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## Wealth tax as alternative minimum tax? The impact of a wealth tax on business structure and strategy

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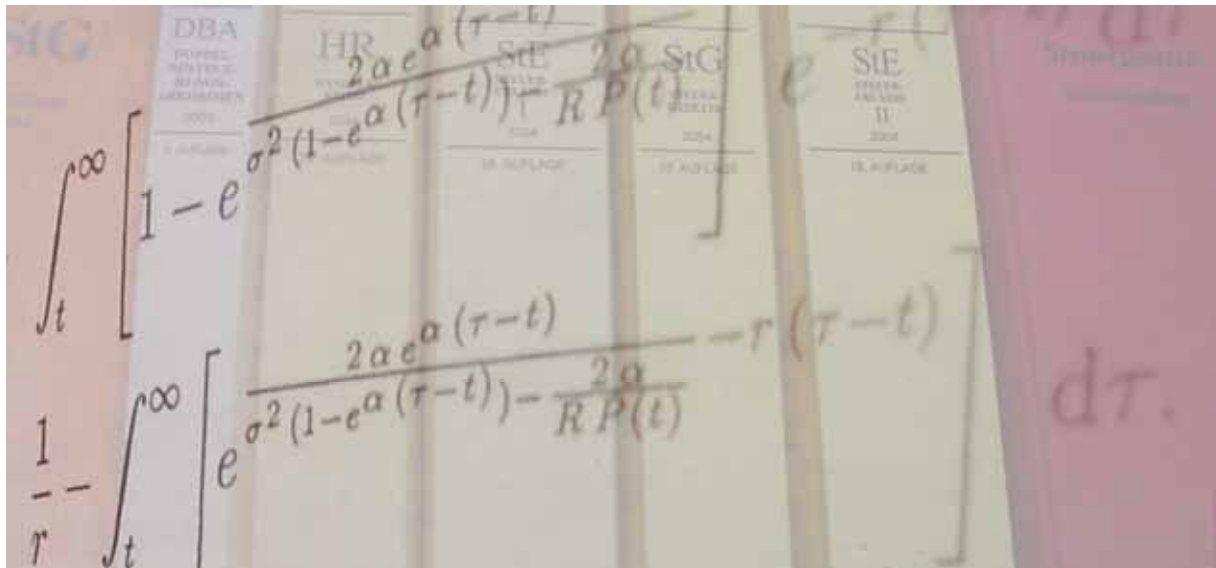
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– The Impact of a Wealth Tax on Business Structure and Strategy –

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# Wealth Tax as Alternative Minimum Tax ?

## – The Impact of a Wealth Tax on Business Structure and Strategy –

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*April 2005*

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# Wealth Tax as Alternative Minimum Tax ?

## – The Impact of a Wealth Tax on Business Structure and Strategy –

### Abstract

An alternative minimum tax (AMT) is often regarded as desirable. We analyze a wealth tax at corporate and personal level that is designed as an AMT as proposed by the German Green Party. This wealth tax is imputable to profit taxes and is hence intended to prevent multiple (multistage) taxation. Referring to data from annual reports and the German Central Bank we model enterprises of different structure, industry, size and legal status. We show that companies in the service sector which generally maintain rather high gearing rates are more frequently subjected to the wealth tax than capital intensive industries. This result runs counter to well-known effects of a common wealth tax. Capital intensive firms, e.g. in the metal industry, are levied with definitive wealth tax only if they have large loss carry-forwards or extremely volatile profits. Furthermore, partnerships often enjoy wealth tax privileges due to uniform taxation at individual level whereas corporations may suffer from the wealth tax at corporate and personal level caused by imputation backlogs. Obviously, the underlying AMT influences corporate dividend policy evoking a push-out effect. We prove that this kind of wealth taxation usually favors financial rather than real investment and encourages outbound investment. Consequently, introducing an AMT discriminates against many firms and investment projects, especially if economic income is lower than taxable income. This proves that whenever income is taxed correctly, AMT is dispensable.

**Keywords:** alternative minimum tax, business strategy, investment decisions, wealth tax  
**JEL classification:** H25, H21

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# 1 Introduction

Taxation of wealth or property has been a topic in tax reform discussions for years.<sup>1</sup> Although a classic tax on wealth as an additional tax on net wealth has been abolished in several countries, non-profit oriented taxation is still a subject of recent political debates, recent tax reforms and public economic research activities. Due to budget deficits and for distributive reasons, levying an additional tax burden on wealthy individuals or corporations corresponds to the widespread desire for a 'soak the rich' policy with a redistributive character.

Recent German wealth tax debates have led to a concept of minimum taxation that was proposed by Germany's Green Party. This wealth tax is imputable to profit taxes and is hence intended to prevent multiple (multistage) taxation. In consequence, this wealth tax has to be interpreted as a tax on calculated profits, i.e. as a tax on income rather than on wealth, similar to well-known minimum tax concepts.<sup>2</sup>

We take this minimum wealth tax as an example of AMT and analyze it at corporate and personal level, according to the German Green Party's proposal. Referring to data from annual reports and the German Central Bank we model enterprises of different structure, industry, size and legal status. Furthermore, we investigate the influence of this wealth tax on marginal investment decisions.

The remainder of this paper is structured as follows: After an overview of international practices of wealth taxation (chapter 2) we describe in chapter 3 different concepts of minimum taxation (3.1) and introduce an AMT wealth tax that is imputable to corporate and income taxes (3.2). Chapter 4 is dedicated to the influence of this wealth tax on business structures and investment decisions. In the subsections that follow we determine the different tax burdens on companies in various industries (chapter 4.1). Further, in chapter 4.2 we investigate the influence of minimum wealth tax on marginal investment decisions and draw some conclusions about international investment decisions in chapter 4.3. Chapter 5 contains final conclusions and a summary.

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<sup>1</sup> E.g., cf. Mieszkowski (1972); Netzer (1973); McLure (1977); Wildasin (1982); Arnott (1998); Wijnbergen/Estache (1999); Dye/McGuire/Merriman (2001); Vlassenko (2001); Arnott/Petrova (2002).

<sup>2</sup> E.g., cf. the taxation of so-called box 3 income in the Netherlands. For further details see chapter 3.

## 2 Wealth Taxation in OECD Countries

OECD statistics on wealth taxation clarify that the degree of wealth-based taxation varies significantly between the member countries (figure 1).

