Reviving Germany's Wealth Tax Creates High Revenue Potential

By Stefan Bach and Andreas Thiemann

Compared to the rest of Europe, Germany exhibits an especially high concentration of wealth. According to estimates based on a microsimulation model, a German wealth tax could generate an estimated ten to 20 billion euros per year in revenue—even with high tax allowances—and slightly reduce the inequality of income distribution, as well. Collection costs would range from four to eight percent in relation to the tax revenue, and would thus be comparable to the collection costs for income and corporate taxes. However, it is possible that the tax revenue could be noticeably diminished as a result of tax avoidance.

The distribution of income and wealth has become significantly less equal in many countries, particularly at the top.[1] In Germany, this development has been observable for the income distribution since the mid-'90s,[2] and Germany's wealth appears to be more heavily concentrated than that of other countries.[3] At the same time, the redistributive impact of tax systems has declined in the OECD countries:[4] The top income tax rates, corporate taxes, and capital income taxes were lowered; personal wealth taxes were abolished; and in most countries, the inheritance tax was either suspended or abolished.

Over the course of this development, wealth taxation has been increasingly returning to the fore:[5] In some countries, such as France and Spain, wealth taxes have been increased or revived, and in Germany, there have been proposals for wealth taxes and capital levies, as well as capital income taxes and higher tax rates at the very top.[6]

In multiple studies, DIW Berlin examined the effects of a one-time capital levy and the reintroduction of a wealth

1 OECD (2015): In It Together: Why Less Inequality Benefits All. Paris; Alvaredo, F., Atkinson, A.B., Piketty, T., Saez, E. (2013): The Top 1 Percent in International and Historical Perspective. Journal of Economic Perspectives 27, 3-20.

2 Goebel, J., Grabka, M. M., Schröder, C. (2015): Einkommensungleichheit in Deutschland bleibt weiterhin hoch – junge Alleinlebende und Berufseinsteiger sind zunehmend von Armut bedroht. DIW Wochenbericht Nr. 25.2015; Bartels, C., Schröder, C. (2016): Zur Entwicklung von Top-Einkommen in Deutschland seit 2001. DIW Wochenbericht Nr. 1.2016; Bach, S., Corneo, G., Steiner, V. (2009): From Bottom to Top: The Entire Income Distribution in Germany, 1992–2003. Review of Income and Wealth 55, 331–359, as well as (2013): Effective Taxation of Top Incomes in Germany. German Economic Review 14, 115–137.

3 Grabka, M. M., Westermeier, C. (2015): Reale Nettovermögen der Privathaushalte in Deutschland sind von 2003 bis 2013 geschrumpft. DIW Wochenbericht Nr. 34.2015.

4 Förster, M., Llena-Nozal, A., Nafilyan, V. (2014): Trends in Top Incomes and their Taxation in OECD Countries. OECD Social, Employment and Migration. Working Papers, No. 159.

5 IMF (International Monetary Fund) (2013): Taxing Times. Fiscal Monitor. October 2013.

6 Institut der deutschen Wirtschaft (2013): Die Programme zur Bundestagswahl 2013 von SPD, Bündnis90/Die Grünen, Die LINKE, FDP und CDU/CSU. Cologne, July 10, 2013 as well as iw-dienst Nr. 8, 21. Februar 2013.

tax on revenue and income distribution in Germany.[7] The analyses of the wealth tax were updated and further developed in a new study commissioned by the Friedrich Ebert Foundation.[8]

Concept and data basis

The wealth tax is an annual tax on high personal net wealth—that is, taxable assets (real estate, financial assets, and business assets, excluding pension claims and personal effects) minus their associated debts.[9] In Germany, such a tax was in effect until 1996. The taxation scheme analyzed here is based on a 2012 proposal for reintroducing the wealth tax, which was drafted by several red-green-governed *Bundesländer* (see Box 1). With its high personal allowances, this tax targets the affluent share of the population.

The present study's microsimulation analysis is based on the euro-area central banks' Household Finance and Consumption Survey (HFCS); the survey's German component was carried out by the Deutsche Bundesbank in 2010–2011. The 200 richest Germans according to *manager magazin's* 2011 rich list are also integrated into the model data record.[10] For the very highest levels of wealth (over three million euros), the asset portfolios and wealth distribution are estimated—and because net wealth is highly concentrated on the very wealthy households, and the wealth tax scheme examined here includes high personal allowances, the simulation results regarding revenue and distribution are based primarily on these estimates. The wealth tax's revenue and distribution impact, as well its associated collection costs, are analyzed using a microsimulation model (see Box 2).

Substantial revenue, moderate redistributive effects

The 2011 estimated net wealth of all German households is 8,600 billion euros, and the concentration of wealth is remarkable: The richest one percent of the population owns 32 percent of the total net wealth, and the richest 0.1 percent own 16 percent. A wealth tax of natural persons can therefore generate significant income, even with high allowances.

In this study, the revenue and distribution effects of the wealth tax are analyzed for eight different tax base scenarios and two different tax rate scenarios (see Table 1). The calculations are based on two concepts for personal allowances (one million euros and two million euros, respectively, each with and without the "withdrawal adjustment"[11], which are then combined with or evaluated without a separate allowance for business assets.

