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## Preferences for wealth taxation: Design, framing and the role of partisanship

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Quantitative Research in Taxation – Discussion Papers

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## **Preferences for Wealth Taxation – Design, Framing and the Role of Partisanship**

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# Preferences for Wealth Taxation – Design, Framing and the Role of Partisanship

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*Preliminary version.*

## Abstract

Empirical literature on preferences for wealth taxation almost exclusively focuses on either the emotionally loaded estate tax or rather general concepts of redistributive preferences. Yet, it remains unclear whether the exceptional opposition towards the estate tax is applicable to other instruments of net wealth taxation. This study presents, to our knowledge, the first investigation of *how* individuals want to tax wealth - across a variety of tangible wealth tax instruments. In doing so, we particularly test for the presence of framing effects, incidence concentration and the role of wealth characteristics within the different tax configurations. For this, we conducted a factorial vignette survey experiment with over 3,200 respondents on Amazon’s Mechanical Turk (MTurk). Each respondent was randomized into one of four burden-equivalent wealth tax instruments: an estate tax, a one-time wealth tax, a decennial wealth tax or a yearly wealth tax. Subsequently we asked each respondent to state her preferred overall lifetime tax burden for a set of hypothetical individuals. Our findings yield several interesting insights. First, we find that the exceptional opposition towards the estate tax is not applicable to other instruments of wealth taxation and is only valid for certain subgroups. In general, our empirical findings provide preferred tax rates between 12.8 to 14.9 percent of overall lifetime tax burden. Second, we document an exceptional opposition towards the mere name “estate tax” in relation to equivalent wealth tax instruments for certain subgroups. Republicans particularly reject the estate tax with a lower proposed effective tax rate of around 3.1 percentage points compared to all other wealth taxes - even the perfectly congruent one-time wealth tax. Third, we uncover the influence of normative preferences for specific design features on the support for a wealth tax. Proposed effective tax rates of the estate tax and the one-time wealth tax show a significant progressivity, whereas no progressivity can be observed for both periodical taxes. The presence of children has an especially significant negative effect in one-off wealth taxes at the end of the lifetime.

**JEL Classification:** C90, D31, D72, H2

**Keywords:** Wealth taxation, Preferences for taxation, Misinformation, Randomized experiment

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# 1 Introduction

Against the background of an increased concentration in private wealth (well documented by e.g. [Alvaredo et al., 2013](#); [Saez and Zucman, 2016](#)), the discussion about the taxation of wealth is of growing prominence in both the academic as well the public policy sphere. Wealth taxes are substantially different to any form of income or capital income taxation as they do not tax income *flows* but rather target the entire *stock* of all financial and non-financial assets after the deduction of all debts<sup>1</sup>. According to its proponents, it is only such a substantial tax base (unlike income or consumption taxes) which qualifies to effectively address the assumed increasing wealth inequality<sup>2</sup>. Against this background, a recent piece by [Saez and Zucman \(2019\)](#) points out how a well enforced wealth tax would be an important component to restore overall progressivity of the US tax system, especially at the top of the US income and wealth distribution.

Aside if one deems these arguments as convincing from an economic point of view<sup>3</sup>, it has to be noticed how wealth inequality increasingly governs public debates and consistently put the taxation of wealth on the political agenda. Still, it is not given that an increased concern about inequality would necessarily translate into stronger political support for wealth taxation. Public discourse on redistribution might be dominated by highly politicized debates on specific tax instruments, especially to those currently in place<sup>4</sup>, coupled with well researched strong misperceptions about (personal) social mobility<sup>5</sup>. Through this lens, it is not surprising that the current worldwide trend points towards repealing instruments of wealth taxation ([Drometer et al., 2018](#))<sup>6</sup>, contrary to predictions of standard political economic analysis ([Meltzer and Richard, 1981](#)).