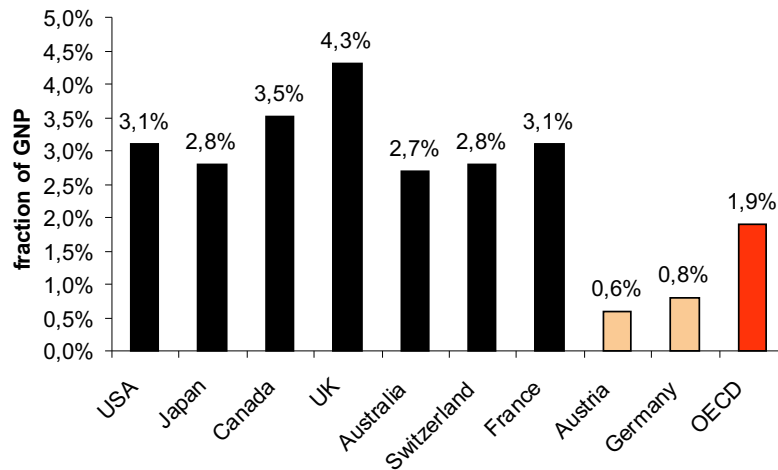


Figure 1: Revenues from asset taxation in % of GNP in selected OECD member countries

E.g, Austria and Germany's GNP fraction of non-profit oriented tax revenue is relatively low. These figures serve as an important argument in favor of introducing a wealth tax although its negative influence e.g. on businesses with temporary losses or severe liquidity restrictions is well-known. In fact, only few OECD member countries have implemented a classic individual wealth tax. In Europe these are Finland, France, Iceland, Luxembourg, Norway, Spain, Sweden and Switzerland. Among these only Iceland, Luxembourg and Switzerland levy an additional wealth tax at corporate level.

## 3 Alternative Minimum Wealth Tax

### 3.1 Concepts of AMT in Various Countries

Generally, an alternative minimum tax (AMT) is considered desirable because it is intended to ensure that taxpayers with substantial economic income cannot avoid taxation at all but at least pay a 'minimum tax'. Against this background AMT concepts have been implemented in many countries.



E.g., in the US AMT was first enacted in 1969 and structured as a tax that is added on to a corporation's regular tax liability. The 1986 Tax Reform Act replaced this add-on minimum tax with the present law on AMT.<sup>3</sup> This AMT is intended to ensure that no corporation with substantial economic income can avoid significant tax payments by using exclusions, deductions and credits.<sup>4</sup> This provision ensures that special deductions do not lead to non-taxation of corporate gains. As the tax law gives preferential treatment to some kinds of income and allows special deductions and credits for some kinds of expenses, taxpayers who benefit from these statutory provisions may have to pay an additional tax called the AMT. It is a separate tax computation that, in effect, eliminates many deductions and credits and creates a tax liability for an individual who would otherwise pay little or no tax. The corporate AMT income is taxed at flat rate of 20%.<sup>5</sup> As the taxpayer may not be able to pay this tax from his current income but instead has to fall back on his wealth, AMT burdens assets similar to a wealth tax. This is highlighted by the analysis of Lyon (1997) who found out that, e.g., in 1993 more than 50% of the assets in the manufacturing, transportation and public utility industries were subject to AMT.<sup>6</sup>

Further, the Netherlands introduced a different type of minimum taxation. Income tax was merged with what was formerly the wealth tax and a new income tax system established that distinguishes between three categories of income. One of these categories is taxable income from savings and investments (so-called box 3 income). Here, the tax levied on income from savings and investments (such as dividends, capital gains, losses) is based on the assumption that a taxable yield of 4% is made on the assets, irrespective of the actual yield. This calculated income is taxed at a flat rate of 30%.<sup>7</sup>

In Germany the introduction of loss offset limitations into profit taxation put AMT characteristics into legislation. It causes asymmetric taxation of gains and losses, enforces the payment of taxes without positive economic income and thereby reduces an investor's wealth under specific conditions.<sup>8</sup> Additionally an imputable minimum wealth tax has been proposed. Against this background, the effects of a minimum wealth tax are the subject of the following investigation.

Summarizing at this point, minimum taxation in the Netherlands guarantees the precise taxation of an expected 4% yield. Conversely, the U.S. AMT and Germany's loss offset limitations ensure rather imprecise minimum taxation.

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<sup>3</sup> E.g., cf. Auerbach (1986); Bernheim (1989); Lyon (1990); Lyon (1997); Wijnbergen/Estache (1999); Burman/Gale/Rohaly (2002, 2003); Feenberg/Poterba (2003).

<sup>4</sup> Cf. Joint Committee on Taxation (2002), p 7.

<sup>5</sup> Cf. Internal Revenue Service (2004).

<sup>6</sup> Cf. Lyon (1997), p. 115.

<sup>7</sup> Ministry of Finance of The Netherlands (2004).

<sup>8</sup> For a discussion on loss offset limitation and asymmetric taxation cf. Auerbach (1986); Majd/Myers (1986); Auerbach/Poterba (1987); Shevlin (1990); Eeckhoudt/Gollier (1997); Niemann (2004).

Without describing the above mentioned examples from the Netherlands, the USA and Germany in more detail we can see from this already that minimum taxation on the basis of corporate or personal income (calculated or realized) is often similar to wealth taxation. Moreover, wealth taxation can be interpreted as a tax on fictive or calculated profits. We can conclude that taxation of wealth can be interpreted as taxation of specific income calculated on basis of an assumed yield of the underlying assets and vice versa.

### 3.2 AMT as Imputable Wealth Tax

Introducing an imputable wealth tax hence aims to eliminate imbalances in business and capital income taxation. In consequence, the concept of AMT wealth tax merely aims to supplement or improve existing profit and income taxation.

In this tax system a wealth tax is levied on private and operating wealth of individuals and corporate wealth of corporations. Wealth is determined by the market value of the assets or suitable proxies.<sup>9</sup> The wealth tax rate usually is 1%. As corporate wealth is taxed at corporate level and again as corporate shares at personal level avoiding double or multistage taxation a halved wealth tax rate of 0.5% is applied at each level. Corporate wealth tax is imputable to corporate tax while personal wealth tax is imputable to personal income tax. If the calculated wealth tax is lower than corresponding profit tax then wealth tax is completely imputable. If a definitive wealth tax remains, a five year wealth tax carry-forward allows future imputation on principle. Further, in order to protect small wealth from being taxed,<sup>10</sup> an annual tax allowance of € 200,000 for every adult taxpayer and of € 2,000,000 for business assets and shares irrespective of the legal status of the company is assumed.

A wealth tax that can be imputed to corporate and income tax only influences decisions if it becomes definitive, i.e., if a non-imputable amount remains. This occurs whenever profits are extremely volatile or the company yield is rather low. If an individual faces a marginal income tax rate of 42 %<sup>11</sup> a 1% wealth tax rate invokes a definitive tax burden as soon as the pre-tax rate of return of an investment is less than 2.38 %. In the case of an investment within a partnership the required minimum rate of return increases to at least 3.6% due to German trade tax. Assuming a wealth tax at corporate and personal level of 0.5%, corporations need a pre-tax rate of return of 2.39% to avoid definitive wealth tax. Further, the definitiveness of this minimum tax depends on dividend policy. If profits are retained in full, there is no income tax at personal level to be employed for imputation

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<sup>9</sup> As mentioned above, we neglect in our analysis problems of determining the correct value of non-listed firms, assets with a long useful life etc.

<sup>10</sup> For distributive reasons.

<sup>11</sup> Which is Germany's maximum marginal income tax rate.

of personal wealth tax on corporate stock. Furthermore, imputation backlogs may occur even for investments that exceed the required minimum rate of return for a specific time horizon, if periodical profits fluctuate heavily, or temporary losses occur.

Although all kinds of wealth taxes face severe problems e.g. in determining the value of non-listed firms and assets with a long useful life,<sup>12</sup> in the following we abstract from these aspects and focus on the economic implication of this tax beyond these difficulties.

