$

As an example, we assume the payout ratio and the fraction of taxable private investors to be 0.5 and calculate the effective capital gains tax rate by $\tau_e = d\tau_d + (1 - d)g\alpha\tau_g$. Applying this assumptions an investor faces a combined taxation on equity income of 35,55% compared to the 25% tax rate on income from interest payments. The tax advantage of debt versus equity therefore amounts to 10,55%. This shows that under current Austrian tax law debt financing is advantagous compared to equity financing. This advantage increases if the effective tax rate on capital gains increases. Additonally, the advantage is affected by the payout ratio, the fraction of taxable private investors and the term α.

[37] See Gordon / MacKie-Mason (1990) and Graham (1999).

[38] We do not take speculation taxes into account as we assume that in our sample only a negligible minority of shares is held for speculation purposes.

We can therefore derive the following hypotheses:

Hypothesis 1: Increasing (decreasing) investor taxation of income from shares increases (decreases) debt financing.

Taking personal taxes into account, debt becomes more attractive the higher the tax rate on capital gains and dividends because income from equity becomes less attractive when taxed at a higher tax rate, which will make investors demand a higher pre-tax return.

Hypothesis 2: The higher (lower) the fraction of taxable individual investors g, the higher (lower) the tax advantage of debt.

A lower threshold for tax-exempt capital gains will lead, if ownership structure remains unchanged, to a higher fraction of all capital gains being taxed. Therefore, the more attractive debt becomes compared to equity. The factor g also depends on the structure of investors, as only individual Austrian investors face personal capital gains taxation in Austria.

Hypothesis 3: The magnitude of the effect of capital gains taxation depends on d, the dividend payout ratio of a company.

Investors of corporations can obtain income either via dividends or via capital gains. When profits are distributed to investors by dividends only, capital gains from internal growth can not occur. As dividends are taxed at a flat tax rate of 25% and the effective capital gains tax rate will be below the tax rate for dividends due to the discounting effect, a higher dividend payout ratio d should lead to higher debt financing of Austrian corporations.

5 Data and Descriptive Statistics

We use the Amadeus and the Osiris Database from Bureau van Dijk to create our sample. These databases offer firm-level data of Austrian companies, containing information such as financial reporting data and ownership information.

So far a large part of the scientific work is based on U.S. data. Little research on capital gains taxation is done in Europe and almost none in Austria. U.S. corporations differ from companies in Europe not only regarding access to capital and bond markets, but

also with respect to the distribution over legal forms. To gain specific results for Austria an investigation of a data set from Austria is essential.

Most of the studies investigate aggregate data or data from listed companies. By contrast, we include a large part of non-listed corporations in our sample where we are able to get firm-specific data. This generates new information on the behavior of corporations of different sizes and legal status. This is especially important as a predominant part of companies in Austria is familiy-dominated and not listed on the stock exchange.

As the tax reform observed was established in January 2001 we choose an observation period from 1999 to 2004. We cut the investigation before 2005 due to the fact that a major corporate tax reform took place in 2005 where several tax changes occurred which would distort the investigation of our research question.

The Amadeus Database for 2001 has data for 31.773 Austrian corporations containing 1.104 public and 30.669 private limited companies. To gain our sample we extract all corporations from Austria available in the Amadeus and Osiris Databases, where information about shareholders and financial reporting data is present. This reduces our sample to 259 companies.

We then eliminate all corporations for which no shareholdings between 1% and 9.99% are recorded. The corporations remaining are the ones which would potentially face higher cost of equity by the implementation of an additional cpaital gains taxation. For the corporations included we then collect all relevant data from 1999 to 2004.

The years from 1999 to 2002 are not covered consistently by the Amadeus Database for all corporations. This may be due to the fact that we include a large part of non-listed corporations, where relevant data is not publicly available. To achieve a large enough sample we additionally obtain several financial reporting data by searching of documents from the Austrian Commercial Register for corporations which are covered in the databases but have single missing data items.

Finally, our sample amounts to 514 observations, including 99 corporations. Due to the fact that information is usually better available for bigger firms, our sample contains mostly large companies, measured by the classification of corporation size of the Austrian Commercial Law (§ 221 Unternehmensgesetzbuch (UGB)).[39] As not all data for all cor-

[39] We take the values for total assets of § 221 UGB: Up to total assets of 4,84 Million Euro it is considered to be a small corporation. Medium corporations have total assets between 4,84 and 19,25 and large corporations above 19,25 Million Euro.

porations in our sample is available for all considered years, we take total assets of the last year available:

Size (Total Assets)	**Freq.**
Small Corporations	2
Medium Corporations	39
Large Corporations	58
Total	99

Table 5.1: Size of Corporations in the Sample

As mentioned above we include a large part of non-listed Austrian corporations in our sample. This is particulary important for an investigation of Austrian corporations as the majority of corporations is not quoted and most of them are organized in the legal form of a private limited company (GmbH). The stock market in Austria is rather small and only the minority of corporations is operated under the legal form of public limited corporations (AG). This is reflected by the composition of our sample:

Legal Form	**Freq.**	**%**	**Stock Market**	**Freq.**	**%**
AG	12	12.12%	Listed	5	5.05%
GmbH	87	87.88%	Non-Listed	94	94.95%
Total	99	100%	Total	99	100%

Table 5.2: Legal Form and Listing of Corporations in the Sample

The table shows that 87.88% of the considered corporations are private limited corporations, 12.12% of the companies in the sample are public limited corporations, but only 5.05% of the contemplated firms are listed at the Austrian stock exchange. This reflects the typical situation in Austria.

We use the ÖNACE-Code[40] to classify the corporations by their field of business:

[40] Which is based on the NACE 1.1-Code.

Industry	**Freq.**	%
Real Assets Industry and Production	42	42.43%
Energy and Water Supply	4	4.04%
Construction	31	31.31%
Trade; Maintenance and Repair of Moter Vehicles and Durables	10	10.10%
Traffic and Telecommunication	9	9.09%
Realties and Business Services	3	3.03%
Total	99	100%

Table 5.3: Industry of Corporations in the Sample

Table 4.3 summarizes the industry composition of our sample. Nearly 75% of the considered companies are from the two industries of Real Asset and Production and Construction. Firms from the industry of Mining, Accomodation and Restaurant as well as from the industry of Realities and Banking and Insurance are missing in our sample. Corporations in the industry of Banking and Insurance are not captured by the Amadeus-Database and therefore only listed financial institutions captured by the database Osiris are considered, here none of the companies fulfills our conditions.[41]

We measure debt financing of corporations by the book debt to total assets ratio. Book debt is calculated as the sum of current and non-current liabilities in Amadeus or the financial reports of the Austrian Commercial Council respectively.

As described in section 4 we expect that the debt ratio to rise with higher τ_g^e. The variable τ_g^e is calculated using the approach explained in section 4:

$$\tau_g^e = 1 - \frac{((1-\tau_g)[(1+r)^T - 1] + 1)^{\frac{1}{T}} - 1}{r} \tag{5.1}$$

To obtain a growth rate we use the index of the Vienna stock exchange (Wiener Börse Index, WBI) and calculate an average rate of return for our observation period. We specify the holding period to calculate the effective tax rate on capital gains by using statistics on stock market turnover for every year included in our study.[42] With these

[41] For a statistic on the distribution of companies over industries in Austria see Statistik Austria (2007).

[42] See World Federation of Exchanges (1999-2004)

two parameters we are able to calculate an effective tax rate on capital gains for every considered year.[43]

To measure the fraction of taxable shareholdings before and after the Austrian tax reform of 2001 we calculate g. The factor g captures the percentage of investors with taxable shareholdings. Before 2001 all shareholdings over and equal 10% were taxable, starting with 2001 the threshold was lowered to 1%-holdings. If an investor for example held 9% of a corporation in 2000, capital gains from selling this holding were tax-exempt. If an invester has the same holding in 2002, a realization of capital gains is taxable.