Indeed, recent research finds preferences for a positive, and even fairly high, taxation of wealth ([Fisman et al., 2019](#); [Kuziemko et al., 2015](#)).<sup>7</sup> On top of that, a remarkable amount of suggestive evidence supports this finding: prominent candidates for the 2020 Democratic presidential nomination enjoy popularity in their demand for a progressive wealth tax, a recent poll reports that 60% of respondents endorsed the idea of a 2% annual wealth tax on wealth above \$50 million<sup>8</sup>. In face of the economic costs of the recent COVID-19 pandemic, a one-time wealth tax is discussed – an intervention that Donald Trump himself proposed back in 1999 to cut public debts<sup>9</sup>. In stark contrast, the current wealth tax in place

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<sup>1</sup>These types of tax instrument is often referred to as 'net wealth tax', 'net worth tax' or also 'capital tax' in the literature. If not otherwise denoted, the term "wealth tax" refers to this definition in this paper.

<sup>2</sup>Prominently [Piketty and Zucman \(2014\)](#) argue that a fundamental gap between returns on capital and growth rates of economies is a central driver of wealth inequality: Their empirical analysis revealed how wealth distribution within each age group was substantially more unequal than the income distribution. Therefore, [Piketty \(2015\)](#) proposes a progressive wealth tax to stabilize the level of wealth concentration.

<sup>3</sup>Indeed, the literature in within the classic optimal tax framework yields inconclusive results on the desirability of wealth taxation. The classic conclusion of [Atkinson and Stiglitz \(1976\)](#); [Chamley \(1986\)](#); [Judd \(1985\)](#) implying an optimal capital and wealth tax of zero. The recent framework of [Saez and Stantcheva \(2016,0\)](#) suggest a positive wealth tax.

<sup>4</sup>Papers show how the specific design of taxes, misinformation, and framing might outweigh general support for redistribution (e.g. [Fisman et al., 2019](#); [Kuziemko et al., 2015](#); [Bartels, 2005](#))

<sup>5</sup>[Piketty \(1995\)](#) and [Benabou and Ok \(2001\)](#) establish the so-called "POUM" (prospect of upward mobility) hypothesis: individuals systematically overestimate their probability of upward mobility, so that they prefer less redistribution.

<sup>6</sup>[Drometer et al. \(2018\)](#) analyze 26 OECD countries and illustrate how, over the past 15 years, seven OECD economies abolished periodical net wealth taxation and only three countries still maintain such a tax: Switzerland, Norway and Spain. Estate taxes or corresponding inheritance taxes are still levied in two thirds of the analyzed OECD countries. However, also a large number of countries (Austria, Czech Republic, New Zealand, Norway, Portugal, and Sweden) recently abolished them.

<sup>7</sup>[Fisman et al. \(2019\)](#) reports preferred yearly wealth tax rates between 0.8 percent for wealth from saved incomes and 3.0 percent.

<sup>8</sup>Quinnipiac University poll see <https://poll.qu.edu/national/release-detail?ReleaseID=2617> or also Reuters/Ipsos poll see <https://www.reuters.com/article/us-usa-election-inequality-poll/majority-of-americans-favor-wealth-tax-on-very-rich-reuters-ipsos-poll-idUSKBN1Z9141>

<sup>9</sup>Specifically he proposed a 'one-time net worth tax' of 14.25 percent on individuals and trusts worth \$10 million or more. Notabene: a proposal much more severe than the tax plans of Elisabeth Warren. See <https://edition.cnn.com/ALLPOLITICS/stories/1999/11/09/trump.rich/index.html>



- the estate tax<sup>10</sup> - is one of the most controversial and emotionally discussed taxes, across the entire political spectrum (Krupnikov et al., 2006). Indeed, previous empirical studies document an exceptional unpopularity of this tax and attribute this mostly to misinformation (Slemrod, 2006; Krupnikov et al., 2006; Kuziemko et al., 2015). As a result, the estate tax is continuously contested and subject to substantive legal changes over the past decades: besides an intermediate repeal in 2010, top tax rates dropped from 55% in 2001 to 40% in 2020 whereas allowances increased from \$675,000 to \$11.58 million.

Given such a highly politicized debate, it remains an open question whether this opposition actually mirrors a general public reservation towards the taxation of wealth. It is in this spirit when the Forbes magazine asks “*Why Do People Hate Estate Taxes But Love Wealth Taxes?*”<sup>11</sup>.