## 4 Influence of Wealth Tax as AMT on Business Structures and Investment Decisions

### 4.1 Business Structure

#### 4.1.1 Different Types of Enterprises

We analyze the influence of the underlying wealth tax on selected types of company. We concentrate on:

1. small craft and trade partnerships, 5-10 employees
2. small craft and trade (non-listed) corporations, 5-10 employees
3. medium-sized companies from metal working industry, 30 employees, turnover less than € 2.5 million
4. capital intensive medium-sized corporations, in the metalworking industry, with managing shareholder, turnover between € 2.5 and 50 million, approx. 150 employees
5. large listed corporations (DAX 30 corporations), manufacturing industry
6. large listed corporations (DAX 30 corporations), financial services

By exemplifying representative types of business we can draw conclusions as to how the underlying wealth tax burdens companies of different size and structure.<sup>13</sup>

Information from balance sheets and profit and loss accounts for 2002 for company types 1 and 2 provided by the North-Rhine Westphalian Chamber of Crafts<sup>14</sup> provides data for the

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<sup>12</sup> Asset valuation is indispensable not only for wealth tax purposes but for minimum taxation as implemented in the Netherlands as well. Cf. Ministry of Finance of The Netherlands (2004), p. 21.

<sup>13</sup> We leave aside the controversial discussion about analyses of representative firms and regard this approach as a first (simple) step for investigating this type of AMT. E.g., cf. Stiglitz (1987); Shevlin (1990).

<sup>14</sup> Cf. table 1; see Landesgewerbeförderungsstelle des nordrhein-westfälischen Handwerks e.V. (LGH) (2003a, 2003b).

craft and trade companies. These data comprise comparisons of the average profits, liquidity and wealth of the underlying businesses collected by annual voluntary questionnaires. Data on the asset structure of medium-sized businesses (types 3 and 4) were taken from special publications of the German Federal Bank.<sup>15</sup> These statistics include aggregated data from balance sheets and profit and loss statements of German companies from 1971 to 1996 and 1998 to 2000.<sup>16</sup> Examples of large listed corporations were selected from the major companies that are listed in the German stock exchange index DAX 30. Information from annual reports allowed us to model two representative corporations.<sup>17</sup> Additional details from the notes in these reports, e.g. referring to exceptional items<sup>18</sup> were taken into account in order to deduce typical industry related tax bases. Although the provided information does not allow for perfect adjustment for tax purposes, this approach enables us to draw general conclusions on how different relations of income and wealth that are typical for an industry will influence the tax burden.

For typical type 1, 2 and 3 businesses we assume the following structure:<sup>19</sup>

Small businesses structure of the balance sheet and operating profit in €			
	type 1		type 3
	craft and trade bakery	craft and trade car mechanics	medium-sized
net wealth	- 24,000	12,500	105,000
liabilities	125,000	210,000	635,000
total property, plant and equipment	80,000	106,000	220,000
operating profit	28,000	40,500	43,000

Table 1: Structure of small craft and trade partnerships and medium-sized companies

Considering a tax allowance of € 2,000,000 no wealth tax is levied on these businesses. In all cases net wealth is lower than € 2,000,000, always generating a tax base of zero. Additionally, taking future profits into account and determining a combined tax base consisting of a weighted average of the present value of future profits and net asset value,<sup>20</sup>

<sup>15</sup> Cf. German Federal Bank (1999, 2003).

<sup>16</sup> 80% of this data is based on balance sheets and profit and loss statements that were prepared for the tax authorities.

<sup>17</sup> Cf. table 2.

<sup>18</sup> E.g., we adjusted for exceptional capital gains or exceptional accelerated depreciations.

<sup>19</sup> Note that the underlying data on net wealth only provides information on net equity according to the balance sheet. Information on the market values of the firm is not available. Therefore, the indicated net wealth only approximates real net wealth, i.e. the market value. Further, operating profit in the craft and trade sector includes calculatory employer's salaries.

<sup>20</sup> This valuation method is implemented in Germany's Inheritance Tax Code Directives and called the 'Stuttgarter approach'.

the limit of € 2,000,000 is again not exceeded. The legal status of the business (type 1 or type 2) does not influence this general result for the craft and trade companies. Consequently, in the following analyses we leave aside these types of business that are unaffected by wealth taxation.

Only for capital intensive medium-sized companies of type 4 or large corporations (types 5 and 6) asset and equity structures occur, inducing a positive wealth tax base and thereby possibly a wealth tax burden.

Table 2 provides an overview of the analyzed representative asset and profit structure of type 4, 5 and 6 corporations.<sup>21</sup>

Further, table 2 clarifies that in contrast to small businesses, typical large companies usually are subject to wealth tax. Since DAX 30 corporations vary widely in structure depending on the industry we analyze two categories: a representative corporation from the manufacturing industry and a representative corporation from the financial services industry. These (synthetic) companies were constructed on the basis of different DAX 30 corporations in the industries in question.

Large businesses structure of the balance sheet and profit in €m			
	type 4	type 5	type 6
	capital intensive corporation metalworking industry turnover € 47 million	DAX 30 corporation manufacturing industry	financial services
net wealth	6.41	23,715	36,959
capitalized market value	-	46,000	39,000
liabilities	17.47	53,890	883,011
total property, plant and equipment	3.26	34,116	356,877
total assets	24.00	77,605	935,951
profit according to balance sheet	1.09	2,445	1,616

Table 2: Structure of medium-sized capital intensive companies and DAX 30 corporations

#### 4.1.2 Model Framework

Employing methods of capital budgeting and simulations of tax assessments we determine the tax burden of the underlying companies. We assume a time horizon of 10 years. Per

<sup>21</sup> Note that capitalized market value is the average of the last quotation of every quarter of a year multiplied with the number of released shares. Cf. German Federal Bank (1999, 2003) and various DAX 30 corporations 1993-2003 annual reports.

assumption, during these periods profits are retained in full, thereby increases business wealth. On the basis of a starting point for the profit<sup>22</sup> periodical profits grow at the expected GNP growth rate every year. The assumption of continuous growth is relaxed in sensitivity analyses, e.g. by modelling volatile profits during the time horizon.

We abstract from the sale of shares during the time horizon for simplicity and to keep the observable effects transparent. Applying the specific assumed company parameters we deduce the tax bases for corporate, income and trade tax plus supplementary taxes and finally the wealth tax in each period. We simulate the wealth tax according to the description in chapter 3 and assume profit taxation in line with German tax law applicable in 2005. Interdependencies between the different taxes are completely taken into account.

In case of DAX 30 corporations we focus on corporate level taxation, i.e. corporate tax, supplementary tax, trade tax and corporate wealth tax. Although integrating personal taxes into calculus is possible in principle, we neglect this level as taxational effects at personal level depend on various subjective factors. We need information on whether the shareholder's income is subject to personal wealth tax, on the shareholder's relevant income tax bracket, etc. Since this information is not available arbitrary assumptions would be necessary indicating that general conclusion can not be drawn from such a model. In contrast to medium-sized corporations, additionally, DAX 30 shareholders often have earnings from other sources which may heavily influence their tax bracket and thereby their tax burden. Thus, representative conclusions at personal level for large corporations cannot be expected. Consequently, in this case we concentrate on corporate level taxes.