In addition, two tax rate scenarios are analyzed:

- a proportional tax rate of one percent.
- a progressive tax schedule in which a marginal tax rate of 1.25 applies to taxable assets over 10 million euros, and a marginal tax rate of 1.5 applies to taxable assets over 20 million euros.

Depending on the scenario, between 150,000 to 435,000 taxpayers would be subject to the tax, either as individuals or as couples filing jointly. In all eight scenarios examined here, the wealth tax is concentrated on the percentile of the population with the highest net wealth (see Table 1).

With a one-percent proportional wealth tax rate, the annual tax revenue ranges from 11 billion euros (0.41 percent of the 2011 GDP) in the scenario with a non-withdrawn allowance of two million euros and a business asset allowance of five million euros, to nearly 23 billion euros (0.84 percent of GDP) in the scenario with a withdrawn personal allowance of one million euros with no allowance for business assets.[12] The wealth tax predom-

7 Bach, S., Beznoska, M., Steiner, V. (2010): Aufkommens- und Verteilungswirkungen einer Grünen Vermögensabgabe. DIW Berlin: Politikberatung kompakt 59 as well as (2014): A Wealth Tax on the Rich to Bring Down Public Debt? Revenue and Distributional Effects of a Capital Levy in Germany. Fiscal Studies 35; Bach, S., Beznoska, M. (2012): Aufkommens- und Verteilungswirkungen einer Wiederbelebung der Vermögensteuer. DIW Berlin: Politikberatung kompakt 68; see also DIW Wochenbericht Nr. 42/2012.

8 Bach, S., Beznoska, M., Thiemann, A. (2016): Aufkommens- und Verteilungswirkungen einer Wiedererhebung der Vermögensteuer in Deutschland. Research Project commissioned by the Friedrich Ebert Foundation. DIW Berlin: Politikberatung kompakt 108.

9 See also „Vermögensteuer" in the DIW Glossary: http://www.diw.de/de/diw_01.c.412762.de/presse/diw_glossar/verm_gensteuer.html, in German, 11.01.2016.

10 manager magazin (2011): Die 500 reichsten Deutschen. manager magazin spezial, October 2011.

11 A "withdrawal adjustment" describes the reduction ("withdrawal") of a personal allowance by a certain percentage of the taxable assets that exceed the allowance. A withdrawal rate of 50 percent is used here. For example, assume a taxpayer has taxable assets (before allowances) of 2.4 million euros: If the personal allowance was originally two million euros, it will be reduced by 200,000 euros down to 1.8 million euros. The personal allowance will never be melted down to zero—rather, it will stop being withdrawn when it reaches 500,000 euros (the "base amount"). This base amount is in place to ensure that the "family-use assets" are not taxed, and is doubled in the case of joint taxation (see Box 1). A 50-percent withdrawal rate of the personal allowance entails an increase of the effective marginal tax rate—i.e. the tax rate paid on each additional euro of taxable assets—by 50 percent over the withdrawal interval. With a personal allowance of two million euros, the withdrawal interval ranges from three million euros (1.5 million euros of withdrawal volume, when divided by 50 percent) to five million euros of taxable assets before personal allowances. At this level of assets and higher, the marginal tax burden drops back to the tariff rate. For a more detailed description, see Bach, Beznoska, and Thiemann (2016), p. 28 et seqq.

12 In addition to point estimates, we also specify 95-percent confidence intervals for taxpayers and tax revenues. These take into account the sampling errors and standard errors due to the HFCS being a relatively small household sample, the standard errors of the statistical imputations for the non-response cases of individual assets, and the standard errors involved in the estimation of the very high net wealth.

Box 1

Bringing back the wealth tax in Germany

The taxation concept analyzed here is based on several red-green *Bundesländer's* 2012 proposal for reintroducing the wealth tax.[1] This proposal is in turn based on the wealth tax that was in effect until 1996. The wealth tax base must be updated and reformed, particularly with regard to the valuation of tangible assets and the relation of taxation between natural and legal persons. For the microsimulation analyses, we consider the following items.

- Taxable assets include the total tangible and financial assets of the taxpayer, including owner-occupied housing and business assets, minus liabilities related to the taxable assets.
- Foreign assets are taxable, unless they are exempted under double taxation agreements.
- Taxable are valuable "luxury goods" such as precious metals, gems, coins, jewelry, works of art, and expensive vehicles (e.g.. boats, airplanes, and antique cars). Common household items and conventional motor vehicles are exempt from taxation.
- Tax-free assets include pension funds, including those for surviving dependents, covered by statutory social insurance, civil service pensions, occupational pensions, and private insurance contracts as well as retirement provisions covered by private health insurance.
- The assets will be valuated from a market-oriented perspective in accordance with the inheritance tax assessment regulations in effect since 2009.
- To ensure that all financial assets are duly recorded, financial service providers will be obligated to register managed funds totaling 50,000 euros or more.
- Spouses and life partners are assessed together, enabling them to balance positive and negative net assets.
- A personal allowance of at least one million euros will ensure that the tax burden is concentrated on the wealthy segments of the population. This personal allowance is doubled for spouses and life partners filing taxes jointly. Undiminished personal allowances serve as the basis. As an alternative scenario, they are subject to a "withdrawal adjustment" proposed by the red-green *Bundesländer*. Through this regulation, the personal tax allowance will be reduced ("withdrawn") by 50 percent of the excess taxable capital until it reaches 500,000 euros (base allowance).[2] The base allowance in intended to ensure the exemp-

1 For more on this subject, see Bach and Beznoska (2012); Häuselmann, H. (2012): Vermögensteuer 2014? Erste Vorschläge zur Wiederbelebung der Vermögensteuer – und die Folgen für Privatanleger und Unternehmen. Deutsches Steuerrecht 50, 1677–1680, Hey, J., Maiterth, R., Houben, H. (2012): Zukunft der Vermögensbesteuerung. Institut Finanzen und Steuern, IFSt-Schrift Nr. 483.