In the following figure we plot the mean values of the corporations' debt ratio, the individual tax rate per company, τ_g, and the fraction of taxable investors per corporation, g.[44]

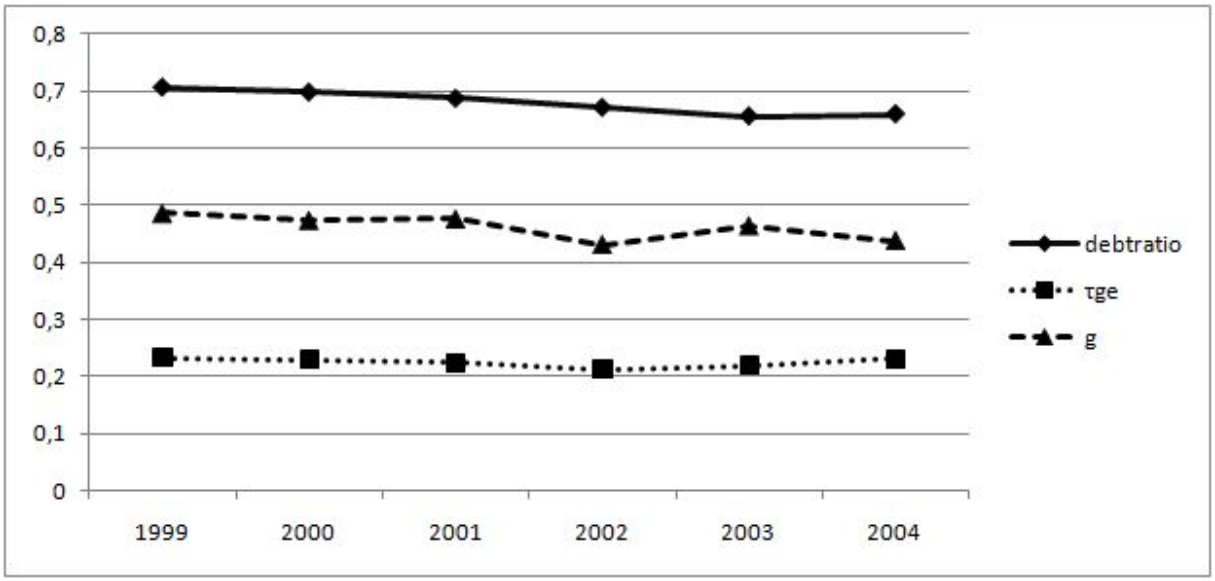


Figure 1: Mean Values of the Variables *debtratio*, τ_g^e and g from 1999 to 2004.

Figure 1 shows that, contrary to expectations, the average debt level decreased after the tax reform of 2001. During the observation period, the debt ratio of Austrian companies dropped from 70.73% to 65.56% in 2003. In the year 2004 we can observe a moderate rise to an average debt ratio of 65.97%.

[43] In the sensitivity analysis in section 6.3 we show that the results of the influence of the tax rate are robust to several changes in the growth rate and the holding period.

[44] For mean values for the three variable see table A.1 in the Appendix.

When looking at τ_g one can see that the effective tax rate on capital gains for investors dropped from 23,03% in 2000 to 22,45% after the introduction of the KMOG in 2001. This is against our predictions, but could be caused by a longer holding period due to the additional tax imposed on realized capital gains.

Also the factor g is decreasing against our predictions. This trend downwards could be caused by investors selling their shares of companies or reorganizing their holdings in their families due to the abolishment of the tax exemption of capital gains for holdings under the 10%-threshold. In the year 1999 the average percentage of taxable individual shareholders was 48.65%. As the threshold for taxable capital gains was lowered in 2001 we would expect g to rise, but it dropped to 43.07% in 2002.

Although the descriptive statistic shows a decrease in debt ratios, this surprising result still indicates a possible influence of investor capital gains taxation on corporate financing as the debt ratio moves towards the same direction as τ_g. Individual investors might have anticipated future taxation and reorganized investments to lower their tax burden although capital gains taxation was raised. As a lower τ_g also lowers the beneficial treatment of debt, debt ratios might have dropped as we observe.

6 Regression Analysis

6.1 Regression Model

Our sample is designed for a cross-section analysis using an OLS-estimation. Due to the fact that we were not able to track all our corporations throughout every year of the observation period of 1999 to 2004 we can not create a dataset suitable for a compact panel analysis as this would lead to a very low sample size.

We are interested in the effects of investor capital gains taxation on the debt ratio of Austrian corporations. The dependent variable *DebtRatio* is defined by the ratio of book debt to total assets, which we gain from the Amadeus-Database or the financial statements of the Austrian commercial register. To run our regression we will use tax variables as well as control variables as explanatory variables.

Tax Variables:

To see whether capital gains taxation at investor level influences the debt level of corporations we include τ_g^e, measured as stated in section 5 in our regression model. The

variable g will be included to see whether the fraction of taxable shareholders affects a corporation's debt level. We expect the coefficients of τ_g^e and g to be positive.

The factor d is the dividend payout ratio of a corporation of a certain year. As we mainly have non-listed corporations in the sample and therefore can not observe payouts directly, we calculate payouts by using the profit of a period and subtracting the change in shareholder funds. Deflating by the corporation's profit of the considered year we obtain a firm-specific payout ratio for each year and each corporation. As explained in section 4 dividends are usually taxed at a higher tax rate than capital gains due to the discounting effect. A higher dividend payout ratio d should therefore lead to higher debt financing of Austrian corporations.

The variable *Depr* is implemented to control for other possibilities to generate tax-shields (substitution hypothesis). The higher other tax-deductible items the less tax-shields from interest payments are necessary to lower taxable income. We therefore expect this variable to be negative.

To control for deductible loss carry-forwards, we include the dummy variable Nol as a proxy, which is set 1 if there is a loss in the year before the year considered and 0 otherwise. This can only be a proxy for the loss carry-forward for tax purposes as we can only observe the profit or loss in terms of commercial law and we can not observe loss carry forwards for the considered corporations.[45]

It should be controlled for changes in other taxes that influence the capital structure of corporations as the tax rate at corporate level (τ_c), the tax rate on interest (τ_i) and the tax rate on dividend payments (τ_d). As all these taxes were constant over the observation period, these variables are not included in the regression analysis.

Control Variables:

We add the profit or loss of the considered year of a corporation as a control variable to see whether more profitable firms have less debt, as stated by Wald (1999).[46] We calculate a profit to asset ratio by deflating through total assets. According to Scott (1977)[47] we include tangible assets in our regression model. We expect the variable $TanAss$ to be positive as the costs of financial distress are lower the higher the tangible assets are as they serve as collateral. To see whether the amount of current assets has an impact on the

[45] See for example Overesch / Voeller (2008) and Pfaffermayr / Stöckl / Winner (2008).

[46] See Wald (1999).

[47] See Scott (1977), p. 33ff.

debt level of corporations we add the variable $CurrAss$. To see if the capital structure of corporations varies with the size of the company we include the natural logarithm of sales in our regression analysis.

Additionally, we want to determine whether the legal status or the listing of corporations has a significant influence on the debt financing of corporations and therefore include the variables *Legal* and *Quoted*. These are both dummy variables, where *Legal* is 1 if the company is a public limited corporation (AG) and 0 if it is a private limited corporation (GmbH). The variable *Quoted* is set 1 if the regarded corporation is listed on the Austrian capital market.

As a lot of corporations in Austria are family-dominated we control for family-owned corporations by including the dummy $Family$ in our specification. The dummy will be 1 if 50% or more of a corporation in the sample are owned by family members. To see wether the general development of the market had an influence on the debt level of corporations during the years observed we add the variable WBI, which is the percentage of annual change of the index of the Vienna stock exchange.

To control for size effects in our explanatory variables the variables $TanAss$, $Depr$, $ProfLoss$ and $CurAss$ are deflated by total assets.

Our basic economic specification reads:

$$\begin{aligned} DebtRatio_{j,t} = \alpha + \beta_1 \tau^e_{g_t} + \beta_2 g_{j,t} + \beta_3 d_{j,t} + \beta_4 TanAss_{j,t} + \beta_5 Depr_{j,t} + \beta_6 Nol_{j,t} \\ + \beta_7 ProfLoss_{j,t} + \beta_8 CurrAss_{j,t} + \beta_9 lnSales_{j,t} + \beta_{10} Legal_{j,t} + \beta_{11} Quoted_{j,t} \\ + \beta_{12} Family_{j,t} + \beta_{13} WBI_t + \epsilon_{j,t} \end{aligned} \quad (6.1)$$

6.2 Regression Results

To investigate if the financial structure of corporations is influenced by investor capital gains taxation, we use the specification from 5.1 and run the regression for our data set of 514 observations of Austrian companies. For the period from 1999 to 2004 we gain the estimation results depicted in table 6.1.

The coefficient for τ^e_g is significant at a 5%-level and positive indicating that the higher the effective capital gains taxation for individual investors the higher the debt level of Austrian Corporations. This supports our first hypothesis derived in section 4 that increasing investor taxation increases the debt financing of corporations. The impact is substantial

Variable	**Coefficient**	**(Std. Err.)**
τ_g^e	2.836**	(1.330)
g	0.040*	(0.024)
d	0.001***	(0.000)
$Depr$	0.266	(0.233)
Nol	0.125***	(0.025)
$ProfLoss$	–1.080***	(0.119)
$TanAss$	–0.015	(0.020)
$CurAss$	0.053***	(0.011)
$lnSales$	0.016**	(0.007)
$Legal$	–0.136***	(0.032)
$Quoted$	–0.115**	(0.047)
$Family$	–0.065***	(0.022)
WBI	–0.056	(0.046)
$Intercept$	–0.216	(0.322)
N	514	
R^2	0.299	
$F_{(13,500)}$	16.374	

Significance levels : $*$: 10% $**$: 5% $***$: 1%

Table 6.1: Estimation Results for Specification 1.

as our results show that a 1% increase in the effective capital gains tax rate would lead to a 2,83% increase in the debt-to-asset ratio of a company.