This peculiarity presents an interesting research opportunity as it raises a couple of questions for public economists: Is the opposition towards the estate tax originated in missing general support for wealth redistribution or is it rather a result of specific design features? What are those specific design features? The context of death? The taxation of intra-family transfers? The concentrated incidence at only one point in life? The comprehensive character of the tax base (i.e. the type of assets affected)? Its (missing) progressivity? This paper aims to answer the questions raised - beyond the already well documented opposition due to misinformation. Therefore, we present, to our knowledge, the first investigation of how individuals’ preferences for wealth taxation depend on the specific configuration of the wealth tax instrument.

For this, we conducted a factorial vignette survey experiment with over 3,200 respondents on Amazon’s Mechanical Turk (MTurk). Each respondent was randomized into one of four wealth tax instruments: an estate tax, a one-time wealth tax, a decennial wealth tax or a yearly wealth tax. Each respondent was presented a series of hypothetical individuals that differed across four dimensions: level of wealth, type of assets, source of wealth and the number of children. Our subjects were then asked to state their preferred overall life-time tax burden in absolute terms (amount in USD) for each case presented in the assigned tax instrument. In doing so, our participants implicitly design an own tax system  $T_{instrument}$  (*level of wealth, source of wealth, type of assets, number of children*). Comparing tax instruments - which are otherwise hardly comparable - constitutes an important property of our experimental design: Asking only for the preferred overall lifetime tax burden accounts for potential difficulties to translate periodical tax rates into concentrated tax rates (i.e. bounded rationality)<sup>12</sup>. In that sense, the different tax instruments become equivalent and only differ in their name. Moreover, asking our subjects to construct an individual and personally preferred tax system immunizes our experimental design against misinformation and other biases towards existing tax instruments. Finally, we unambiguously state that this study assumes no behavioral response whatsoever to the final wealth of a person and the absence of other wealth taxes, the understanding of which we test in multiple comprehension control questions.

Based on this, we test our results against the following standard economic assumption: Given burden equivalence, tax preferences should not differ across wealth tax instruments. In particular, we investigate the following three hypotheses: 1) Preferences for an **estate tax** compared to an equivalent **one-time wealth tax** do not differ as they are perfectly congruent except for their names (*i.e. framing effects*). 2) Preferences for **one-time** and **periodical taxes** do not differ as we equate their burden by design

<sup>10</sup>A transfer tax based on the overall value of wealth left by a decedent.

<sup>11</sup>See <https://www.forbes.com/sites/taxnotes/2019/10/30/why-do-people-hate-estate-taxes-but-love-wealth-taxes/#66c08da279e8>

<sup>12</sup>For example: Given a positive wealth stock at the age of 30, an avg. growth rate of 3% and no allowance: A yearly wealth tax of 1% would translate into an equivalent estate tax of 33.1%. A yearly wealth tax of 2% would translate into an equivalent estate tax of 55.4%.

(*i.e. concentration bias*<sup>13</sup>). And finally 3): The characteristics of wealth (*i.e.* level of wealth, source of wealth, type of wealth, number of children<sup>14</sup>) are not differently decisive for different tax instruments, only for the general level of wealth taxation (*i.e.* the effect of *specific wealth characteristics*). In taking a more comprehensive view on instruments for wealth taxation, this novel approach has another advantage: It strengthens the robustness of our findings by using different tax instruments as reference points for each other.

Our empirical findings nicely confirm general results of previous literature: Our respondents choose levels of wealth taxation varying from 12.8 to 14.9 percent of overall lifetime tax burden across tax instruments. Whereas these results may seem relatively high, Fisman et al. (2019) find preferred yearly wealth tax rates between 0.8% and 3.0% that translate into even higher effective tax rates of lifetime tax burden<sup>15</sup>. Further, our results yield proposed tax burdens being higher if assets are accumulated by luck instead of effort (Alesina and Angeletos, 2005). Individuals who are informed about the current legislation and wealth distribution propose significantly higher effective tax rates across all tax instruments (Kuziemko et al., 2015) and Republicans accept more inequality than Democrats (Cappelen et al., 2018), thus preferring lower and less progressive tax rates. Moreover, it is especially older respondents and those with own children who strongly oppose particularly the estate tax (*cf.* bequest motives discussed by Cremer and Pestieau, 2006).