2 For a brief explanation of the "withdrawal adjustment," see Footnote 11; for more a more detailed explanation, see Bach, Beznoska, und Thiemann (2016), p. 28 et seqq.

inantly applies to the richest 0.1 percent of households, particularly in the scenarios with a personal allowance of two million euros (Table 1).

From an economic perspective, wealth is capitalized income, which means that an annually levied wealth tax indirectly burdens capital income as well—that is, the wealth tax reduces both the real value of wealth as well as the capital income. The distribution effect of the wealth tax can therefore be measured based on both the wealth distribution as well as the income distribution.[13]

We analyze the wealth tax's effect on wealth distribution by reducing the taxpayers' net wealth by the amount of the wealth tax, and calculating the change in the relevant distribution measures (see Table 1).[14] In addition to the

13 Differences between the effect on wealth distribution and the effect on income distribution are caused by varying asset returns, and especially by the fact that as a rule, no implicit assets are calculated for essential income components such as wages and social transfers, and by the fact that the corresponding "human capital" or "social capital" are not taxable assets.

14 We use the relevant analytical distribution measures a in this study: The Gini coefficient, which is in common usage, is derived from the Lorenz curve (see also "Gini coefficient" in the DIW Glossary: http://diw.de/de/diw_01.c.413334.de/presse/diw_glossar/gini_koeffizient.html, in German, 11.01.2016). It responds primarily to changes in the middle area of the distribution. The Gini coefficient has a value ranging from 0 (equality) to 1 (concentration of the distribution on only one person). The generalized entropy measures (GE) weight the income inequality in varying degrees: The GE(1) (also known as the Theil index), which corresponds to the information-theoretic entropy measure, gives greater weight to the distribution changes in the upper part of the distribution ("top-sensitive"), while the GE(2), which

tion of "family-use assets"; for spouses filing jointly, this amount will be doubled.

- Small businesses will be exempted from the tax through a separate 5 million-euro allowance for business assets. This is granted for own businesses, shares in partnerships, and substantial shares in corporate companies. According to the rules of the inheritance tax, the allowance is to be granted only for assets essential to the operation of the business, not for administrative assets.

- Neither child allowances nor joint taxation with children are stipulated. Non-resident taxpayers will receive a personal allowance of 200,000 euros, which will not be withdrawn.

- In addition to natural persons, legal persons such as corporations are also independently subject to the wealth tax.

- For legal persons, an exemption limit for taxable assets up to 200,000 euros will be in effect. Shareholdings between legal persons are not subject to taxation, irrespective of the shareholding quota. Thus double taxation is avoided.

- A "half assets system"—which entails that the taxable assets of legal persons as well as the shares of natural persons in corporations are subject to only half the tax—avoids possible double taxation of the assets of corporations and other legal persons.

- The tax rate will be levied proportionally at a uniform rate for both natural as well as legal persons. Most of the proposals from the last few years, as well as the plan from the red-green *Bundesländer*, stipulate a wealth tax of one percent. This rate is used as a basis here.

- As a supplement to this, a progressive tax schedule for the wealth taxation of natural persons is also examined; here, a marginal tax rate of 1.25 percent is applies to taxable assets over ten million euros, and a marginal tax rate of 1.5 percent is applies to taxable assets over 20 million euros. In cases of joint taxation between spouses or life partners, the asset limits are doubled.

- There are no crediting or deduction possibilities between the income taxes (local business tax, personal and corporate income tax) and the wealth tax.

The wealth tax of legal persons is not included in the analyses carried out here.[3] In the simulations regarding the effects of the wealth tax on revenue and wealth distribution, we only analyze households whose corporate shares are fully taxed.

3 The effects on revenue caused by the wealth taxation of legal persons can be estimated to the extent that they have to do with corporations in which domestic natural persons hold shares. For further discussion, see: Bach, Beznoska and Thiemann (2016), p. 52 et seqq.

Gini coefficient—a standard for measuring income inequality—the generalized entropy indexes (GE) are used here. These GE indexes react more strongly to changes in the upper range of the distribution than does the Gini coefficient, and this is also reflected in the present study: Since the wealth tax is highly concentrated on the rich, the GE index exhibits a stronger decline in inequality than does the Gini coefficient. Although the revenue is more heavily generated by the wealthier taxpayers in the scenarios with higher allowances, this is largely offset by the overall lower tax revenue.

measures half the squared coefficient of variation, is very sensitive to changes at the uppermost part of the distribution. The GE indexes' range of values starts at 0 (uniform distribution), and continues with increasing distribution inequality to more than 1.