Conversely, for medium-sized companies that are usually formed by a small number of shareholders or partners, it is necessary to consider the matter at both company and personal level. In these cases partners' income is often covered mainly by company payouts.<sup>23</sup>

After adjusting the input data for tax purposes on the basis of information about tax payments and tax-free income from associated undertakings, e.g. from annual reports, and tax specific modifications,<sup>24</sup> the tax bases can be determined. The wealth tax base is represented by the average value of capitalized market value of quoted corporations or, for non-listed companies, calculated by the above mentioned weighted average valuation method.<sup>25</sup> Finally, by subtracting the tax allowance of € 2,000,000 we receive a corporate wealth tax base that is subject to a (halved) tax rate of 0.5%. As corporate wealth is taxed at corporate level and again as corporate shares at personal level, to avoid double or multistage taxation half of the usual wealth tax rate (1%) is levied on corporate level and

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<sup>22</sup> See parameters for the different types in tables 1 and 2.

<sup>23</sup> Payouts can be either dividend payments, management fees or related salaries.

<sup>24</sup> E.g. for trade tax purposes according to §§ 8 and 9 of German Trade Tax Act.

<sup>25</sup> Cf. chapter 4.1. This method is implemented in Germany's Inheritance Tax Code Directives and has been modified for § 46 Heritage Tax Valuation Act Provision of the Federal State Schleswig-Holstein.

half on personal level. If the calculated corporate wealth tax is lower than the corporate tax, then the wealth tax is completely imputable. If a definitive corporate wealth tax remains, a five year wealth tax carry-forward allows future imputation on principle.

Starting in 2005 we simulate gains and taxes until 2014 and determine the present value of payable taxes. On this basis we derive a ratio describing tax burden in present value terms and in relation to the present value of pre-tax profits. We assume a pre-tax discount factor of 4.25%.<sup>26</sup> Comparing this tax ratio with the one we receive by neglecting wealth tax, we can conclude how wealth tax influences a company or investor's tax exposure.

Enriching the analysis with personal level effects for medium-sized companies we assume

- businesses with two shareholders, each holding 50% of the company,
- an appropriate employer's salary that mainly covers personal maintenance,
- 10% of after-tax profits are paid out as dividends
- whereas 90% of after-tax profit increase business wealth and thereby the basis for future growth
- distributed profits are subject to income tax shareholder relief, i.e. only 50% of this income is subject to personal income tax,
- the deduced market value of the company's net assets is reduced by the wealth tax allowance of € 2,000,000 and further personal tax allowance,<sup>27</sup>
- personal wealth from corporate stock is subject to personal wealth tax at the (halved) rate of 0.5%.

We receive the total tax load in every period and in turn, finally, the change in present value terms due to wealth taxation.

### 4.1.3 Impact on Major Listed Corporations

In the following we analyze companies that are representative of large DAX 30 corporations.

We assume two model corporations characterized by the structure given in table 2 and subject to the tax burden described in table 3. Here, 'profits' denotes approximated taxable income, i.e. profits as shown in the balance sheet increased by taxes and further adjusted for tax-free amounts included in this value, e.g. tax-free corporate dividend income.

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<sup>26</sup> On this basis we deduce the post-tax yield for corporations investing alternatively into riskfree bonds with a 10 year maturity. E.g. 4.25% federal bond, security code 113525, issued July 7, 2004, maturity July 4, 2014. The pre-tax discount rate is reduced by relevant taxes applying the resulting post-tax discount factor for determining present value.

<sup>27</sup> Cf. chapter 3.

	DAX 30 corporations	
	manufacturing industry in €m or %	financial services in million €m or %
profits	1,900	1,900
capitalized market value	46,000	39,000
gearing rate in percent	69.44	94.34
pre-tax rate of return in percent	4.13	4.87
wealth tax	229.99	194.99
thereof definitive wealth tax	0	9.009
trade tax	496.26	1,156.08
corporate tax after imputation	120.95	0
supplementary corporate tax	19.30	10.23
tax ratio of profits before wealth tax	47.19	75.69
tax ratio of profits after wealth tax	47.19	77.79
increment in tax ratio due to wealth tax	0	2.10

Table 3: Estimated tax load of DAX 30 corporations

Figure 2 illustrates this structure graphically.



Figure 2: Tax load of listed corporations as fraction of net present value of profits

The relatively high gearing rate of financial services corporations causes an extremely high tax load. This is due to § 8 para. 1 of the German Trade Tax Act that requires the addition of 50% of deduced long term interest payments to the trade tax base.<sup>28</sup>

<sup>28</sup> Although there are specific exceptions for financial services, e.g., cf. § 19 German Trade Tax Executive Order, we consider 20% of the liabilities to be representative of an appropriate trade tax adjustment. Thus, we add 10% of paid long term interest payment to the trade tax base. In contrast, in the case of corporations from the manufacturing industry we assume a fraction of 60% long term liabilities among all liabilities as this industry does not enjoy the trade tax privileges that are granted to financial services firms.



This relatively high trade tax load reduces the corporate tax base of financial services corporations. Thereby, the imputation potential for wealth tax decreases simultaneously. Finally, imputation backlogs emerge, i.e. wealth tax becomes at least partially definitive leading to a higher tax burden of profits than in the case of comparable manufacturing corporations.

A general postulate for tax systems is the claim for financial neutrality. It requires that investments or companies are taxed independently of the character of the capital employed. Varying the gearing rate *ceteris paribus* for type 5 and 6 DAX 30 corporations allows us to draw conclusions about the sensitivity of the tax ratio towards the degree of utilized borrowed capital. In most cases we find a neutral influence of wealth tax on the means of finance. The result is highlighted for different gearing rates in table 4.

DAX 30 corporations						
gearing rate	manufacturing industry			financial services		
	total tax ratio on profit	profit + interest payments	thereof wealth tax	total tax ratio on profit	profit + interest payments	thereof wealth tax
40%	43.30	29.91	0.00	42.07	25.65	0.00
50%	44.29	27.13	0.00	42.63	21.78	0.00
60%	45.57	24.34	0.00	43.47	17.88	0.00
70%	47.31	21.23	0.00	44.86	13.97	0.00
80%	49.78	18.71	0.00	47.59	10.03	0.00
90%	53.60	15.87	0.00	55.39	6.07	0.00
95%	56.42	14.45	0.00	70.02	4.11	0.57
96%	57.09	14.16	0.00	77.96	3.78	2.14

Table 4: Estimated tax load of DAX 30 corporations depending on gearing rate in %

Focussing on the profit tax load we identify two effects of borrowed capital on the wealth tax load:

1. A high gearing rate implies high tax deductible interest payments and in turn a relatively lower corporate tax base.
2. In addition to a direct reduction in the corporate tax base caused by debit interest payments simultaneously trade tax increases from in fact only 50% deductibility of long-term interest payment for trade tax purposes.<sup>29</sup> As trade tax is corporate tax deductible, the corporate tax base declines even more.

Consequently, wealth tax is often only partially imputable inducing imputation backlogs. In summary, wealth tax is not neutral with respect to ways of finance since the trade tax

<sup>29</sup> 50% of debit interests have to be added to the tax base again.

adjustment of debit interest payments and interest deduction for corporate tax purposes may cause a vigorous erosion of the corporate tax base.