The factor capturing the fraction of taxable individual shareholders, g, is also significant and positive, though the impact is low indicating that a 1% increase in the fraction of taxable individual shareholders would lead to a 0.04% increase in a corporations' debt level. Still this in accordance with our second hypothesis.

The factor d, the dividend payout ratio, shows a significant and positive coefficient. This supports our third hypothesis indicating that the higher the dividend payout ratio, the

higher the debt level of corporations as the tax penalty for income from equity increases by the payout ratio of corporations.

Our first variable testing for the substitution hypotheses, $Depr$, does not show a significant coefficient whereas the coefficient Nol is significant, but has the wrong sign. We therefore do not find support for the substitution hypothesis.

We gain a significant negative result for the impact of profit or loss on the capital structure of a corporation supporting the hypotheses that more profitable firms have less debt.

The coefficient of the variable $lnSales$, testing for an effect of firm size on capital structure, is positive and significant. This indicates that bigger firms tend to have more debt.

We gain negative and significant results for the variables *Legal* and *Quoted*. The coefficients imply that quoted companies with the legal form of a public limited corporation have a lower debt ratio than private limited companies which are not listed on capital markets. This might be due to the fact that listed corporations have better access to equity capital via capital markets than non-listed companies.

The dummy variable testing for the influence of family-owned corporations is significant which shows that family-dominated companies have a different financing policy than widely held firms.

We test for multicollinearity in our specification by looking at the correlations between the explanatory variables in table A.2.[48] The highest correlation occurs between the fraction of taxable private shareholders, g, and the dummy variable $Family$ and amounts to 0.506. This suggests that family-owned corporations have more individual shareholders, which is intuitive to the definition of family-owned corporations. As none of the correlations is above +0.7 or -0.7 we can exclude the problem of multicollinearity in our first specification.

To account for possible heteroscedasticity we run a regression with robust standard errors. Results for the coefficients remain unchanged.

Summarizing our first estimation we can reject the nullhypotheses that our model has no explanatory power at a 0.1%-level. With an R^2 of 29,9% we are able explain nearly 30% of the variations in debt ratio by our model, which is a satisfying result.

To find out if financing behavior varies for different industries we run a second specification including the variable Ind, which is a vector of industry dummy variables set 1 for the

[48] See Appendix.

corresponding industries C-K of the ÖNACE-Code. Regression results are depicted in table A.3.[49]

The results show that there are differences in the capital structure of different industries. The industry of Traffic and Telecommunication borrows significantly less than corporations in the industry of Energy and Water Supply and the industry of construction. The results of the other tested coefficients remain mainly the same.

We again test for multicollinearity by looking at the cross-correlation table and can reject multicollinearity as no high correlations between explanatory variables can be detected.[50]

Additionally, we account for possible heteroscedasticity by estimating the specification with robust standard errors and results remain unchanged.

Using an F-test for the goodness of fit of our model we are able to reject the null hypothesis of no explanatory power of the model at a 1%-level.

Altoghether, we find support for all of our three hypotheses and detect significant influence of investor taxation on the debt level of corporations.

6.3 Sensitivity Analysis

To see if our results are robust to changes of the variables' specification we conduct a sensitivity analysis.

We want to see if different calculations of the tax variable τ_g^e change our estimated results. We therefore conduct four different calculations of the effective tax rate on capital gains.

Beneath the first determination explained in chapter 5, now denoted $\tau_{g\,1}^e$, we change the estimation of the growth rate used to calculate $\tau_{g\,2}^e$ and use the the average rate of return of bonds instead of the index of the Vienna Stock Exchange. Further we calculate $\tau_{g\,3}^e$ by using the average rate of return of the Austrian Traded Index (ATX). As family-owned corporations might hold their shares longer than the average investor at the Vienna Stock Exchange we lengthen the holding period calculated by the WFE by five years and calculate $\tau_{g\,4}^e$. Table 6.2 shows the results of the different calculations of τ_g^e.

The effective capital gains tax rates are the highest when calculated with the average rate of return for Austrian bonds ($\tau_{g\,2}^e$). This is due to the lower rate of return achievable by

[49] See Appendix.

[50] See table A.4 in the Appendix.

	(1) $\tau^e_{g\,1}$	(2)$\tau^e_{g\,2}$	(3) $\tau^e_{g\,3}$	(4) $\tau^e_{g\,4}$
1999	0,23288	0,24381	0,23095	0,18813
2000	0,23034	0,24086	0,22815	0,18612
2001	0,22446	0,23951	0,22166	0,18148
2002	0,21333	0,23542	0,20944	0,17276
2003	0,22023	0,24085	0,21700	0,17816
2004	0,23075	0,24418	0,22861	0,18645

Table 6.2: Effective Tax Rates on Capital Gains

bonds compared to shares of the Vienna Stock Exchange. Still this might be a reasonable variation as shares from non-listed, small corporations might not face the same profitability as listed corporations. The lowest tax burden on capital gains occurs if the holding period is extended ($\tau^e_{g\,4}$), as the tax payment is deferred further to the future.

To see how the different calculations affect our estimation results we perform the same regression as described in table 6.2 and compare the estimated coefficients.

As table 6.3 shows the general results are robust to the different calculations of the effective tax rate on capital gains. The second calculation of τ^e_g using the average rate of return on bonds show a larger effect than the other three calculations. The sign and the significance of the coefficient of the tax rate – and therefore the interpretation of a causal impact of capital gains taxation on debt financing – remain the same.

Also for the other definitions of τ^e_g we look at the cross-correlation table and can reject multicollinearity in our specification. To account for heteroscedasticity we estimate the specification with robust standard errors, results for all coefficients remain the same.

Our results support all three hypotheses derived section 4. We can see from the specification results that capital gains taxation influences the debt level of Austrian corporations. Additionally, the fraction of taxable investors of a corporation and its dividend payout ratio affect the corporate capital structure.

Variable	**(1)**	**(2)**	**(3)**	**(4)**
τ_g	2.836**	7.765**	2.578**	3.612**
g	0.040*	0.040	0.040*	0,040*
d	0.001***	0.001***	0.001***	0.001***
$Depr$	0.266	0.269	0.266	0.266
Nol	0.125***	0.124***	0.125***	0.125***
$ProfLoss$	-1.080***	-1.081***	-1.080***	-1.080***
$TanAss$	-0.015	-0.015	-0.015	-0.015
$CurAss$	0.053***	0.052***	0.053***	0.053***
$lnSales$	0.016**	0.016**	0.016**	0.016**
$Legal$	-0.136***	-0.136***	-0.136***	-0.136***
$Quoted$	-0.115**	-0.115**	-0.115**	-0.115**
$Family$	-0.065***	-0.065***	-0.065***	-0.065***
WBI	-0.056	-0.103*	-0.056	-0.056
$Intercept$	-0.151	-1.440*	-0.151	-0,235
N	514	514	514	514
R^2	0.299	0.299	0.299	0.299
$F_{(13,500)}$	16.374	16.400	16.370	16.370

Significance levels : $*$: 10% $**$: 5% $***$: 1%

Table 6.3: Estimation Results for different Definitions of τ_g^e.

7 Conclusion

In 2001 the Kapitalmarktoffensivgesetz (KMOG) was enacted in Austria to strengthen the capital market. As the savings rate in Austria is very high and investments on the capital market are low, Austrian corporations suffer access to equity financing which is one of the reasons for their high debt ratios. The KMOG should encourage investment in shares and reduce debt financing of corporations. Beneath supporting measures a changed investor capital gains taxation was introduced by the KMOG 2001, where the threshold

of taxable capital gains was reduced form 10% to 1%.

Interest payments for debt are tax-deductible in Austria on the corporate level and therefore create an interest tax-shield while payments to equity investors are not. As debt financing is already treated preferentially under current tax law and equity ratios tend to be small in Austria anyway a potential additional inducement of debt financing might lead to an additional risk of a low equity capitalization.

Due to the economic crises, a further extension of the capital gains taxation is discussed in Austria. For this reason we examine the impact of capital gains taxation on debt financing in Austria by investigating the reaction of corporations on the KMOG 2001.