As a rule, the distributional effects of the wealth tax are more closely connected with income, since the tax is usually paid out of investment returns. The effect of the wealth tax on the income distribution is examined here based on the gross equivalent income,[15] which makes it possible to compare the income situations of households with different sizes and compositions (see Table 1).[16] It turns out that the distribution of the tax revenue by the household income is similar to the distribution by the net

15 The net-equivalent income is not available in the HFCS survey, since tax and social security contributions are not recorded and we could not use a microsimulation model to recreate them.

16 See also „Äquivalenzeinkommen" in the DIW Glossary: http://www.diw.de/de/diw_01.c.411605.de/presse/diw_glossar/aequivalenzeinkommen.html, in German, 11.01.2016.

Box 2

Estimates of Germany's wealth distribution, 2011

To study the distribution of household wealth in Germany, we combine survey data with information and estimates on households with a high or very high level of net wealth.[1] The Household Finance and Consumption Survey (HFCS)[2] conducted by the euro-area central banks—the German component of which was carried out by the Deutsche Bundesbank in 2010–2011—samples the wealthy households with a higher selection probability. Even in the HFCS, however, there are still only a few households with assets in the two-digit millions, and zero households with assets in the three-digit millions.

Thus for the present analysis, the 200 richest German households—which were culled from *manager magazin's* 2011 "rich list" of the 500 wealthiest Germans[3]—are integrated into the model data set. Next, we use the Pareto distribution[4] to estimate the wealth distribution of households with wealth over three million euros. For this, we combine the HFCS survey data with the rich list to estimate the Pareto distribution's alpha coefficients.[5] Finally, using the estimated distribution, we impute hypothetical households with wealth ranging from three million euros up to the 200 wealthiest households.

The imputed households' portfolio components—in particular, real estate as well as business, financial and other assets—are derived using share estimates based on the HFCS's sample of households with minimum wealth of one million euros. For households from the *manager magazin* list, it is assumed that the total wealth can be attributed to business assets. Because of the imputation of net wealth at the top, the calculations are compatible with the macroeconomic aggregate of household net wealth.[6] We then infer socio-demographic information (such as household size, children, and age) for the imputed households based on the top percentile of the HFCS survey.

Given the rise in asset prices, the household net wealth in Germany may have experienced a significant increase since 2011. This is especially true for the assets of the richest households, which mainly consist of companies and corporate investments. The distribution of wealth is therefore likely to have become even more concentrated.

For the microsimulation analyses, we use the HFCS's detailed information on portfolio components, particularly the information on financial and private assets. The wealth tax's collection costs are simulated based on case-oriented cost rates for compliance costs, and for tax authorities' administrative costs. For this purpose, a concept from a previous study[7] has been updated and revised. To address criticism of the low cost rates as well as the minor expenditure of time, we use the higher rates used from a DIW Berlin study on inheritance tax.[8] Finally, we simulate the minimum revenue that results from the correction of estimation errors with regard to property valuation.

1 Bach, S., Thiemann, A., Zucco, A. (2015): The Top Tail of the Wealth Distribution in Germany, France, Spain, and Greece. DIW Berlin Discussion Paper 1502.

2 European Central Bank (2015): Household Finance and Consumption Network (HFCN).

3 manager magazin (2011): Die 500 reichsten Deutschen. manager magazin spezial, October 2011.

4 The Pareto distribution is often used to describe a highly concentrated distribution of income or wealth on the top share of the population. See Vermeulen, P. (2014): How fat is the top tail of the wealth distribution? European Central Bank, Working Paper Series 1692.

5 Vermeulen (2014); Bach, Beznoska, und Steiner (2014).

6 Deutsche Bundesbank, Statistisches Bundesamt (2014): Sektorale und gesamtwirtschaftliche Vermögensbilanzen 1999 – 2013.

7 Bach, Beznoska und Steiner (2010): 67 et seqq.

8 Bach, S., Houben, H., Maiterth, R., Ochmann, R. (2014): Aufkommens- und Verteilungswirkungen von Reformalternativen für die Erbschaft- und Schenkungsteuer. DIW Berlin: Politikberatung kompakt 83: 46 et seqq.

wealth. Relative to the income distribution, the reduction in inequality is significantly stronger with a wealth tax, because gross income is less heavily concentrated and, at roughly 2 trillion euros, is significantly lower than the total net wealth.

Overall, the distribution analyses show that in the scenarios analyzed here, the wealth tax would primarily affect the richest percentile of the population, and within this group, it would be largely concentrated on the top 0.1 percent. It is thus highly progressive. Due to its moderate revenue, it contributes only minimally to reducing the high inequality in the case of income and wealth.