Furthermore, we refer to the 'tax burden of profits plus interest payments', i.e. of the total value added of employed capital, to interpret the impact of a wealth tax depending on the capital structure. Again, we observe the well-known discrimination of corporations in debt mainly due to trade tax effects. Definitive wealth tax diminishes the relative tax advantages of borrowed capital. Highly levered corporations' main tax burden results from trade tax which unfortunately, does not serve as imputation potential. Thereby, a definitive wealth tax is more likely to occur for industries with a typically high gearing rate.

Another important factor that influences the relative tax burden in different industries is the underlying pre-tax rate of return. Varying this rate clarifies that higher yields imply high imputation volumes and thereby neutralize wealth tax burden. The drawback of high gearing rates described above loses significance as the yield and the corporate tax increase, as does the amount of imputable tax (see figure 3).

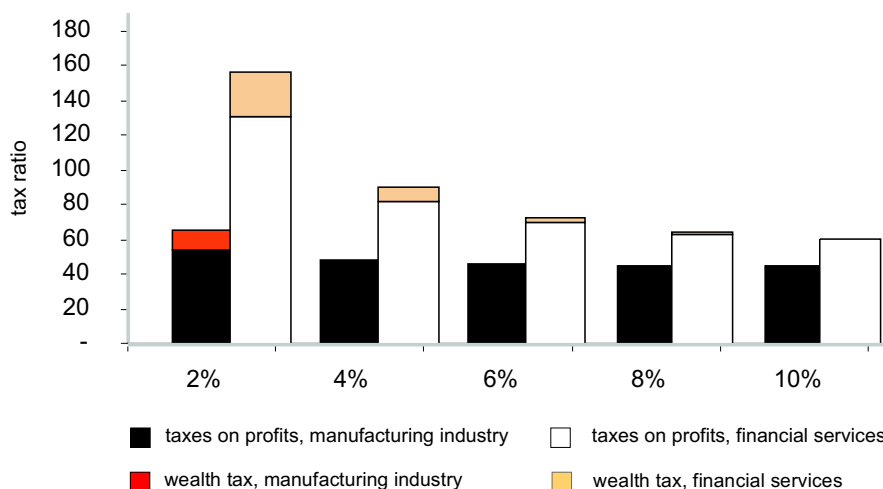


Figure 3: Tax load of listed corporations as fraction of net present value of profits for various pre-tax rates of return

If we assume no uniform development or growth of profits but instead volatile rates of return, sensitivity analyses allow us to draw general conclusions. The wealth tax load depends strongly on whether and to what extent imputation backlogs arise in future periods. In best case scenarios there is only a time lag in imputation implying a rate of interest effect. In worst case scenarios, the wealth tax remains nonimputable and becomes definitive at the end of the time horizon. Furthermore, the imputation potential and in turn the tax ratio depends on whether the stock price (market value) anticipates changes in profits

immediately or rather time lagged. This is important in the case of listed corporations since the stock market value of the companies determines their wealth tax base. Thus the wealth tax load is a function of anticipated future profits.

#### 4.1.4 Impact on Medium-Sized Companies

In the following we investigate the influence of minimum wealth tax on medium-sized companies of different legal status. Hence, we have to extend the model framework with respect to personal level taxation of distributed gains and salaries to managing shareholders. We model two typical businesses: one corporation and one partnership as shown in table 5. A comparison enables us to conclude about neutrality property of AMT wealth tax referring to different legal forms.

	Capital intensive medium-sized companies	
	corporation in € or percent	partnership in € or percent
<b>company level</b>		
profits	1,914,000	1,914,000
market capitalization	12,913,000	12,913,000
gearing rate in percent	73.20	73.20
pre-tax rate of return in percent	12.41	12.41
corporate wealth tax	54,565	
thereof definitive wealth tax	0	
trade tax	313,200	361,598
corporate tax after imputation	267,606	
supplementary corporate tax	17,719	
<b>personal level</b>		
personal wealth tax	52,565	105,130
thereof definitive wealth tax	36,457	0
income tax after imputation	112,070	381,373
supplementary income tax	7,050	29,756
<b>overall</b>		
tax ratio of profits before wealth tax	41.49	46.12
tax ratio of profits after wealth tax	49.20	46.12
increment in tax ratio due to wealth tax	7.71	0

Table 5: Estimated tax load of capital intensive medium-sized companies

'Profits' in table 5 comprises employer's salaries for managing shareholders because they are treated differently for tax purposes in corporations and partnerships. While they are corporate tax-deductible they are not deductible from the income tax base of partners. On the basis of data of the German Federal Bank for companies of the modelled size we assume managerial salaries of € 312,020 per annum with GNP growth over time.

Net wealth is not assumed to be identical with balance sheet equity due to the weighted average valuation method that combines net asset value (equity) and discounted future profits. We apply this valuation approach and finally receive the tax loads as illustrated in figure 4.

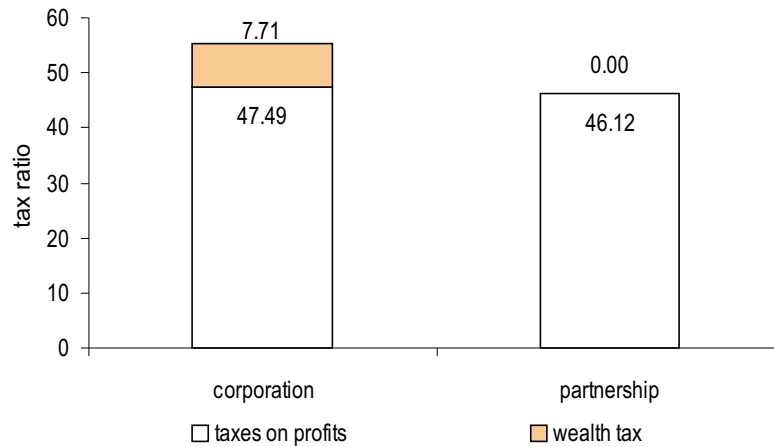


Figure 4: Tax load of capital intensive medium-sized companies as fraction of net present value of profits depending on legal status

As mentioned above for the corporation we assume a retaining rate of 90% in our simulation of assessment. Instead, minimizing definitive personal wealth tax rather requires relatively high personal income tax for imputation purposes, hence an appropriate low retaining rate is more likely. Distributing only 10% of profits implies low income tax payments for the dividend and further, low imputation potential for personal wealth tax on the underlying shares. Since imputable income tax is limited to tax on dividend income<sup>30</sup> personal income tax on managerial salaries is not available for imputation purposes. Thus, we receive a definitive wealth tax of € 36,457 for a capital intensive medium-sized corporation. The values in this table have to be put into the right perspective. It is quite probable that the shareholders wish to generate a higher imputation potential at personal level and therefore decide to distribute a higher fraction of corporate profits. But they have to take into account a trade off. Distributing profits earlier implies a rate of interest drawback due to earlier income payments and in turn earlier income tax payments. This drawback has to be compared with the advantage of a higher imputation volume.

In fact, the relation between the shareholder's income tax bracket, profits and wealth determines tax planning activities and in turn the dividend policy. Depending on individual

<sup>30</sup> In this example income tax on dividend payments to the corporate shareholder is only € 16,108.

shareholder's influence on the dividend payout it may be possible to minimize the tax load by expanding the fraction of distributed profits in this context.