Our analysis differs from prior studies by using a unique data set. We include non-listed corporations in our sample, as this is the majority of corporations in Austria. This allows us to make more generalized statements on the reaction of corporations on the tax reform of 2001.

Against our predictions debt ratios did not rise after the introduction of the higher capital gains taxation in 2001. Also the fraction of taxable private investors and the effective tax rate on capital gains is decreasing after 2001. By conducting a regression analysis we find a significant relationship between the effective tax rate on capital gains and the debt ratio of Austrian corporations. Results suggest that if tax rates on capital gains increase, the debt ratio will also increase. Also the variable of the fraction of taxable individual investors has a positive and significant coefficient. Additionally, we find that the higher a company's dividend payout ratio the higher the debt ratio. This result supports our hypotheses.

Although we find significant influence of our tested variables, it is somewhat surprising that the fraction of taxable private investors has decreased after 2001 although the KMOG 2001 lowered the threshold for taxable capital gains. This result suggests further examination of the behavior of investors at the tax reform of 2001. Investors might have anticipated the lower threshold by reorganizing their shareholdings to avoid future taxation. There is clearly demand of future research on the impact of capital gains taxation on sales of holdings of individual investors and on corporate ownership. Also the introduction of a capital gains taxation in Germany 2009 and several changes of the capital gains taxation in the USA in recent years would be further interesting research topics.

A Appendix: Additional Descriptive Statistics and Regression Results

year	*Debtratio*	τ_g	g
1999	0.70727913	0.23287505	0.48655333
2000	0.69832529	0.23034203	0.47421765
2001	0.68712353	0.22446193	0.47637284
2002	0.67119871	0.21332645	0.430725
2003	0.65561484	0.22022502	0.46406429
2004	0.6596761	0.2307547	0.43800778
Total	0.6799474	0.22549706	0.46160992

Table A.1: Mean Values of *Debtratio*, τ_g and g.

Variables	τ_g	g	d	$Depr$	Nol	$ProfLoss$	$TanAss$	$CurAss$	$lnSales$	$Legal$	$Quoted$	$Family$	WBI
τ_g	1.000												
g	0.025	1.000											
d	–0.075	–0.003	1.000										
$Depr$	0.027	–0.106	0.012	1.000									
Nol	–0.041	–0.048	–0.031	–0.045	1.000								
$ProfLoss$	0.074	0.003	0.025	–0.134	–0.319	1.000							
$TanAss$	0.011	0.060	0.028	0.183	–0.067	0.040	1.000						
$CurAss$	0.051	–0.124	0.004	–0.168	–0.077	0.073	–0.029	1.000					
$lnSales$	–0.003	–0.194	0.073	0.144	–0.199	0.162	–0.017	0.049	1.000				
$Legal$	0.003	–0.162	–0.053	0.187	0.111	–0.143	–0.065	–0.102	0.130	1.000			
$Quoted$	–0.020	–0.123	0.014	–0.036	–0.011	–0.024	–0.005	–0.080	0.256	0.493	1.000		
$Family$	0.022	0.506	0.005	–0.056	–0.032	–0.066	–0.041	–0.114	–0.109	–0.203	–0.175	1.000	
WBI	0.109	–0.022	0.044	0.003	0.013	0.059	-0.033	–0.016	–0.002	0.003	0.035	0.015	1.000

Table A.2: Cross-correlation Table for Specification 1.

Variable	**Coefficient**	**(Std. Err.)**
τ_g	2.877**	(1.279)
g	0.032	(0.024)
d	0.001***	(0.000)
$Depr$	0.263	(0.225)
Nol	0.123***	(0.024)
$ProfLoss$	–1.085***	(0.115)
$TanAss$	0.026	(0.020)
$CurAss$	0.042***	(0.011)
$lnSales$	0.016**	(0.007)
$Legal$	–0.078**	(0.032)
$Quoted$	–0.088*	(0.046)
$Family$	–0.064***	(0.021)
WBI	–0.062	(0.045)
$Inde$	0.084*	(0.043)
$Indf$	0.049**	(0.021)
$Indg$	0.034	(0.041)
$Indi$	–0.176***	(0.033)
$Indk$	0.107	(0.092)
$Intercept$	–0.249	(0.311)
N	514	
R^2	0.363	
$F_{(19,494)}$	14.806	

Significance levels : $*$: 10% $**$: 5% $***$: 1%

Table A.3: Estimation Results for Specification 2.

Variables	τ_g	g	d	$Depr$	Nol	$ProfLoss$	$TanAss$	$CurAss$	$lnSales$	$Legal$	$Quoted$	$Family$	WBI	$Inde$	$Indf$
$Indg$	$Indi$	$Indk$													
τ_g	1.000														
g	0.025	1.000													
d	–0.075	–0.003	1.000												
$Depr$	0.027	–0.106	0.012	1.000											
Nol	–0.041	–0.048	–0.031	–0.045	1.000										
$ProfLoss$	0.074	0.003	0.025	–0.134	–0.319	1.000									
$TanAss$	0.011	0.060	0.028	0.183	–0.067	0.040	1.000								
$CurAss$	0.051	–0.124	0.004	–0.168	–0.077	0.073	–0.029	1.000							
$lnSales$	–0.003	–0.194	0.073	0.144	–0.199	0.162	–0.017	0.049	1.000						
$Legal$	0.003	–0.162	–0.053	0.187	0.111	–0.143	–0.065	–0.102	0.130	1.000					
$Quoted$	–0.020	–0.123	0.014	–0.036	–0.011	–0.024	–0.005	–0.080	0.256	0.493	1.000				
$Family$	0.022	0.506	0.005	–0.056	–0.032	–0.066	–0.041	–0.114	–0.109	–0.203	–0.175	1.000			
WBI	0.109	–0.022	0.044	0.003	0.013	0.059	–0.033	–0.016	–0.002	0.003	0.035	0.015	1.000		
$Inde$	–0.005	0.075	0.004	0.023	–0.084	0.014	0.003	–0.032	–0.002	–0.088	–0.054	0.183	–0.004	1.000	
$Indf$	–0.022	0.103	0.000	–0.177	0.061	–0.018	–0.145	0.144	–0.044	–0.176	–0.032	0.031	–0.010	–0.158	1.000
$Indg$	0.024	0.211	–0.064	–0.051	–0.073	0.074	–0.026	–0.018	–0.159	–0.095	–0.059	0.094	0.038	–0.053	–0.172
1.000															
$Indi$	–0.008	–0.004	–0.080	0.085	0.011	–0.050	0.295	–0.128	0.030	0.308	0.274	–0.026	–0.006	–0.076	–0.245
–0.082	1.000														
indk	–0.005	–0.048	0.008	–0.018	0.002	0.010	0.101	0.164	–0.040	–0.039	–0.024	0.042	0.110	–0.022	–0.071
–0.024	–0.034	1.000													

Table A.4: Cross-correlation Table for Specification 2.

References

Alworth, Julian/ Arachi, Giampaolo (2001): The Effect of Taxes on Corporate Financing Decisions: Evidence from a Panel of Italian Firms, International Tax and Public Finance, 8, p. 353–376.

Andrade, Gregor/ Kaplan, Steven N. (1998): How Costly is Financial (not Economic) Distress? Evidence from Highly Leveraged Transactions that Became Distressed, Journal of Finance, 53, p. 1443–1493.

Ang, James S./ Peterson, David R. (1986): Optimal Debt Versus Debt Capacity: A Disequilibrium Model of Corporate Debt Behaviour, Research in Finance, 6, p. 51–72.

Auerbach, Alan J. (1983): Taxation, Corporate Financial Policy and the Cost of Capital, Journal of Economic Literature, 21, p. 905–940.

Ayers, Bejamin C./ Lefanowicz, Craig E./ Robinson, John R. (2003): Shareholder Taxes in Acquisition Premiums: The Effect of Capital Gains Taxation, Journal of Finance, 58, p. 2783–2801.

Baxter, Nevins D. (1967): Leverage, Risk of Run and the Cost of Capital, Journal of Finance, 22, p. 395–403.

Blouin, Raedy Jana Smith, Jennifer L./ Shackelford, Douglas A. (2003): Capital Gains Taxes and Equity Trading: Empirical Evidence, Journal of Accounting Research, 41, p. 611–651.

Bradley, Michael/ Jarrell, Gregg A./ Kim, Han E. (1984): On the Existence of an Optimal Capital Structure: Theory and Evidence, The Journal of Finance, 39, p. 857–878.

Campello, Murillo (2001): Taxes and Capital Structure: Do Investors' Taxes Matter? Evidence from the Tax Reform Act of 1986, Working Paper, University of Illinois, p. 1–35.