The ratio of the wealth tax's collection costs to its revenue is based on the number of taxpayers and the total tax revenue (see Box 2). The collection costs are significantly lower relative to the revenue generated in the scenarios with the higher allowances, since in these instances, fewer cases are assessed and the relative revenue per case is significantly higher. However, this is more than offset by the sharp decline in tax revenues due to the allow-

Table 1

Wealth tax revenue for different scenarios of the personal allowance, the specific allowance for business property and tax schedules

	Personal allowance: EUR 1 million				Personal allowance: EUR 2 million			
	Withdrawal to EUR 500,000[1]		No withdrawal		Withdrawal to EUR 500,000[1]		No withdrawal	
	Specific allowance for business property (no withdrawal)							
	None	EUR 5 million	None	EUR 5 million	None	EUR 5 million	None	EUR 5 million
Taxpayer								
Total (thous.)	435	301	435	301	180	152	180	152
CI[2] lower bound	284	187	284	187	87	63	87	63
CI[2] upper bound	587	415	587	415	272	240	272	240
Percentile[3] onset								
Tax liability	98.9	98.9	98.9	98.9	99.6	99.7	99.6	99.7
Proportional tax rate of 1 %								
Tax revenue								
Total (EUR billion)	22.6	17.7	19.2	14.9	17.6	13.4	14.4	11.0
CI[2] lower bound	17.2	13.4	14.5	11.2	13.1	10.0	10.7	8.2
CI[2] upper bound	27.9	22.1	23.9	18.7	22.1	16.9	18.0	13.9
Distribution of tax revenue by percentiles[3] of net wealth in %								
1.–99. percentile	0.7	0.9	0.2	0.3	0.0	0.0	0.0	0.0
99.1.–99.9. percentile	39.7	36.0	31.8	27.3	23.6	16.7	14.6	9.1
Top 0,1 %	59.6	63.1	68.0	72.4	76.4	83.3	85.4	90.9
Change in wealth inequality measures due to wealth taxation %								
Gini coefficient	−0.07	−0.06	−0.06	−0.05	−0.06	−0.04	−0.05	−0.04
GE(1)	−0.45	−0.39	−0.42	−0.36	−0.42	−0.36	−0.38	−0.32
GE(2)	−1.47	−1.55	−1.54	−1.61	−1.58	−1.65	−1.64	−1.70
Distribution of tax revenue by percentiles[3] of gross equivalent income %								
percentile	19.0	16.1	12.1	9.3	1.2	0.7	1.0	0.6
99.1.–99.9. percentile	23.6	22.9	22.2	20.3	25.2	18.7	16.1	10.5
Top 0,1 %	57.4	61.0	65.7	70.3	73.6	80.6	83.0	88.9
Change in income inequality measures due to wealth taxation %								
Gini coefficient	−1.49	−1.24	−1.31	−1.05	−1.24	−0.96	−1.01	−0.79
GE(1)	−7.88	−6.91	−7.49	−6.50	−7.49	−6.43	−6.78	−5.82
GE(2)	−24.83	−24.96	−25.04	−25.13	−25.19	−25.27	−25.33	−25.35
Tax collection costs								
Total in % of tax revenue	6.6	7.2	7.5	8.2	4.4	5.5	5.4	6.5
Compliance costs[4]	2.4	2.3	2.8	2.7	1.5	1.7	1.8	2.0
Administrative costs[5]	1.1	1.0	1.2	1.2	0.7	0.8	0.8	0.9
Revenue loss from valuation corrections	3.2	4.0	3.4	4.3	2.2	3.1	2.7	3.5
Progressive tax rate of 1.0 % – 1.5 %								
Tax revenue								
Total (EUR billion)	25.0	19.8	22.4	17.7	19.8	15.5	17.4	13.8
CI[2] lower bound	18.9	14.8	16.8	13.2	14.8	11.5	13.0	10.2
CI[2] upper bound	31.1	24.7	27.9	22.2	24.9	19.4	21.9	17.3

1 Withdrawal of the personal allowance by 50 % of the taxable wealth above the personal allowance.
2 95% confidence interval, robust standard errors.
3 Percentiles of persons in private households (age: 18+).
4 Compliance costs of taxpayers.
5 Tax administration costs.

Source: Own calculations based on the Household Finance and Consumption Surveys (HFCS) 2011, including the estimated top-wealth households.

ance for business assets. Relative to revenue, the collection costs range from 6.6 to 8.2 percent in the scenarios with the personal allowance of one million euros, and from 4.4 percent to 6.5 percent in the scenarios with the personal allowance of two million euros (see Table 1).

In the scenarios with a progressive tax schedule, tax revenue increases by 11 to 25 percent compared to the scenarios with a proportional tax rate of one percent. The increase is even greater the more the tax base is concentrated on the high levels of wealth—i.e., with a higher personal allowance, a non-withdrawn personal allowance, or an allowance for business assets. Accordingly, the tax revenue in these scenarios is somewhat more concentrated on households with the highest incomes and wealth, and the reduction in the distribution measures is somewhat stronger.[17] Because the tax revenue is higher, the relative collection costs decrease.

Tax avoidance could noticeably reduce revenue

It is very likely that the (re)introduction of a wealth tax would lead to avoidance responses from taxpayers. Corporations may react to a wealth tax by transferring mobile assets to foreign countries, reducing self-financing, and reducing the corporate wealth through transfer pricing and comparable instruments. In the longer term, real investments could also be reduced or transferred abroad. Private investors could transfer assets abroad, or move abroad themselves.