Regarding our first hypothesis, we find strong heterogeneous treatment effects along partisanship. Republicans' articulated preferences refer to the particular rejection of the estate tax: Proposed effective tax rates are significantly lower compared to all other wealth taxes. Especially remarkable is how this rejection does not hold for a perfectly congruent one-time wealth tax. This finding is particularly intriguing since it constitutes novel empirical evidence on hidden emotional charges, potentially triggered by political framing (Birney et al., 2006). As respective framing campaigns have been mainly been launched by the Republican Party and related think tanks, it is hardly surprising that results differ along the line of partisanship: Democrats unambiguously do not differentiate between the estate tax and an equivalent one-time wealth tax.

Regarding our second hypothesis, the differences along the lines of concentrated (*i.e.* estate and one-time wealth tax) versus periodical (*i.e.* yearly and decennial wealth tax) taxes, the distinction between partisan lines again reveals significant heterogeneous treatment effects: On the one hand, Democrats clearly prefer concentrated taxes (both the estate and the one-time wealth tax) over periodical wealth taxes *in proposed tax rates*. On the other hand, a clear majority of Democrats prefer a periodical wealth tax over a concentrated tax when these instruments are set in direct comparison (holding the level of taxation constant). Our textual analysis reveals how Democrats like to significantly tax accumulated wealth at the end of one's life and are rather careful with periodical payments to not restrict economic freedom. However, they also state reasons why they still prefer a periodical wealth tax over a concentrated tax (although not in tax rates): periodical installments are easier to handle as well as they immediately would generate a consistent stream of tax revenues to the government. Republicans are indifferent between the concentrated one-time wealth tax and both periodical taxes but reject the estate tax in proposed tax rates. In line with their preferences in proposed tax rates, they also prefer a yearly tax over a concentrated payment in direct comparison.

Regarding our third hypothesis that addresses the different influence of specific characteristics across

<sup>13</sup>Furthermore, our design cancels out any different wealth aggregating effects between the different tax instruments.

<sup>14</sup>As suggested by previous literature. Level of wealth: Kuziemko et al. (2015); Fisman et al. (2019), source of wealth: Alesina and Angeletos (2005); Weinzierl (2017); Almås et al. (2019), type of wealth: Boadway et al. (2010), number of children: Cremer and Pestieau (2006); Kopczuk et al. (2013).

<sup>15</sup>With a time horizon of 30 years, a yearly rate of 0.8 percent respectively 3.0 percent would be equivalent to an effective tax rate of 21.4 percent respectively 59.9 percent.

tax instruments. We find significant differences between treatment groups with respect to the impact of the level of wealth and the taxpayer’s number of children on proposed effective tax rates. In both cases, results clearly differ between concentrated tax treatments on the one hand and periodical tax treatments on the other hand: While no effect can be found in periodical taxes, preferences for higher taxes clearly and significantly increase with the value of assets and decrease with the number of children in the estate tax group and the one-time wealth tax group. These very similar results within the groups of concentrated and periodical taxes strengthen the robustness of our results.

This project first and foremost contributes to the growing literature on the *political feasibility* of redistributive policies, apart from the major literature on efficiency considerations<sup>16</sup>. Only a fairly young strand of theoretical literature bridges the gap between standard models of optimal (wealth) taxation and public preferences<sup>17</sup>, proposing to empirically elicit public attitudes towards redistribution in order to enrich standard models of optimal taxation that eventually translate into tangible tax designs.

In this realm we perceive our contributions as threefold: First, we shed a light on the opposition towards the estate tax beyond the well documented effect of misinformation. The seminal works by [Slemrod \(2006\)](#); [Krupnikov et al. \(2006\)](#) show how a majority of Americans vastly overestimate the share of taxable estates. The same can be found looking at public opinion polls (see [Bowman et al., 2017](#)). In a survey experiment, [Kuziemko et al. \(2015\)](#) explore how addressing misinformation on inequality, economic growth and its specific design more than doubled the support for increasing the estate tax<sup>18</sup>. Still, they admit that it remains an open question if addressing this misinformation fully explains the large treatment effect. Our findings propose a more fine-grained picture as they add the effect of political framing apart from mere misinformation to the story. Political and social scientists already mapped out meticulously how policy makers exploit the sensitive context of death through a sophisticated use of rhetoric to gather political majorities to repeal the estate tax ([Bartels, 2006](#); [Birney et al., 2006](#); [Graetz and Shapiro, 2011](#)). We, to our best knowledge, are the first to quantify the emotional load resulting from such framing strategies on the mere name “estate tax” in relation to an equivalent wealth tax instrument absent of this frame.