Cloyd, Bryan C./ Limberg, Stephen T./ Robinson, John R. (1997): The Impact of Federal Taxes on the Use of Debt by Closely Held Corporations, National Tax Journal, 50, p. 261–277.

DeAngelo, Harry/ Masulis, Ronald W. (1980): Optimal capital structure under corporate and personal taxation, Journal of Financial Economics, 8, p. 3–29.

Desai, Mihir A./ Foley, C. Fritz/ Hines, James R. Jr. (2004): A Multinational Perspective on Capital Structure Choice and Internal Capital Markets, Journal of

Finance, 59, p. 2451–2487.

Dhaliwal, Dan/ Trezevant, Robert/ Wang, Shiing-wu (1992): Taxes, Investment-Related Tax Shields and Capital Structure, Journal of the American Taxation Association, 14, p. 1–21.

Dhaliwal, Dan S./ Erickson, Merle M./ Krull, Linda K. (2007): Incremental Financing Decisions and Time-Series Variation in Personal Taxes or Equity Income, Journal of the American Taxation Association, 29, p. 1–26.

D'Mello, Ranjan/ Ferris, Stephen P. (2000): The Information Effects of Analyst Activity at the Announcement of New Equity Issues, Financial Management, 29, p. 78–95.

Dwenger, Nadja/ Steiner, Viktor (2009): Financial leverage and corporate taxation - Evidence from German corporate tax return data, arqus Diskussionsbeitrag Nr. 61, p. 1–25.

Feldstein, Martin/ Summers, Lawrence (1979): Inflation and the Taxation of Capital Income in the Corporate Sector, National Tax Journal, 32, p. 445–470.

Fischer, Edwin O./ Heinkel, Robert/ Zechner, Josef (1989): Dynamic Capital Structure Choice: Theory and Tests, Journal of Finance, 44, p. 19–40.

Givoly, Dan/ Hayn, Carla/ Ofer, Aharon R./ Sarig, Oded (1992): Taxes and Capital Structure: Evidence from Firms' Response to the Tax Reform Act of 1986, Review of Financial Studies, 5, p. 331–355.

Gordon, Roger H./ Lee, Young (2001): Do Taxes Affect Corporate Debt Policy? Evidence from U.S. Corporate Tax Return Data, Journal of Public Economics, 41, p. 195–224.

Gordon, Roger H./ MacKie-Mason, Jeffrey K. (1990): Effects of the Tax Reform Act of 1986 on Corporate Financial Policy and Organizational Form, in: Slemrod, Joel (Ed.): Do Taxes Matter? The Impact of the Tax Reform Act of 1986, London, p. 91–131.

Graham, John R. (1996a): Debt and the marginal tax rate, Journal of Financial Economics, 41, p. 41–73.

Graham, John R. (1996b): Proxies for the corporate marginal tax rate, Journal of Financial Economics, 42, p. 187–221.

Graham, John R. (1999): Do Personal Taxes affect Corporate Financing Decisions?, Journal of Public Economics, 73, p. 147–185.

Graham, John R. (2000): How Big Are the Tax Benefits of Debt?, Journal of Finance, 55, p. 1901–1941.

Gropp, Reint E. (1997): The Effect of Expected Effective Corporate Tax Rates on Incremental Financing Decisions, IMF Staff Papers, 44, p. 488–509.

Huizinga, Harry/ Laeven, Luc/ Nicodème, Gaetan (2008): Capital Structure and International Debt Shifting in Europe, Journal of Financial Economics 88, p. 80–118.

Jensen, Michael C. (1986): Agency Costs of Free Cash Flow, Corporate Finance and Takeovers, American Economic Review, 76, p. 323–329.

Jensen, Michael C./ Meckling, William H. (1976): Theory of the firm: Managerial behaviour, agency costs and ownership structure, Journal of Financial Economics, 3, p. 305–360.

Kraus, Alan/ Litzenberger, Robert H. (1973): A state-preference model of optimal financial leverage, Journal of Finance, 28, p. 911–922.

Lang, Mark H./ Shackelford, Douglas A. (2000): Capitalization of Capital Gains Taxes: Evidence from Stock Price Reactions to the 1997 Rate Reduction, Journal of Public Economics, 76, p. 69–85.

Long, Michael S./ Malitz, Ileen B. (1985): Investment Patterns and Financial Leverage, in: Friedman, Benjamin M. (Ed.): Corporate Capital Structure in the United States, Chicago, p. 325–348.

MacKie-Mason, Jeffrey K. (1990): Do Taxes Affect Corporate Financing Decisions?, Journal of Finance, 45, p. 1471–1493.

Miller, Merton H. (1977): Debt and Taxes, Journal of Finance, 32, p. 261–274.

Modigliani, Franco/ Miller, Merton H. (1958): The Cost of Capital, Corporate Finance and the Theory of Investment, American Economic Review, 48, p. 261–297.

Modigliani, Franco/ Miller, Merton H. (1963): Corporate Income Taxes and the Cost of Capital, American Economic Review, 52, p. 433–442.

Myers, Stewart C. (1977): Determinants of Corporate Borrowing, Journal of Financial Economics, 5, p. 147–175.

Myers, Stewart C. (1984): The Capital Structure Puzzle, Journal of Finance, 39, p. 575–592.

Myers, Stewart C./ Majluf, Nicholas S. (1984): Corporate Financing and Investment Decision when Firms Have Information that Investors Do Not Have, Journal of Financial Economics, 13, p. 187–221.

Nielsen, Søren B./ Sørensen, Peter B. (1997): On the Optimality of the Nordic System of Dual Income Taxation, Journal of Public Economics, 63, p. 311–329.

Overesch, Michael/ Voeller, Dennis (2008): The Impact of Personal and Corporate Taxation on Capital Structure Choices, ZEW Discussion Paper No. 08-020, p. 1–32.

Pfaffermayr, Michael/ Stöckl, Matthias/ Winner, Hannes (2008): Capital Structure, Corporate Taxation and Firm Age, Working Paper 2008-09, University of Innsbruck.

Rajan, Raghuram G./ Zingales, Luigi (1995): What Do We Know about Capital Structure? Some Evidence from International Data, Journal of Finance, 50, p. 1113–1146.

Schulman, Craig T./ Thomas, Deborah W./ Sellers, Keith F./ Kennedy, Duane B. (1996): Effects of tax integration and capital gains tax on corporate leverage, National Tax Journal, 49, p. 31–54.

Scott, James H. Jr. (1977): A Theory of Optimal Capital Structure, Bell Journal of Economics, 7, p. 33–54.

Shum, Pauline M. (1996): Taxes and corporate debt policy in Canada: An empirical investigation, Canadian Journal of Economics, 29, p. 556–572.

Statistik Austria (2007): Hauptergebnisse der Leistungs- und Strukturstatistik 2007, http://www.statistik.at/.

Stiglitz, Joseph E. (1969): A Re-Examination of the Modigliani-Miller Theorem, American Economic Review 59, p. 784–793.

Titman, Sheridan/ Wessels, Roberto (1988): The Determinants of Capital Structure Choice, Journal of Finance, 43, p. 1–18.

Trezevant, Robert (1992): Debt Financing and Tax Status: Tests of the Substitution Effect and the Tax Exhaustion Hypothesis Using Firms' Responses to the Economic Recovery Tax Act of 1981, Journal of Finance, 47, p. 1557–1568.

Wald, John K. (1999): How Firm Characteristics Affect Capital Structure, Journal of Financial Research, 12, p. 161–187.

Warner, Jerold B. (1977): Bankruptcy Costs: Some Evidence, Journal of Finance, 32, p. 337–347.

Wiese, Jörg (2007): Unternehmensbewertung und Abgeltungssteuer, Die Wirtschafts- prüfung, 60, p. 368–375.

World Federation of Exchanges (1999-2004): Annual Statistics on Turnover Velocity, http://www.world-exchanges.org/statistics/annual.

Zodrow, Georg R. (1993): Economic Analyses of Capital Gains Taxation: Realizations, Revenues, Effciency and Equity, Tax Law Review, 48, p. 419–527.