This example illustrates the considerable impact of the AMT wealth tax on entrepreneurial behavior, e.g. dividend policy. In contrast to the well-known lock-in effect of shareholder relief in income taxation of dividends, taxing wealth evokes a push-out effect, i.e. increased pay out of profits. Assuming a retention rate of 90% as in table 4 we find an increase in total tax load of 7.71 percentage points. Retaining less, e.g. less than 65.5% can neutralize the wealth tax load. Higher personal income from higher dividends and in turn higher income tax as imputation potential, eliminates the wealth tax load completely.

In a partnership with identical profit and wealth structures, definitive wealth tax usually does not occur at all. Total income from the partnership, i.e. profits and salaries for partners, evokes income tax that can be used for imputation purposes.<sup>31</sup> Whenever the company's rate of return is sufficiently high, no imputation backlogs will occur.

## 4.2 Investment Decisions

Usually it is desirable from a tax policy perspective that funds are invested in high yield projects in order to evoke maximum economic growth effects. If the government does not explicitly subsidize or discriminate specific economic activities, tax should not distort investment decisions and thereby is intended to be neutral.<sup>32</sup> As control or guidance of capital allocation is not the intention of a minimum wealth tax - on the contrary, it is supposed to prevent tax evasion - AMT wealth tax should be as non-distortive as possible.

In order to analyze the impact of the underlying wealth tax on entrepreneurial investment decisions, we model an investor willing to engage in an investment project or company (real investment), for a period of 4, 8, 12, 16 or 25 years. Alternatively funds may be invested in bonds on the capital market. Per assumption, both alternatives earn identical pre-tax rates of return. This implies that the real investment is a marginal investment with a pre-tax net present value that equals the initial outlay. Thus, both investments have identical yields before taxes. We assume a pre-tax rate of return of 3.5%. The integration of taxes on profits and a wealth tax into the model enables our partial analysis to provide insights into the influence of minimum wealth tax on individual investment decisions.<sup>33</sup>

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<sup>31</sup> Conversely, in corporations only income tax on dividend income serves as imputation potential, whereas income tax on managerial salaries does not.

<sup>32</sup> Referring to neutral tax systems it should only be noted that the cash flow tax and the Johansson-Samuelson tax are special cases of such neutral tax systems. Cf. Brown (1948); Johansson (1969) and Samuelson (1964).

<sup>33</sup> For an elaborated investigation of the influence of taxes on investment decisions under uncertainty and a deduction of neutral tax systems cf. Niemann (1999); Sureth (2002); Niemann/Sureth (2004, 2005).

However, conclusions about aggregate macroeconomic developments cannot be deduced from this approach.

#### 4.2.1 Diminishing Cash Flows

Depending on the economic life of an investment object with diminishing cash flows and legally allowed depreciation rules we find wealth taxation discriminating real against financial investment. The financial investment suffers from neither absolute nor relative cuts in return caused by wealth tax. A pre-tax rate of return of 3.5% eliminates the definitive wealth tax load of the financial investment. While for a real investment depreciation allowances lead to temporary wealth tax imputation backlogs.

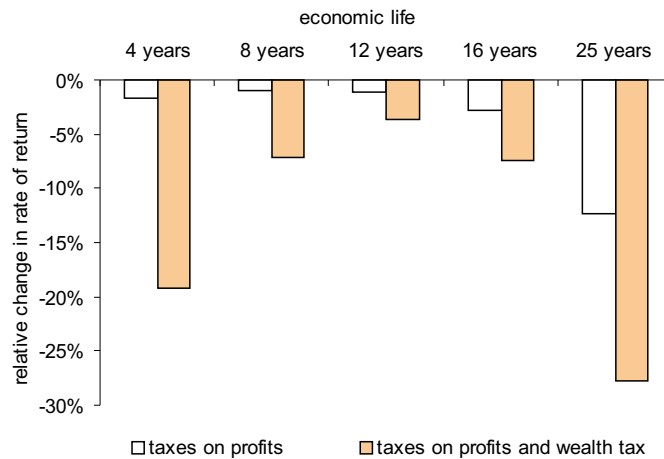


Figure 5: Relative change in rate of return due to wealth tax in case of diminishing cash flows in comparison to financial investment, in % of market rate of return

In figure 5 a zero relative reduction of the rate of return implies investment neutral taxation, i.e. equal taxational treatment of real and financial investments. We can hence see the distorting influence of profit and wealth taxation. Both types of tax reduce the relative rate of return of the real investment, i.e. discriminate against real investments.

We find that the observed considerable distortions of wealth tax in figure 5 are caused in only a few periods of the economic life. Assuming an economic life of 4 and 8 years imputation backlogs occur only in the last two periods. For an economic life of 12, 16 or 25 years only the last 3, 6 or 15 periods cause the definitive wealth tax load to lead to severe relative yield cuts and the distortions.

This repressive influence of wealth tax is caused by the conjunction of diminishing cash flows and typically declining depreciation allowances. Here, the present value of a neutral

depreciation schedule, i.e. economic depreciation,<sup>34</sup> is higher than the present value of linear or declining depreciation of the initial outlay that is usually employed for tax purposes. Consequently, in this case the legal depreciation pattern invokes a higher profit tax base in early periods than under a neutral economic depreciation. Further, in future periods taxable profit is lower than in the case of neutral taxation. These low tax bases are not sufficient for imputing wealth tax of this period completely. Overall, we can deduce that real investment suffers from wealth tax discrimination if cash flows decrease over time.

#### 4.2.2 Increasing Cash Flows

In contrast, increasing cash flows induce opposite effects. Real investment is subsidized by taxation in relation to financial investment (figure 6). Focussing on the minimum wealth tax, we realize again a relative drawback for real investment.

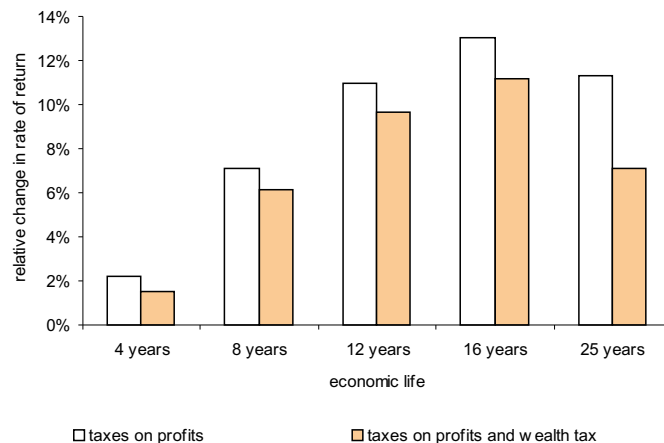


Figure 6: Relative change in rate of return due to wealth tax in case of increasing cash flows in comparison to financial investment, in % of market rate of return

Now, the present value of economic depreciation is lower than the taxational depreciation in present value terms. The latter invokes higher early depreciation allowances and lower later amounts than neutral depreciation. This induces an interest rate advantage for real investments, an effect that increases as cash flow growth accelerates over time.