Second, along similar lines, we find that the exceptional opposition towards the estate tax is not applicable to other instruments of net wealth taxation. While preferences for wealth taxation are primarily discussed against the background of intergenerational wealth transfers (i.e. inheritance or estate taxation) research on preferences for other instruments of net wealth taxation remains limited. [Slemrod \(2006\)](#); [Alesina et al. \(2018\)](#); [Bastani and Waldenström \(2018\)](#) show the particularly strong opposition against the estate tax but do not clearly differentiate, whether this opposition is against wealth taxation in general or the estate tax (as an especially unpopular type of wealth taxation) in particular. Likewise, [Fisman et al. \(2019\)](#) experimentally find significant support for taxing wealth received from bequests on a yearly level. Even though they essentially test the support for a yearly wealth tax (on bequests), they generalize their results to the support for a fundamentally different estate tax. Our study provides a more differentiated view on the preferences for wealth taxation by taking several instruments into account, which serve as reference points to each other and thus provide more robust interpretations of our results.

Third, we uncover the influence of normative preferences for specific design features on the support for a wealth tax. Aside from the research on rather abstract normative concepts (e.g. [Weinzierl, 2014](#)),

<sup>16</sup>On the equity-efficiency take off see e.g. [Diamond and Saez \(2011\)](#); [Straub and Werning \(2020\)](#); [Piketty and Saez \(2013\)](#); [Kopczuk et al. \(2013\)](#); on implementation considerations see e.g. [Kopczuk et al. \(2013\)](#); [Adam et al. \(2011\)](#); [Bastani and Waldenström \(2018\)](#); on behavioral responses towards wealth taxation see e.g. [Seim \(2017\)](#); [Brühlhart et al. \(2017\)](#); [Jakobsen et al. \(2018\)](#)

<sup>17</sup>See: [Weinzierl \(2014\)](#); [Saez and Stantcheva \(2016,0\)](#)

<sup>18</sup>In line with former findings, only 12 percent of the participants answered correctly what share of the population is actually affected.

the research on preferences for specific tax design features remains sparse. Three recent papers are important to mention: [Bastani and Waldenström \(2018\)](#) are among the first ones who survey participants on different instruments of wealth taxation: property, inheritance and net-wealth taxation. While they also report a “puzzlingly” strong opposition to the inheritance tax, one of their main findings is that the design and structure of taxes is of prime importance. In case of inheritance taxation, respondents express significantly higher support when only “large” bequests are taxed. For the property tax, a simple name change already has a great positive effect on its popularity. Still, the underlying drivers for perceptions remain unclear and insights beyond the single tax instruments are not inferable due the lack of comparability (i.e. differences in tax levels and tax bases). They conclude that there are “some clues” about mechanisms behind the emotional load of taxing wealth. Along the same lines, [Bastani and Waldenström \(2018\)](#) show how support for an inheritance tax in Sweden increases by 30 percent in response to an information treatment. Interestingly, they include an additional design-specific dimension by asking about the respondents’ support for either a low- or a high-exemption inheritance tax. With a considerably larger support for a high exemption tax they provide further evidence that design features might as well shape preferences. Most closely related to our paper, [Fisman et al. \(2019\)](#) reveal public preferences for jointly taxing income and wealth in an experimental approach. Respondents had to indicate their preferred total tax bill for each one of a series of hypothetical individuals that differed in the levels of income, wealth and sources of wealth. They find preferred wealth tax rates between 0.8 percent for wealth from saved incomes and 3.0 percent for wealth from inheritances (per year). These findings are, however, restricted to a single period of joint taxation of income and wealth without exploring preferences regarding more specific wealth tax instruments. Thus, our paper is the first to elicit directly comparable preferences within the means of wealth taxation, whereas the preceding papers either focus on preferences for estate taxation or rather general preferences to tax wealth. In that sense, this project could be seen as a contribution to the calibration of a ‘realistic wealth tax system’, which “involves a mixture of progressive taxes on inheritance, annual wealth holdings, and annual capital income flows” postulated by [Piketty \(2015\)](#).