The effects of such tax avoidance strategies on the tax revenue and collection costs are analyzed based on estimates regarding the elasticity of the corporate and capital income tax bases in the face of changes in the corporate and capital income tax rates (see Table 2). For this purpose, the wealth tax burden is converted into an implicit burden on corporate and capital income. As a baseline scenario, a base elasticity of –0.25 with regard to the collective tax burden of corporate and capital income is assumed[18]—that is, if the tax rate is increased (or decreased) by one percent (not percentage point), the tax base decreases (or increases) by 0.25 percent. For real estate assets, behavioral responses are not taken into consideration.

Since it is difficult to estimate the extent of the behavioral responses, the effects of elasticities of –0.4 and –0.1 are calculated in addition to the baseline scenario (see Table 2). The greater elasticity (–0.4) represents the much higher possibilities for tax avoidance and evasion, which existed up until 10 years ago and were measured in empirical studies for Germany.[19] The baseline scenario's average elasticity of –0.25 takes into account that the possibilities for tax avoidance and tax planning are likely to have significantly decreased since then. The weaker elasticity (–0.1) represents the possibilities that may arise in an intensified international tax policy coordination and cooperation by fiscal authorities.

Regarding the effects of the wealth tax burden, we factor in the actual individual marginal tax rate, taking into account the allowances, including the withdrawal adjustment for personal allowances. In addition to simulating the behavioral response-induced decrease in wealth tax revenue, we also simulate the indirect "shadow effect" on corporate and capital income tax revenues, for which we assume the same reduction in the tax base.[20] Further economic effects on the product and factor markets and the government budget are disregarded.

In the scenarios with the one-percent proportional tax rate, the tax revenue decreases by 30 to 46 percent compared to the baseline scenario (–0.25 elasticity) in the simulation without behavioral responses (see Table 2). In the scenarios with the higher, two-million euro personal allowance, as well as the scenarios with allowances for business assets, the decline in tax revenue is somewhat stronger. This is due to these scenarios' lower share of real estate assets, for which no avoidance responses are taken into account. The same effect can also be observed for the withdrawal adjustment of the personal allowance: This fattens up the tax base of taxpayers with lower levels of wealth, which have a high proportion of real estate assets.

The decline in revenue as a result of the indirect effect on the corporate and capital income tax revenue accounts for half to two-thirds of the total decline in revenue. With the stronger tax base elasticity (–0.4), the tax revenue declines by 50 to 68 percent compared to the simulation without behavioral responses. With the weaker tax base elasticity (–0.1), the tax revenue declines by ten to 24 percent.

17 Bach, Beznoska, and Thiemann (2016), p. 54 et seqq.

18 For a detailed explanation, see Bach, Beznoska, and Thiemann (2016), p. 41 et seqq.

19 Feld, L. P., Heckemeyer, J. H. (2011): FDI and Taxation: A Meta-Study. Journal of Economic Surveys 25, 233–272; Dwenger, N., Steiner, V. (2012): Effective Profit Taxation and the Elasticity of the Corporate Income Tax Base: Evidence from German Corporate Tax Return Data. National Tax Journal 65, 118–150; Fossen, F. M., Steiner, V. (2014): The Tax-rate Elasticity of Local Business Profits. DIW. Discussion Paper 1424.

20 If companies use tax planning or relocate investments abroad, it reduces the potential revenue of not only the wealth tax, but also the revenue of the existing corporate and capital income taxes. We set the income taxes levied at the company level at 30 percent of the business income; for capital income, we factor in the flat rate withholding tax, including a solidarity surcharge of 26.4 percent, and disregard the savings allowance. The decrease in income tax revenue is also factored in for the cases that no longer pay wealth taxes following a behavioral response, since their taxable assets now fall below the allowance level.

Table 2

Change of wealth tax revenue and assessment costs due to behavioral adjustment for different scenarios of the personal allowance and the specific allowance for business property, proportional tax rate of 1 %

	Personal allowance: EUR 1 million				Personal allowance: EUR 2 million			
	Withdrawal to EUR 500,000[1]		No withdrawal		Withdrawal to EUR 500,000[1]		No withdrawal	
	Specific allowance for business property (no withdrawal)							
	None	EUR 5 million	None	EUR 5 million	None	EUR 5 million	None	EUR 5 million
Baseline scenario: elasticity[2] −0.25								
Tax revenue change in billion euros								
Wealth tax	−3.3	−3.2	−2.0	−1.9	−3.1	−2.8	−1.6	−1.5
Capital income taxation[3]	−4.1	−3.8	−3.8	−3.5	−3.6	−3.4	−3.2	−3.0
Total	−7.5	−7.0	−5.7	−5.4	−6.7	−6.2	−4.8	−4.5
in % rev. before adjust.	*−33.1*	*−39.7*	*−29.9*	*−36.4*	*−38.0*	*−45.9*	*−33.1*	*−40.7*
Change of collection costs								
in % rev. before adj.	2.7	4.1	1.5	2.2	3.0	4.7	1.7	2.7
Compliance costs[4]	0.9	1.1	0.9	1.2	0.9	1.4	0.9	1.4
Administrative costs[5]	0.4	0.5	0.4	0.6	0.4	0.6	0.4	0.6
Revenue loss from valuation corrections	1.5	2.5	0.2	0.5	1.6	2.6	0.4	0.7
Baseline scenario: elasticity[2] −0.4								
Tax revenue change in billion euros								
Wealth tax	−4.8	−4.3	−3.2	−2.9	−4.4	−3.7	−2.5	−2.3
Capital income taxation[3]	−6.6	−6.2	−6.0	−5.6	−5.7	−5.4	−5.0	−4.7
Total	−11.4	−10.5	−9.2	−8.4	−10.1	−9.1	−7.6	−7.0
in % rev. before adjust.	*−50.7*	*−59.2*	*−47.7*	*−56.6*	*−57.2*	*−67.9*	*−52.9*	*−63.5*
Baseline scenario: elasticity[2] −0,1								
Tax revenue change in billion euros								
Wealth tax	−1.8	−2.0	−0.8	−1.0	−1.9	−1.8	−0.6	−0.8
Capital income taxation[3]	−1.7	−1.5	−1.5	−1.4	−1.4	−1.3	−1.3	−1.2
Total	−3.5	−3.6	−2.3	−2.4	−3.3	−3.2	−1.9	−2.0
in % rev. before adjust.	*−15.4*	*−20.1*	*−11.9*	*−16.1*	*−18.6*	*−23.6*	*−13.3*	*−17.8*