As high depreciation in early periods leads to low taxable profits, wealth imputation backlogs occur. The wealth tax therefore becomes partially definitive. Here, minimum taxation

<sup>34</sup> This is a well-known feature of a system that taxes true economic profit, i.e. the so-called Samuelson-Johansson tax. Cf. Samuelson (1964); Johansson (1969).

succeeds in invoking a positive tax load where regular taxation of profits understates the correct economic tax base due to accelerated taxational depreciation.

In summary, we observe a reduction of depreciation-induced advantages in profit taxation by minimum wealth tax. In comparison to taxes levied on earnings from financial investments, real investments still enjoy tax privileges overall.

Furthermore, we can imagine scenarios, e.g. with a rather low market rate of return, where wealth taxation even amplifies subsidies from profit taxation. Then, a financial investment does not ensure full imputation of wealth tax but evokes a definitive wealth tax burden to a higher extent than in the case of an alternative real investment.

From these examples we see that the overall tax impact is particularly sensitive towards the time structure of cash flows and depreciation rules. Often, cash flow from real investments will not be uniform but volatile. Thus, phases with increasing and diminishing cash flows may alternate. Then the likelihood of imputation backlogs increases.

Unique conclusions about the influence of the assumed wealth tax on profitability of real investments are not possible.

#### 4.2.3 Interdependencies of Profit-Oriented and Wealth-Oriented Minimum Taxation

Until now we have neglected the effects of loss offset rules that are typical in corporate and income tax law. This aspect becomes important as AMT wealth tax becomes definitive in loss periods. Additionally, losses reduce taxpayers' wealth and thereby influence the wealth tax base of future periods. Furthermore, interdependencies between minimum profit taxation caused by loss offset limitations and minimum wealth taxation have to be taken into account when determining the total tax burden of an investment.

In Germany, in 2004 the compensation of losses using future gains was limited. If loss carry-forwards exceed an amount of € 1,000,000 only 60% of taxable gains can be compensated through it. This minimum taxation amplifies the asymmetric taxation of gains and losses and may discriminate against investments and companies with profitable investments including temporary losses.<sup>35</sup> Consequently, when comparing two investment objects with identical pre-tax return but where one has a non-uniform time structure of cash flows especially with alternating gains and losses, and the other has uniform positive cash flows over time, we realize that the object with temporary losses is subject to minimum wealth taxation.<sup>36</sup>

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<sup>35</sup> Cf. Niemann (2004).

<sup>36</sup> In addition to profit AMT.



In order to integrate the influence of loss offset limitation into our analysis we model a marginal investment project starting with negative cash flows in the first periods. Then cash flows grow per assumption and late cash flows are correspondingly high. This is a possible scenario for a new pioneer entrepreneur whose investment, after initial losses, generates the same overall pre-tax yield as the alternative capital market investment. In such a model it is again possible to isolate taxational effects.

As described, we focus on an investment with increasing cash flows, similar to the one modelled in chapter 4.2.2. Such an investment object, as has been shown above, is subsidized by taxational depreciation rules. Consequently, abstracting from the effects of loss offset limitations, i.e. in case of complete loss offset, a post-tax rate of return that is higher than the one for alternative financial investment is generated.

Assuming that losses are not immediately tax-deductible but only have time-lagged full loss offset by the end of the time horizon causes an interest rate drawback. Loss offset limitation, as introduced into German tax law, delays loss compensation and in turn increases the interest rate drawback, hence invokes inherently a minimum taxation.

Taxation of wealth (partially) compensates this disadvantage if the alternative investment is subject to definitive wealth tax (figure 7).<sup>37</sup>

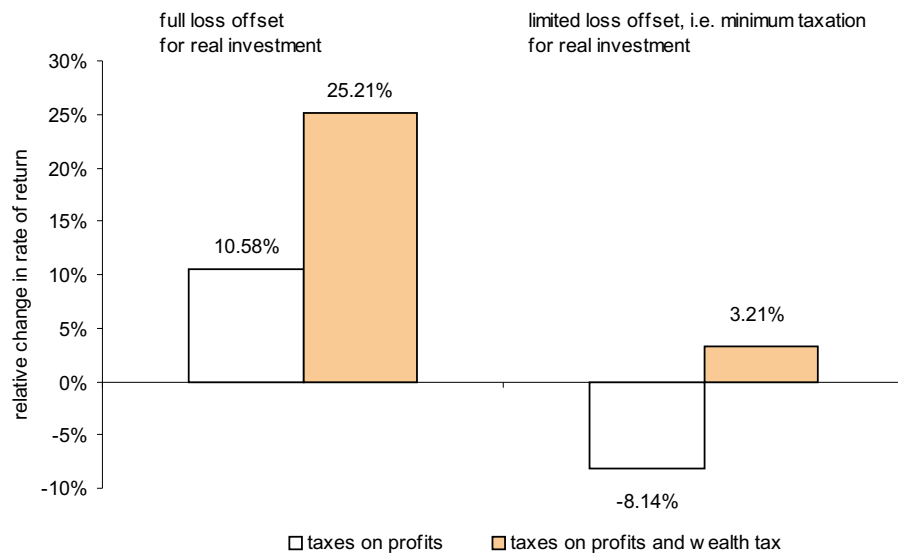


Figure 7: Relative change in rate of return due to wealth tax with temporary losses in comparison to capital market investment, in % of capital market rate of return

<sup>37</sup> Financial investment causes definitive wealth taxation if the rate of return is very low. In the underlying example we chose a pre-tax rate of return of 2%.

In the case modelled in chapter 4.2.2 the alternative financial investment is wealth tax-free because of a sufficiently high pre-tax yield. Now, per assumption, financial investments are subject to definitive wealth tax. Hence, levying a wealth tax on real investments with increasing profits, rather low pre-tax rate of return and assuming full loss offset, favors real in comparison to financial investment. The wealth tax amplifies the so-called profit tax paradox, i.e. in wealth tax context the depreciation-induced relative profit tax advantage occurs as well. Asset values decline due to deprecation and in turn the wealth tax base decreases. Consequently, under full loss offset, wealth taxation causes a relative increase in the post-tax rate of return of such real investments.

As can be seen in figure 7, the effect from this wealth tax paradox may exceed the interest rate drawback that occurs if loss offset limitations are integrated into this scenario. In this case temporary losses from real investments

1. reduce the wealth tax base while
2. loss offset limitation invokes relatively higher (positive) profit taxes and in turn a larger imputation volume.

Instead, if an alternative capital market investment is not subject to definitive wealth tax – which is the case if the financial investment's yield is sufficiently high – the investor will refrain from the real investment because of its discriminating minimum (profit and wealth) taxation.

#### 4.2.4 Liquidity and Risk-Taking

Besides impacting on profitability wealth tax induces negative effects on liquidity. Independently of the time structure of cash flows, whenever a definitive wealth tax emerges liquidity is reduced. As in reality the assumptions of perfect capital markets like unlimited opportunities to borrow funds are not met, liquidity constraints may cause bankruptcy. This problem gains significance if periods with temporary losses have already affected liquidity considerably. Furthermore, the underlying wealth tax that often discriminates against (risky) real investments will decrease the investor's willingness to take risks,<sup>38</sup> rather encouraging him to invest in riskfree bonds.