Bislang erschienene **arqus** Diskussionsbeiträge zur Quantitativen Steuerlehre

arqus Diskussionsbeitrag Nr. 1
Rainer Niemann / Corinna Treisch: Grenzüberschreitende Investitionen nach der Steuerreform 2005 – Stärkt die Gruppenbesteuerung den Holdingstandort Österreich?
März 2005

arqus Diskussionsbeitrag Nr. 2
Caren Sureth / Armin Voß: Investitionsbereitschaft und zeitliche Indifferenz bei Realinvestitionen unter Unsicherheit und Steuern
März 2005

arqus Diskussionsbeitrag Nr. 3
Caren Sureth / Ralf Maiterth: Wealth Tax as Alternative Minimum Tax ? The Impact of a Wealth Tax on Business Structure and Strategy
April 2005

arqus Diskussionsbeitrag Nr. 4
Rainer Niemann: Entscheidungswirkungen der Abschnittsbesteuerung in der internationalen Steuerplanung – Vermeidung der Doppelbesteuerung, Repatriierungspolitik, Tarifprogression –
Mai 2005

arqus Diskussionsbeitrag Nr. 5
Deborah Knirsch: Reform der steuerlichen Gewinnermittlung durch Übergang zur Einnahmen-Überschuss-Rechnung – Wer gewinnt, wer verliert? –
August 2005

arqus Diskussionsbeitrag Nr. 6
Caren Sureth / Dirk Langeleh: Capital Gains Taxation under Different Tax Regimes
September 2005

arqus Diskussionsbeitrag Nr. 7
Ralf Maiterth: Familienpolitik und deutsches Einkommensteuerrecht – Empirische Ergebnisse und familienpolitische Schlussfolgerungen –
September 2005

arqus Diskussionsbeitrag Nr. 8
Deborah Knirsch: Lohnt sich eine detaillierte Steuerplanung für Unternehmen? – Zur Ressourcenallokation bei der Investitionsplanung –
September 2005

arqus Diskussionsbeitrag Nr. 9
Michael Thaut: Die Umstellung der Anlage der Heubeck-Richttafeln von Perioden- auf Generationentafeln – Wirkungen auf den Steuervorteil, auf Prognoserechnungen und auf die Kosten des Arbeitgebers einer Pensionszusage
September 2005

arqus Diskussionsbeitrag Nr. 10
Ralf Maiterth / Heiko Müller: Beurteilung der Verteilungswirkungen der "rot-grünen" Einkommensteuerpolitik – Eine Frage des Maßstabs –
Oktober 2005

arqus Diskussionsbeitrag Nr. 11
Deborah Knirsch / Rainer Niemann: Die Abschaffung der österreichischen Gewerbesteuer als Vorbild für eine Reform der kommunalen Steuern in Deutschland?
November 2005

arqus Diskussionsbeitrag Nr. 12
Heiko Müller: Eine ökonomische Analyse der Besteuerung von Beteiligungen nach dem Kirchhof'schen EStGB
Dezember 2005

arqus Diskussionsbeitrag Nr. 13
Dirk Kiesewetter: Gewinnausweispolitik internationaler Konzerne bei Besteuerung nach dem Trennungs- und nach dem Einheitsprinzip
Dezember 2005

arqus Diskussionsbeitrag Nr. 14
Kay Blaufus / Sebastian Eichfelder: Steuerliche Optimierung der betrieblichen Altersvorsorge: Zuwendungsstrategien für pauschaldotierte Unterstützungskassen
Januar 2006

arqus Diskussionsbeitrag Nr. 15
Ralf Maiterth / Caren Sureth: Unternehmensfinanzierung, Unternehmensrechtsform und Besteuerung
Januar 2006

arqus Diskussionsbeitrag Nr. 16
André Bauer / Deborah Knirsch / Sebastian Schanz: Besteuerung von Kapitaleinkünften – Zur relativen Vorteilhaftigkeit der Standorte Österreich, Deutschland und Schweiz –
März 2006

arqus Diskussionsbeitrag Nr. 17
Heiko Müller: Ausmaß der steuerlichen Verlustverrechnung - Eine empirische Analyse der Aufkommens- und Verteilungswirkungen
März 2006

arqus Diskussionsbeitrag Nr. 18
Caren Sureth / Alexander Halberstadt: Steuerliche und finanzwirtschaftliche Aspekte bei der Gestaltung von Genussrechten und stillen Beteiligungen als Mitarbeiterkapitalbeteiligungen
Juni 2006

arqus Diskussionsbeitrag Nr. 19
André Bauer / Deborah Knirsch / Sebastian Schanz: Zur Vorteilhaftigkeit der schweizerischen Besteuerung nach dem Aufwand bei Wegzug aus Deutschland
August 2006

arqus Diskussionsbeitrag Nr. 20
Sebastian Schanz: Interpolationsverfahren am Beispiel der Interpolation der deutschen Einkommensteuertariffunktion 2006
September 2006

arqus Diskussionsbeitrag Nr. 21
Rainer Niemann: The Impact of Tax Uncertainty on Irreversible Investment
Oktober 2006

arqus Diskussionsbeitrag Nr. 22
Jochen Hundsdoerfer / Lutz Kruschwitz / Daniela Lorenz: Investitionsbewertung bei steuerlicher Optimierung der Unterlassensalternative und der Finanzierung
Januar 2007, überarbeitet November 2007

arqus Diskussionsbeitrag Nr. 23
Sebastian Schanz: Optimale Repatriierungspolitik. Auswirkungen von Tarifänderungen auf Repatriierungsentscheidungen bei Direktinvestitionen in Deutschland und Österreich
Januar 2007

arqus Diskussionsbeitrag Nr. 24
Heiko Müller / Caren Sureth: Group Simulation and Income Tax Statistics - How Big is the Error?
Januar 2007

arqus Diskussionsbeitrag Nr. 25
Jens Müller: Die Fehlbewertung durch das Stuttgarter Verfahren – eine Sensitivitätsanalyse der Werttreiber von Steuer- und Marktwerten
Februar 2007

arqus Diskussionsbeitrag Nr. 26
Thomas Gries / Ulrich Prior / Caren Sureth: Taxation of Risky Investment and Paradoxical Investor Behavior
April 2007, überarbeitet Dezember 2007

arqus Diskussionsbeitrag Nr. 27
Jan Thomas Martini / Rainer Niemann / Dirk Simons: Transfer pricing or formula apportionment? Taxinduced distortions of multinationals' investment and production decisions
April 2007

arqus Diskussionsbeitrag Nr. 28
Rainer Niemann: Risikoübernahme, Arbeitsanreiz und differenzierende Besteuerung
April 2007

arqus Diskussionsbeitrag Nr. 29
Maik Dietrich: Investitionsentscheidungen unter Berücksichtigung der Finanzierungsbeziehungen bei Besteuerung einer multinationalen Unternehmung nach dem Einheitsprinzip
Mai 2007

arqus Diskussionsbeitrag Nr. 30
Wiebke Broekelschen / Ralf Maiterth: Zur Forderung einer am Verkehrswert orientierten Grundstücksbewertung –Eine empirische Analyse
Mai 2007

arqus Diskussionsbeitrag Nr. 31
Martin Weiss: How Well Does a Cash-Flow Tax on Wages Approximate an Economic Income Tax on Labor Income?
Juli 2007

arqus Diskussionsbeitrag Nr. 32
Sebastian Schanz: Repatriierungspolitik unter Unsicherheit. Lohnt sich die Optimierung?
Oktober 2007

arqus Diskussionsbeitrag Nr. 33
Dominik Rumpf / Dirk Kiesewetter / Maik Dietrich: Investitionsentscheidungen und die Begünstigung nicht entnommener Gewinne nach § 34a EStG
November 2007, überarbeitet März 2008

arqus Diskussionsbeitrag Nr. 34
Deborah Knirsch / Rainer Niemann: Allowance for Shareholder Equity – Implementing a Neutral Corporate Income Tax in the European Union
Dezember 2007

arqus Diskussionsbeitrag Nr. 35
Ralf Maiterth/ Heiko Müller / Wiebke Broekelschen: Anmerkungen zum typisierten Ertragsteuersatz des IDW in der objektivierten Unternehmensbewertung
Dezember 2007

arqus Diskussionsbeitrag Nr. 36
Timm Bönke / Sebastian Eichfelder: Horizontale Gleichheit im Abgaben-Transfersystem: Eine Analyse äquivalenter Einkommen von Arbeitnehmern in Deutschland
Januar 2008

arqus Diskussionsbeitrag Nr. 37
Deborah Knirsch / Sebastian Schanz: Steuerreformen durch Tarif- oder Zeiteffekte? Eine Analyse am Beispiel der Thesaurierungsbegünstigung für Personengesellschaften
Januar 2008

arqus Diskussionsbeitrag Nr. 38
Frank Hechtner / Jochen Hundsdoerfer: Die missverständliche Änderung der Gewerbesteueranrechnung nach § 35 EStG durch das Jahressteuergesetz 2008 – Auswirkungen für die Steuerpflichtigen und für das Steueraufkommen
Februar 2008

arqus Diskussionsbeitrag Nr. 39
Alexandra Maßbaum / Caren Sureth: The Impact of Thin Capitalization Rules on Shareholder Financing
Februar 2008