The rest of this paper is organized as follows. Sections 2, 3 and 4 will give a detailed description of our experimental design, the data and our empirical strategy. In section 5 the results are presented followed by a brief discussion and concluding remarks.

## 2 Experimental Design

As outlined above, the main objectives that we had in mind when designing our study are twofold: First, we aim to investigate general preferences regarding the taxation of wealth. Second, we want to explore the specific design features that affect the support for different types of wealth taxes. It is important to mention that we focus on design aspects derived from attributes of taxes that have already been implemented (anywhere) and hence, can be seen as realistic options.

To our knowledge, both objectives have not been sufficiently addressed in the literature yet. Although some studies deal with related research issues in the field of wealth taxation, they are not addressing these fundamental questions. One exception is the recent study by [Fisman et al. \(2019\)](#): Their results can be seen as complementary to ours with respect to the first objective, i.e. the acceptance of wealth taxation in general. The major drawback of other related studies is the focus on one particular type of tax, often the estate tax (e.g. [Slemrod, 2006](#); [Birney et al., 2006](#)). This holds true for [Kuziemko et al. \(2015\)](#) who emphasize the robustness of their results by comparing preferences regarding the estate tax and regarding other (not wealth tax related) redistributive measures. However, as the estate tax is described as one of

the most controversial and emotionally discussed taxes (e.g. [Krupnikov et al., 2006](#)), it is not convincing to derive any statement on preferences regarding the taxation of wealth in general. To be more specific, one had to disentangle the two main sources that lead to observed preferences regarding estate taxes: Support for a wealth tax in general and the potentially deviating support for the estate tax. Furthermore, we do not consider non-tax-related measures as adequate reference points to interpret results regarding the estate tax.

To overcome these issues, we compare preferences regarding various (implementable) types of wealth taxes that differ with respect to fundamental design features: First, we consider the estate tax as well as a perfectly congruent tax, except for its name: a one-time wealth tax that is levied close to one’s end of life. Second, besides taxes with a single concentrated payment, we look at another group of wealth taxes that has been implemented in other countries <sup>19</sup> and is part of the current political debate: The group of periodical wealth taxes. In order to both analyze the effect of different levels of periodicity and to strengthen robustness in findings between concentrated and periodical taxes, we consider two different recurrent tax instruments: One tax that is levied every year (*yearly wealth tax*) and another tax that is levied every ten years (*decennial wealth tax*).

Concentrated Tax Payment	Periodical Tax Payment
Estate Tax	Decennial Wealth Tax
One Time Wealth Tax	Yearly Wealth Tax

Table 1: Overview of the different tax instruments.

Analyzing different types of wealth taxes enables us to a) disentangle preferences that rely on a specific tax design and for wealth taxation in general, b) reveal whether socio-economics affect preferences differently across tax types and, methodologically important, c) strengthen the interpretation of our results by using different tax instruments as reference points for each other. Furthermore, consistent results throughout similar wealth tax instruments serve as a robustness check and validate our results.

Despite the differences in their implementation, the formal comparability of concentrated and periodical wealth tax instruments is straightforward to demonstrate (see appendix A.1). However, some issues remain:

- If comparing concentrated and periodical taxes with the same revenue, the amount of each yearly or a once-in-a-lifetime collection differs dramatically. Calculating the total tax burden based on (periodical) tax rates and (periodical) tax exemptions may not be straightforward for an average survey participant. Hence, asking for preferences regarding these parameters may lead to biased estimates of preferences towards different taxes.
- If growth is not fully exogenous, i.e. if the absolute growth in any period depends on the value of assets of the previous period, the burden of a periodical tax consists of two components: the levied tax and a restricted asset accumulation. Hence, the burden of a periodical tax may deviate from its revenue. People, including our survey participants, may therefore assess taxes differently.
- As discussed by e.g. [Kopczuk et al. \(2013\)](#), taxpayers’ savings or tax evasion behavior might depend on the design of the specific tax. If survey participants make assumptions about any tax-specific behavior, analyses comparing different tax instruments may be biased.

<sup>19</sup>Countries levying periodical (net) wealth taxes are e.g. Japan (only on real estate and business assets), Switzerland, Norway and Spain ([Drometer et al., 2018](#)). See [Piketty and Saez \(2013\)](#), [Seim \(2017\)](#), [Bird \(1991\)](#) and [Kopczuk et al. \(2013\)](#) for further discussions.