1 Withdrawal of the personal allowance by 50% of the taxable wealth above the personal allowance.
2 Elasticity of the corporate and capital income tax base with respect to changes in the corporate and capital income tax rates, related to the implicit corporate and capital income tax rate of the wealth tax.
3 Decline in corporate and capital income tax revenue when corporate and capital income tax base is reduced by the same amount.
4 Compliance costs of taxpayers.
5 Tax administration costs.

Source: Own calculations based on the Household Finance and Consumption Surveys (HFCS) 2011, including the estimated top-wealth households.

In the scenarios with the progressive tax schedule (which are not presented here), the behavioral responses are similar.[21] In the scenarios with the withdrawal adjustment, the behavioral responses are slightly lower than they are in the scenarios with the proportional tax rate; in scenarios without the withdrawal adjustment, they are slightly higher. Compared to the simulation without behavioral responses, the tax revenue in the baseline scenario declines by 30 to 44 percent. With the stronger tax base elasticity (–0.4), the tax revenue declines by 50 to 70 percent. With the weaker tax base elasticity (–0.1), the tax revenue declines by 14 to 20 percent.

It should be emphasized that the possible behavioral responses in the wealth tax base, including any indirect effects on the income taxes, are being simulated here. These responses reduce tax revenue as well as the redistributive impact of the wealth tax. This entails "excess burdens" in terms of efficiency losses only to the extent

21 Bach, Beznoska, and Thiemann (2016), p. 61 et seqq.

that negative real economic effects are also linked to production and employment.[22] As far as the behavioral responses are related to tax planning, no major real economic effects must be connected to this. Wealth taxation can also improve the efficiency of the tax system by reducing the negative economic externalities caused by a heavy and increasing concentration of wealth.

Advantages and disadvantages of the wealth tax

Through the implementation of high personal tax allowances and, if necessary, a progressive tax schedule, the wealth tax can target the richest strata of the population. Unlike the current corporate and capital income taxes, the wealth tax also encompasses assets' changes in value as well as imputed rents (such as those from owner-occupied property), valuable collections, and other luxury goods. In this way, the wealth tax is less affected by the complications that arise when determining profit or possibilities for tax planning, provided that the assets' market values can be determined or are already available.[23]

Because the wealth tax is levied regardless of actual income, it must be paid even in periods of loss. However, a consistent market or income valuation in the case of a persistently low return results in correspondingly low assets. Insofar as a risk premium is taken into account in the asset valuation, the wealth tax effectively burdens only the "safe" returns.[24] This primarily benefits small and medium companies with lower market values or high-risk premiums; however, investments with low returns will be heavily burdened. Because real rates of return are currently negative for safe investments such as savings accounts and government bonds, the wealth tax effectively reduces the capital stock. Investments and companies with high market values derived from alternative uses will also be heavily burdened—for example, the many real estate and housing companies with high-value land.

As long as it is not offset against the existing income taxes, the wealth tax creates an additional burden on corporate and capital income. This can cause noticeable taxpayer avoidance responses, which are simulated in this study. The possibilities for tax evasion in the case of financial assets have been significantly reduced over the past few years; however, there are still major opportunities for tax planning in the case of corporate taxation.

The wealth tax requires a separate asset assessment and appraisal, which is relatively complicated and must be updated regularly. Valuating real estate and corporate assets for which no appropriate market values are available necessitates the estimation of sustainable earnings potentials and the identification of discount rates, including risk premiums. This means that estimates and projections will inevitably be riddled with assumptions, which makes them vulnerable to controversy and tax planning.[25]

Conclusions

Overall, the analysis shows that the wealth tax is an effective tool for increasing the tax revenue from households with high or very high wealth. Germany's private wealth is heavily concentrated: The richest one percent of the population possesses an estimated 32 percent of the total net wealth, and the richest 0.1 percent alone possesses 16 percent. The wealth tax can therefore generate an estimated ten to 20 billion euros per year in revenue—even with high allowances—which slightly reduces the inequality of income distribution. The wealth tax's collection costs range from two to eight percent relative to the tax revenue, which is comparable to the collection costs for income taxes.