arqus Diskussionsbeitrag Nr. 40
Rainer Niemann / Christoph Kastner: Wie streitanfällig ist das österreichische Steuerrecht? Eine empirische Untersuchung der Urteile des österreichischen Verwaltungsgerichtshofs nach Bemessungsgrundlagen-, Zeit- und Tarifeffekten
Februar 2008

arqus Diskussionsbeitrag Nr. 41
Robert Kainz / Deborah Knirsch / Sebastian Schanz: Schafft die deutsche oder österreichische Begünstigung für thesaurierte Gewinne höhere Investitionsanreize?
März 2008

arqus Diskussionsbeitrag Nr. 42
Henriette Houben / Ralf Maiterth: Zur Diskussion der Thesaurierungsbegünstigung nach § 34a EStG
März 2008

arqus Diskussionsbeitrag Nr. 43
Maik Dietrich / Kristin Schönemann: Steueroptimierte Vermögensbildung mit Riester-Rente und Zwischenentnahmemodell unter Berücksichtigung der Steuerreform 2008/2009
März 2008

arqus Diskussionsbeitrag Nr. 44
Nadja Dwenger: Tax loss offset restrictions – Last resort for the treasury? An empirical evaluation of tax loss offset restrictions based on micro data.
Mai 2008

arqus Diskussionsbeitrag Nr. 45
Kristin Schönemann / Maik Dietrich: Eigenheimrentenmodell oder Zwischenentnahmemodell – Welche Rechtslage integriert die eigengenutzte Immobilie besser in die Altersvorsorge?
Juni 2008

arqus Diskussionsbeitrag Nr. 46
Christoph Sommer: Theorie der Besteuerung nach Formula Apportionment – Untersuchung auftretender ökonomischer Effekte anhand eines Allgemeinen Gleichgewichtsmodells
Juli 2008

arqus Diskussionsbeitrag Nr. 47
André Bauer / Deborah Knirsch / Rainer Niemann / Sebastian Schanz: Auswirkungen der deutschen Unternehmensteuerreform 2008 und der österreichischen Gruppenbesteuerung auf den grenzüberschreitenden Unternehmenserwerb
Juli 2008

arqus Diskussionsbeitrag Nr. 48
Dominik Rumpf: Zinsbereinigung des Eigenkapitals im internationalen Steuerwettbewerb – Eine kostengünstige Alternative zu „Thin Capitalization Rules"?
August 2008

arqus Diskussionsbeitrag Nr. 49
Martin Jacob: Welche privaten Veräußerungsgewinne sollten besteuert werden?
August 2008

arqus Diskussionsbeitrag Nr. 50
Rebekka Kager/ Deborah Knirsch/ Rainer Niemann: Steuerliche Wertansätze als zusätzliche Information für unternehmerische Entscheidungen? – Eine Auswertung von IFRS-Abschlüssen der deutschen DAX-30- und der österreichischen ATX-Unternehmen – *August 2008*

arqus Diskussionsbeitrag Nr. 51
Rainer Niemann / Caren Sureth: Steuern und Risiko als substitutionale oder komplementäre Determinanten unternehmerischer Investitionspolitik? – Are taxes and risk substitutional or complementary determinants of entrepreneurial investment policy?
August 2008

arqus Diskussionsbeitrag Nr. 52
Frank Hechtner / Jochen Hundsdoerfer: Steuerbelastung privater Kapitaleinkünfte nach Einführung der Abgeltungsteuer unter besonderer Berücksichtigung der Günstigerprüfung: Unsystematische Grenzbelastungen und neue Gestaltungsmöglichkeiten
August 2008

arqus Diskussionsbeitrag Nr. 53
Tobias Pick / Deborah Knirsch / Rainer Niemann: Substitutions- oder Komplementenhypothese im Rahmen der Ausschüttungspolitik schweizerischer Kapitalgesellschaften – eine empirische Studie
August 2008

arqus Diskussionsbeitrag Nr. 54
Caren Sureth / Michaela Üffing: Proposals for a European Corporate Taxation and their Influence on Multinationals' Tax Planning
September 2008

arqus Diskussionsbeitrag Nr. 55
Claudia Dahle / Caren Sureth: Income-related minimum taxation concepts and their impact on corporate investment decisions
Oktober 2008

arqus Diskussionsbeitrag Nr. 56
Dennis Bischoff / Alexander Halberstadt / Caren Sureth: Internationalisierung, Unternehmensgröße und Konzernsteuerquote
Oktober 2008

arqus Diskussionsbeitrag Nr. 57
Nadja Dwenger / Viktor Steiner: Effective profit taxation and the elasticity of the corporate income tax base – Evidence from German corporate tax return data
November 2008

arqus Diskussionsbeitrag Nr. 58
Martin Jacob / Rainer Niemann / Martin Weiß: The Rich Demystified – A Reply to Bach, Corneo, and Steiner (2008)
November 2008

arqus Diskussionsbeitrag Nr. 59
Martin Fochmann / Dominik Rumpf: – Modellierung von Aktienanlagen bei laufenden Umschichtungen und einer Besteuerung von Veräußerungsgewinnen
Dezember 2008

arqus Diskussionsbeitrag Nr. 60
Corinna Treisch / Silvia Jordan: Eine Frage der Perspektive? – Die Wahrnehmung von Steuern bei Anlageentscheidungen zur privaten Altersvorsorge
Dezember 2008

arqus Diskussionsbeitrag Nr. 61
Nadja Dwenger / Viktor Steiner: Financial leverage and corporate taxation Evidence from German corporate tax return data
Februar 2009

arqus Diskussionsbeitrag Nr. 62
Ute Beckmann / Sebastian Schanz: Investitions- und Finanzierungsentscheidungen in Personenunternehmen nach der Unternehmensteuerreform 2008
Februar 2009

arqus Diskussionsbeitrag Nr. 63
Sebastian Schanz/ Deborah Schanz: Die erbschaftsteuerliche Behandlung wiederkehrender Nutzungen und Leistungen – Zur Vorteilhaftigkeit des § 23 ErbStG
März 2009

arqus Diskussionsbeitrag Nr. 64
Maik Dietrich: Wie beeinflussen Steuern und Kosten die Entscheidungen zwischen direkter Aktienanlage und Aktienfondsinvestment?
März 2009

arqus Diskussionsbeitrag Nr. 65
Maik Dietrich / Kristin Schönemann: Unternehmensnachfolgeplanung innerhalb der Familie: Schenkung oder Kauf eines Einzelunternehmens nach der Erbschaftsteuerreform?
März 2009

arqus Diskussionsbeitrag Nr. 66
Claudia Dahle / Michaela Bäumer: Cross-Border Group-Taxation and Loss-Offset in the EU - An Analysis for CCCTB (Common Consolidated Corporate Tax Base) and ETAS (European Tax Allocation System) -
April 2009

arqus Diskussionsbeitrag Nr. 67
Kay Blaufus / Jochen Hundsdoerfer / Renate Ortlieb: Non scholae, sed fisco discimus? Ein Experiment zum Einfluss der Steuervereinfachung auf die Nachfrage nach Steuerberatung
Mai 2009

arqus Diskussionsbeitrag Nr. 68
Hans Dirrigl: Unternehmensbewertung für Zwecke der Steuerbemessung im Spannungsfeld von Individualisierung und Kapitalmarkttheorie – Ein aktuelles Problem vor dem Hintergrund der Erbschaftsteuerreform
Mai 2009

arqus Diskussionsbeitrag Nr. 69
Henriette Houben / Ralf Maiterth: Zurück zum Zehnten: Modelle für die nächste Erbschaftsteuerreform
Mai 2009

arqus Diskussionsbeitrag Nr. 70
Christoph Kaserer / Leonhard Knoll: Objektivierte Unternehmensbewertung und Anteilseignersteuern
Mai 2009

arqus Diskussionsbeitrag Nr. 71
Dirk Kiesewetter / Dominik Rumpf: Was kostet eine finanzierungsneutrale Besteuerung von Kapitalgesellschaften?
Mai 2009

arqus Diskussionsbeitrag Nr. 72
Rolf König: Eine mikroökonomische Analyse der Effizienzwirkungen der Pendlerpauschale
Mai 2009

arqus Diskussionsbeitrag Nr. 73
Lutz Kruschwitz / Andreas Löffler: Do Taxes Matter in the CAPM?
Mai 2009

arqus Diskussionsbeitrag Nr. 74
Hans-Ulrich Küpper: Hochschulen im Umbruch
Mai 2009

arqus Diskussionsbeitrag Nr. 75
Branka Lončarević / Rainer Niemann / Peter Schmidt: Die kroatische Mehrwertsteuer – ursprüngliche Intention, legislative und administrative Fehlentwicklungen
Mai 2009