To avoid these issues, we take several precautions: First, we simply ask for the preferred total tax burden in absolute terms a hypothetical individual should pay in taxes. This reduces the complexity of an otherwise demanding tax computation. At the same time, we ensure that respondents remain aware of difference regarding the (time of) payments (see below). For our analyses we always translate proposed tax burdens into effective tax rates, i.e. the ratio of the proposed tax burden and the value of taxed assets. Second, we describe the wealth accumulating processes in our tasks to be fully exogenous and only specify the wealth of assets at the end one's life. We prefer this approach over an explicit note on endogenous and exogenous growth as it minimizes potential confusion. Third, we clarify some assumptions made at the beginning of our study. These include the absence of behavioral effects with respect to savings and tax evasion. Furthermore, respondents have to prove their comprehension of these assumptions based on control questions.

We use a between design to analyze preferences regarding the four different types of wealth taxes, i.e. every respondent is randomized into one of four groups containing one of the four types of wealth taxes. Subsequently, every respondent is faced with information and questions regarding only this one tax instrument.

The main part of our survey experiment are multiple successive questions on how much wealth taxes should be paid by hypothetical taxpayers given their financial situations. Again, all questions shown to the same respondent contain the same type of wealth taxes, whereas these types may differ between respondents. We are aware that differences in design features of a wealth tax beyond the name and periodicity exist. As these differences are related to characteristics of the taxpayer or assets subject to taxation, we enrich our setting with a vignette design. Using such a design allows us to vary the presented situation with respect to dimensions we expect to be decisive towards the preferences regarding wealth taxation:

- **Value of assets:** A general issue of taxation concerns the progressivity of taxes, i.e. who has to bear what share of the tax burden. This is strongly related to the question, of how people emphasize the redistributive character of a wealth tax. To focus on the taxation of high levels of wealth, we consider only assets worth \$1m or more.
- **Type of assets:** Especially with respect to the estate tax debate, people are worried that such a tax might threaten companies and subsequently jobs.<sup>20</sup> Furthermore, the liquidity of assets might affect preferences. Therefore we want to reveal, whether people prefer to differentiate between different types of assets or want an identical fiscal treatment.
- **Source of assets:** As carried out in the literature ([Alesina and Angeletos, 2005](#)), the source of assets, especially differentiating between wealth accumulation based on 'luck' and 'effort', plays an important role in the context of wealth taxation. In their aim to contrast luck and effort, [Fisman et al. \(2019\)](#) operationalize luckily gained assets as 'wealth, accumulated mostly from inheritance [...]'. In this paper we want to empirically investigate this claim. Therefore, we add an additional purely 'luck' related category.
- **Number of children:** The transfer of accumulated wealth to descendants through lifetime gifts or bequests plays a key role in both the political ([Graetz and Shapiro, 2011](#)) and the theoretical debate ([Cremer and Pestieau, 2006](#)): parents potentially obtain utility by e.g. protecting their dynasty, exchanging money with elderly care (by their children) or simple altruistic motives ('warm glow of giving').

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<sup>20</sup>See [Birney et al. \(e.g. 2006\)](#). [Bowman et al. \(2017, p.62\)](#), cite a public opinion poll according to which a great share of those who want to 'eliminate' the estate tax are afraid that it 'might force the sale of small businesses and family farms'.



Each of these dimensions consists of three different categories (see Table 2). In total, our vignette universe consists of  $3^4 = 81$  vignette options. To avoid confounding of main and two-way interaction effects, the selection of vignettes shown to the respondents was not barely random but based on a randomized block confounded factorial design (RBCF- $3^4$ ).<sup>21</sup> Generating such a design leads to nine sets that consist of nine vignettes each and are randomly assigned to our respondents.<sup>22</sup>

Dimension	Categories
Value of asset	\$1 million / \$10 million / \$30 million
Type of asset	Cash / Business shares / Real estate
Source of asset	Effort & hard work / Lottery & lucky investments / Inheritance
Number of children	None / One / Three

Table 2: Overview of the different vignette dimensions and their respective categories.