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<sup>38</sup> Referring to the influence of taxes on risk-taking cf. the seminal paper by Stiglitz (1969).

### 4.3 Cross-Border Investments

Until now, we have abstracted from the cross-border economic implications of introducing an AMT wealth tax. As it is a wealth tax that weakens the economic attractiveness of a country for local and international direct investment and instead encourages capital export, which invokes undesirable cuts in public revenues, it is important to include this in our analysis. Although these effects are difficult to quantify we can deduce some general qualitative conclusions for international tax planning. In this context two aspects are crucial: Wealth tax may influence

- direct investment activities of foreign investors in the AMT country (inbound investment) and
- national investors' disposition to invest their funds abroad (outbound investment).

As is known from income and corporate tax law, wealth tax law distinguishes between unlimited and limited liability to pay taxes. Hence, national taxpayers have to assess total (global) wealth while foreign taxpayers have to assess their local wealth. Whether the defined liability to pay taxes in the end leads to a wealth tax burden or not depends, besides specific regulations in wealth tax law, on double taxation agreements.

For residents, double taxation agreements usually exempt wealth from foreign permanent establishments and substantial cross-shareholdings in foreign subsidiaries. Consequently, irrespective of the legal status of the foreign business unit no wealth tax is levied on wealth from cross-border investments in permanent establishments in the home country. In the case of resident corporations holding shares in foreign subsidiaries, the international cross-holding privilege assures tax exemption for substantial shares.

The wealth of non-residents is subject to local wealth tax only in case of local real estate or local permanent establishments.<sup>39</sup> Beyond this, the local wealth of non-residents is not subject to local wealth tax according to common double taxation agreements. Thus, shares of local corporations held by non-residents individuals or companies are not wealth taxable. Consequently, wealth as corporate shares of foreigners is not subject to local wealth tax, regardless of the size of the holding. Hence, in inbound cases wealth tax becomes relevant only at local corporate level.

We can see that common double taxation agreements ensure the wealth taxation of local business assets of non-residents. Instead, resident individuals have to declare their global wealth to local tax authorities.

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<sup>39</sup> Cf. Art. 22 OECD-Model Convention.

### 4.3.1 Inbound Investment

Introducing AMT wealth tax in one country implies an additional tax burden for investments of non-residents if this wealth tax becomes definitive. Inbound investments into permanent establishments are wholly subject to wealth tax. Inbound investments in local corporate subsidiaries will be taxed at the rate of 0.5% at corporate level. Non-resident shareholders from countries without corresponding double taxation agreements are liable to wealth tax according to national regulations on limited tax liability. In contrast, non-resident shareholders from double taxation agreement countries are not wealth tax liable with regard to their local corporate shares.

From this we cannot conclude that the (re-)introduction of wealth tax exercises a negative influence on the relative attractiveness of this country for foreign direct investments. The influence of a local wealth tax on international capital allocation depends in particular on whether or not the investor's home country raises a corresponding national wealth tax too. If the home state levies a wealth tax it is possible that the introduction of a wealth tax in the country of investment will not invoke any repressive effects on the direct investment behavior of non-residents. This may be a result of full imputation of local wealth tax on the home country wealth tax, assuming that the home state wealth tax burden is relatively higher. Then, home state (wealth) taxation is structured according to the principle of capital export neutrality implying location neutrality.

If an investor's home country does not raise a wealth tax or if cross-border investment is exempted from home state wealth tax, the implementation of a wealth tax in the country of investment will increase this investment's tax load. As most OECD member countries do not raise a (corporate) wealth tax, the introduction of a wealth tax in one OECD country will alleviate this country's attractiveness for direct investment, especially for projects with an initial loss.<sup>40</sup>

Furthermore, implementing a wealth tax may be interpreted as a negative signal implying that other increases in taxes are likely to occur. This could interfere with investor confidence in the quality of this location.

### 4.3.2 Outbound Investment

As for inbound investment, the influence of a national wealth tax on outbound real investment depends on tax rules concerning wealth taxation in other countries and the wealth tax treatment of alternative investments. As far as national taxpayers have to pay wealth

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<sup>40</sup> Then, minimum wealth tax often will become definitive because of a lack of profit taxes which may serve as imputation potential.

tax on national and cross-border investment, national wealth tax may be neutral with respect to international decisions concerning location.

Double taxation agreements on wealth tax usually exempt outbound investments from national wealth tax. As a taxpayer can avoid national wealth tax by investing abroad, this capital import neutral regulation encourages outbound investment. We find corresponding results for corporate wealth tax. Consequently, the introduction of a national wealth tax provides an incentive for national taxpayers to invest abroad.

Applying this to international tax planning, it may be possible to reduce or avoid the wealth tax burden. E.g., founding a group finance holding abroad decreases equity and thereby the wealth of a resident group of companies. Several other arrangements depending on single case factors may enable the avoidance of wealth taxation at home. In principle, the tax planner has to verify whether these structures conflict with other regulations, e.g. thin capitalization rules.

## 5 Conclusions

In this paper we analyze a wealth tax at corporate and personal level designed as an AMT, as proposed by the German Green Party. This wealth tax is imputable to profit taxes and thereby is intended to prevent from multiple (multistage) taxation.

Referring to data from annual reports and the German Central Bank and modelling enterprises of different structure, industry, size and legal status, we show that companies in the service industry with usually rather high gearing rates are more likely to be subject to definitive wealth tax than capital intensive industries. This result runs counter to the well-known effects of a common wealth tax. Capital intensive firms, e.g. in the metal industry, are burdened with definitive wealth tax only in case they have high loss carry-forwards or extremely volatile profits.

We find that the proposed tax allowance protects small business from being subject to minimum wealth tax as well as medium-sized companies with relatively low capital employed. In the case of medium-sized capital intensive companies, partnerships often enjoy wealth tax privileges due to uniform taxation at individual level. Conversely, corporations may be burdened by the wealth tax at corporate and personal level caused by imputation backlogs. Furthermore, the underlying AMT influences corporate dividend policy, which evokes a push-out effect.

We demonstrate that this kind of wealth taxation usually favors financial rather than real investments and encourages outbound investments.

An alternative minimum tax as imputable wealth tax – similar to other minimum tax concepts – burdens real investment with volatile gains relatively more than an equivalent financial investment. Investments in financial assets usually enjoy full imputation of the wealth tax. In contrast, industries with volatile gains and temporary losses, such as newly founded businesses, suffer from wealth tax drawbacks. Hence, the analyzed wealth tax reduces the investor's disposition to invest into risky real projects while simultaneously encouraging outbound investment and in turn capital export. Consequently, wealth tax revenues from the entrepreneurial sector may not meet expectations but instead, medium-term or long-term overall tax revenues may even decrease. Capital export will cause not only lost wealth tax revenue but also a decline in revenue from profit taxation (corporate tax, trade tax, income tax, etc.). Hence, the net revenue resulting from the introduction of the minimum wealth tax may be negative.

As long as there are rules in income and corporate tax law that allow the assessment of a tax base that is smaller than economic income, this distortion must be eliminated by amending the tax code, not by introducing (yet) another tax.

We find that the introduction of an AMT discriminates against many firms and investment projects, especially if economic income is lower than taxable income. This emphasizes that whenever income is taxed correctly, AMT is dispensable.

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