arqus Diskussionsbeitrag Nr. 76
Heiko Müller / Sebastian Wiese: Ökonomische Wirkungen der Missbrauchsbesteuerung bei Anteilsveräußerung nach Sacheinlage in eine Kapitalgesellschaft
Mai 2009

arqus Diskussionsbeitrag Nr. 77
Rainer Niemann / Caren Sureth: Investment effects of capital gains taxation under simultaneous investment and abandonment flexibility
Mai 2009

arqus Diskussionsbeitrag Nr. 78
Deborah Schanz / Sebastian Schanz: Zur Unmaßgeblichkeit der Maßgeblichkeit – Divergieren oder konvergieren Handels- und Steuerbilanz?
Mai 2009

arqus Diskussionsbeitrag Nr. 79
Jochen Sigloch: Ertragsteuerparadoxa – Ursachen und Erklärungsansätze
Mai 2009

arqus Diskussionsbeitrag Nr. 80
Hannes Streim / Marcus Bieker: Verschärfte Anforderungen für eine Aktivierung von Kaufpreisdifferenzen – Vorschlag zur Weiterentwicklung der Rechnungslegung vor dem Hintergrund jüngerer Erkenntnisse der normativen und empirischen Accounting-Forschung
Mai 2009

arqus Diskussionsbeitrag Nr. 81
Ekkehard Wenger: Muss der Finanzsektor stärker reguliert werden?
Mai 2009

arqus Diskussionsbeitrag Nr. 82
Magdalene Gruber / Nicole Höhenberger / Silke Höserle / Rainer Niemann: Familienbesteuerung in Österreich und Deutschland – Eine vergleichende Analyse unter Berücksichtigung aktueller Steuerreformen
Juni 2009

arqus Diskussionsbeitrag Nr. 83
Andreas Pasedag: Paradoxe Wirkungen der Zinsschranke
Juli 2009

arqus Diskussionsbeitrag Nr. 84
Sebastian Eichfelder: Bürokratiekosten der Besteuerung: Eine Auswertung der empirischen Literatur
Juli 2009

arqus Diskussionsbeitrag Nr. 85
Wiebke Broekelschen / Ralf Maiterth: Gleichmäßige Bewertung von Mietwohngrundstücken durch das neue steuerliche Ertragswertverfahren? Eine empirische Analyse
September 2009

arqus Diskussionsbeitrag Nr. 86
Ute Beckmann / Sebastian Schanz: Optimale Komplexität von Entscheidungsmodellen unter Berücksichtigung der Besteuerung – Eine Analyse im Fall der Betriebsveräußerung
September 2009

arqus Diskussionsbeitrag Nr. 87
Wiebke Breokelschen/ Ralf Maiterth: Verfassungskonforme Bewertung von Ein- und Zweifamilienhäusern nach der Erbschaftsteuerreform 2009?– Eine empirische Analyse
September 2009

arqus Diskussionsbeitrag Nr. 88
Martin Weiss: How Do Germans React to the Commuting Allowance?
October 2009

arqus Diskussionsbeitrag Nr. 89
Tobias Pick / Deborah Schanz / Rainer Niemann: Stock Price Reactions to Share Repurchase Announcements in Germany – Evidence from a Tax Perspective
October 2009

arqus Diskussionsbeitrag Nr. 90
Wiekbe Broeckelschen: Welche Faktoren beeinflussen die Gleichmäßigkeit der Bewertung von Mietwohngrundstücken?
November 2009

arqus Diskussionsbeitrag Nr. 91
Caren Sureth / Pia Vollert: Verschärfung der Verlustabzugsbeschränkung durch § 8c KStG und deren Einfluss auf den Erwerb von Anteilen an Kapitalgesellschaften
November 2009

arqus Diskussionsbeitrag Nr. 92
Martin Fochmann / Dirk Kiesewetter / Abdolkarim Sadrieh: The Perception of Income Taxation on Risky Investments – an experimental analysis of different methods of loss Compensation –
November 2009

arqus Diskussionsbeitrag Nr. 93
Nadja Dwenger: Corporate taxation and investment: Explaining investment dynamics with form-level panel data
Dezember 2009

arqus Diskussionsbeitrag Nr. 94
Kristin Schönemann: Finanzierungsstrategien und ihre Auswirkungen auf den Unternehmenswert deutscher Immobilien-Kapitalgesellschaften
Dezember 2009

arqus Diskussionsbeitrag Nr. 95
Henriette Houben / Ralf Maiterth: Inheritance tax-exempt transfer of German businesses: Imperative or unjustified subsidy? – An empirical analysis
Dezember 2009

arqus Diskussionsbeitrag Nr. 96
Markus Diller / Andreas Löffler: Erbschaftsteuer und Unternehmensbewertung
Februar 2010

arqus Diskussionsbeitrag Nr. 97
Georg Schneider / Caren Sureth: The Impact of Profit Taxation on Capitalized Investment with Options to Delay and Divest
Februar 2010

arqus Diskussionsbeitrag Nr. 98
Andreas Löffler / Lutz Kruschwitz: Ist Steuerminimierung irrational?
Februar 2010

arqus Diskussionsbeitrag Nr. 99
Martin Fochmann / Dirk Kiesewetter / Kay Blaufus / Jochen Hundsdoerfer / Joachim Weimann: Tax Perception – an empirical survey
März 2010

arqus Diskussionsbeitrag Nr. 100
Tasja Klotzkowski / Alexandra Maßbaum / Caren Sureth: Zinsabzugsbeschränkung durch die Zinsschranke, Fremdkapitalsteuerschild und unternehmerische Kapitalstrukturentscheidungen
April 2010

arqus Diskussionsbeitrag Nr. 101
Frank Hechtner / Jochen Hundsdoerfer / Christian Sielaff: Zur Bedeutung von Progressionseffekten für die Steuerplanung – Eine Analyse am Beispiel der Thesaurierungsbegünstigung
April 2010

arqus Diskussionsbeitrag Nr. 102
Henriette Houben / Ralf Maiterth: ErbSiHM 0.1
April 2010

arqus Diskussionsbeitrag Nr. 103
Ralf Ewert / Rainer Niemann: Haftungsbeschränkungen, asymmetrische Besteuerung und die Bereitschaft zur Risikoübernahme – Weshalb eine rechtsformneutrale Besteuerung allokativ schädlich ist
Mai 2010

arqus Diskussionsbeitrag Nr. 104
Frank Hechtner: Zur Bedeutung von Grenzsteuersätzen bei der Beurteilung von Tarifverwerfungen – Eine theoretische und empirische Analyse am Beispiel von § 32b EStG und § 34 EStG
Mai 2010

arqus Diskussionsbeitrag Nr. 105
Henriette Houben / Ralf Maiterth / Heiko Müller: Aufkommens- und Verteilungsfolgen des Ersatzes des deutschen einkommensteuerlichen Formeltarifs durch einen Stufentarif
Juni 2010

arqus Diskussionsbeitrag Nr. 106
Kay Blaufus / Jonathan Bob / Jochen Hundsdoefer / Dirk Kiesewetter / Joachim Weimann: It's All About Tax Rates – An Empirical Study of Tax Perception
November 2009

arqus Diskussionsbeitrag Nr. 107
Lutz Kruschwitz/ Andreas Löffler / Waldemar von Lehna: Was tun?
Juli 2010

arqus Diskussionsbeitrag Nr. 108
Jens Müller/ Caren Sureth: Empirische Analyse der Unternehmensbewertung für die Erbschaftsteuer mit dem vereinfachten Ertragswertverfahren
Juli 2010

arqus Diskussionsbeitrag Nr. 109
Magdalena Haring/ Rainer Niemann: Corporate Financial Policy and Investor Taxation in Austria – an Empirical Investigation –
Oktober 2010

Impressum:
Arbeitskreis Quantitative Steuerlehre, arqus, e.V.
Vorstand: Prof. Dr. Jochen Hundsdoerfer,
Prof. Dr. Dirk Kiesewetter, Prof. Dr. Ralf Maiterth
Sitz des Vereins: Berlin

Herausgeber: Kay Blaufus, Jochen Hundsdoerfer, Dirk Kiesewetter, Rolf J. König, Lutz Kruschwitz, Andreas Löffler, Ralf Maiterth, Heiko Müller, Rainer Niemann, Deborah Schanz, Caren Sureth, Corinna Treisch

Kontaktadresse:
Prof. Dr. Caren Sureth, Universität Paderborn, Fakultät für Wirtschaftswissenschaften,
Warburger Str. 100, 33098 Paderborn,
www.arqus.info, Email: info@arqus.info

ISSN 1861-8944