The wealth tax entails an additional burden on corporate and capital income, insofar as it is not offset against the existing income taxes. This means that the reduction of corporate- and wealth-related taxes from the past few decades—which was primarily due to the ever-increasing international tax competition—would be partially scaled back. Since tax competition and tax evasion are on the decline, opportunities to tax top wealth as well as high corporate and investment incomes are opening up again. However, noticeable taxpayer avoidance responses are still possible, and such responses reduce tax revenue and could also cause problems for the German economy. Opportunities for tax avoidance would therefore need to be reduced even more, and an international consensus on the wealth tax regime would need to be reached.[26]

22 See, for example: Schneider, K., Neugebauer, C., Eichfelder, S., Dienes, C. (2013): Besteuerung von Vermögen, höhere Einkommensteuer und Gemeindewirtschaftsteuer. Konsequenzen der Reformpläne für die Belastung von Unternehmen in Deutschland. Bergische Universität Wuppertal, Schumpeter School of Business and Economics, 80 et seqq.

23 This is advantageous when taxing very wealthy households whose actual periodic incomes can often be difficult to measure. See Piketty, T., Saez, E., Zucman, G. (2013): Rethinking Capital and Wealth Taxation. Working paper.

24 See also: Auerbach, A. and K. Hasset. (2015): Capital Taxation in the Twenty-First Century. American Economic Review: Papers & Proceedings 105(5): 41.

25 See Broekelschen, W., Maiterth, R. (2010): Gleichmäßige Bewertung von Mietwohngrundstücken durch das neue steuerliche Ertragswertverfahren? Eine empirische Analyse. Zeitschrift für Betriebswirtschaft 80, p. 203-225, Müller, J., Sureth, C. (2011): Marktnahe Bewertung von Unternehmen nach der Erbschaftsteuerreform? Zeitschrift für betriebswirtschaftliche Forschung 63, p. 45-83.

26 Piketty, T. (2014): Capital in the Twenty-First Century. Harvard University Press: 528 et seqq.

The wealth tax's primary objectives can also be achieved through higher corporate and capital income taxes. Since they will not create any additional collection costs, these changes are technically easier to implement; as well, additional non-income taxes incurred during periods of loss could also be avoided. Through moderate increases in the highest levels of income tax rates and corporate and capital income tax rates, and through a reduction in tax incentives for corporate and rental income, annual revenues amounting to tens of billions of euros could be achieved.[27] Additional revenues could also be achieved with the inheritance tax if the benefits for high business assets were to be reduced.[28] For various practical and political reasons, however, this is unlikely to happen.

The German tax system could therefore see the wealth tax coming into play once again. For very wealthy households in particular, the old approach, which involved monitoring and supplementing the income taxation, could be reimplemented.[29] Crediting the wealth tax against existing corporate and capital income taxes could allow it to function as a minimum tax.[30] This would counteract complications involved in determining profits and income—for example, in the recording of capital gains and losses, or in tax planning. This could more effectively and equally shape the taxation of very wealthy households with high corporate and capital income whose actual periodic incomes are difficult to measure in the tax practice, whereas their assets can be more easily determined.[31]

27 Finanzpolitische Kommission der Heinrich-Böll-Stiftung (2014): Nachhaltig aus der Schuldenkrise – für eine finanzpolitische Zeitenwende. Schriften zu Wirtschaft und Soziales Band 14: 85 et seqq.

28 Bach, S., Thiemann, A. (2016): Hohe Erbschaftswelle, niedriges Erbschaftsteueraufkommen. DIW Wochenbericht Nr. 3.2016.

29 The 1895 Prussian wealth tax introduced as an *Ergänzungssteuer* ("supplementary tax") during the course of the Miquelian tax reform expressed this function in its title: It was intended to close the income tax's coverage gap—for example, in the case of capital gains from private investment, or the non-performing assets of an upscale lifestyle, such as "country houses and parks." Furthermore, it stipulated that "protected" and "effortless" capital income that was not generated directly by human labor be taxed more heavily. Preussisches Ergänzungssteuergesetz vom 14. Juli 1893. Finanzarchiv 10 (2), 1893, p. 304 et seqq. For background and rationale, see: Gesetzentwurf, Finanzarchiv 10 (1), 1893, p. 370 et seqq.

30 Jarass, L., Obermair, G. M. (2003): Intelligente Vermögensteuer in Deutschland. Anrechnung der Vermögensteuer auf die anteilige Einkommensteuer. In: Grüne Perspektiven zur Vermögensbesteuerung. Bundesarbeitsgemeinschaft Wirtschaft und Finanzen, B90/Die Grünen, Berlin. Reader der BAG Wirtschaft und Finanzen, November 2003, p. 25–36.

31 See Piketty, Saez, und Zucman (2013).

Stefan Bach is Research Associate in the Public Economics Department at DIW Berlin | sbach@diw.de

Andreas Thiemann is Research Associate in the Public Economics Department at DIW Berlin and a scholarship recipient of the Forschungsnetzwerk Alterssicherung | athiemann@diw.de

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DIW BERLIN

DIW Berlin — Deutsches Institut
für Wirtschaftsforschung e. V.
Mohrenstraße 58, 10117 Berlin
T +49 30 897 89 -0
F +49 30 897 89 -200

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Press office
Renate Bogdanovic
Tel. +49-30-89789-249
presse@diw.de

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