As already mentioned, every respondent is confronted with only one of the four types of wealth taxes. As the ideas/concepts of the tax instruments may be unknown to the participants, we start our experiment with an explanation of the respective tax instrument. We keep these information lean and do not consider information on institutional or organizational matters. However, as asking for one number may be a little confusing in case of periodical taxes, we give additional interactive information below the answer field indicating the average periodical tax payment: *The Tax Authority charges an average tax payment of \$X each year/ten years.*

Following this introduction, our respondents are forwarded to the main part of our experiment: We present nine iterations of hypothetical taxpayers and asked for the preferred total amount of wealth taxes that should be paid. It is important to remember that only the vignette dimensions vary within the set of cases. The type of tax always remains the same and are only different between respondents. However, we made sure to standardize the whole text independent of the type of tax to avoid any framing effects. The single questions take the form:

*Consider a person who starts building assets at the age of 30. By the age of 80, the end of his or her life, these assets are worth [asset value]. The assets mainly consist of [asset type] and were mostly accumulated by [source of asset]. The person has [number of children].*

*If it were up to you, what amount should the person pay in [estate / yearly wealth / decennial wealth / one-time wealth] taxes [at the end of his or her life / over his or her entire life in total / at the age of 80]?*

For entering their preferred tax burden, respondents could only type in round numbers with an automatically appearing comma as thousands separator. They were also free to switch between vignettes, go back and adjust their inputs within the set of the nine vignettes.

In a final step, we enriched our study by a within-subject comparison of tax instruments. Participants were asked to state their preference not only for the assigned tax instrument, but also in relation to another tax instrument – including a written motivation of their choice in an open-ended response format. Even though not being part of our main study, this provides first insights about the motives behind and beyond proposed tax rates.

<sup>21</sup>See [Montgomery \(2017\)](#), chapter 9 and [Su and Steiner \(2018\)](#).

<sup>22</sup>Recent literature suggests nine vignettes being a reasonable number, see [Sauer et al. \(2011\)](#) or [Auspurg and Hinz \(2014\)](#).

## 3 Data

### 3.1 Data collection

Our respondents were recruited through the crowdsourcing marketplace Amazon’s Mechanical Turk (MTurk)<sup>23</sup> between November 26 and December 11, 2018. MTurk is an online worker platform, which allows requesters to post human intelligence tasks (HITs) that can be performed by workers who are registered at MTurk and are continuously rated by requesters. These tasks are typically relatively simple and short. Following common practice (e.g. Fisman et al., 2019) we decided for a neutral description when posting our HIT: “Please answer a series of short questions about your personal opinion on capital taxation”. Guided by posts in worker forums and other recent studies we set the compensation for completing our survey to \$2. Given the median processing time of 10.65 minutes<sup>24</sup>, the payment corresponds to a median hourly wage of \$11.27, which can be seen as rather generously compared to other tasks. A share of \$1.50 was paid as a bonus only if control questions had been answered correctly in order to incentivize attention during the study.

The use of MTurk for academic and especially experimental purposes becomes increasingly prevalent with data being at least as reliable as data obtained via standard methods while requiring less money and time for their implementation (Horton et al., 2011; Berinsky et al., 2012). Nonetheless, a couple of well-known issues need to be accounted for in the research design. Most prominently indications for automated scripts (“bots”) and the use of Virtual Private Servers (VPSs) by workers outside the US caused a recent decline in data quality (Kennedy et al., 2018). We went to great lengths to consider this concern: First, we implemented basic measures such as limiting the visibility of our survey to participants who signed up at MTurk with a US address and asking to confirm participants’ US residency in the consent form. Next, participants had to pass a captcha-test that identifies non-human users on the first page. Moreover, we used a third-party web service, IP Hub, to ex-post identify all participants who used a VPS, VPN or proxy to potentially cover their location outside the US.<sup>25</sup> Furthermore, only workers with an approval rate of greater than or equal to 95 percent from previous tasks were allowed to participate in this study. To grant access also to the regular working population, we published this study only outside regular working hours. Finally, we prevented workers from participating in our study more than once: Respondents had to enter their unique worker ID on the first page before they were able to start the survey and only at completion received a password to submit to MTurk. We clearly stated that any violation would be penalized by rejecting the HIT which would result in a significant reputational loss for workers on MTurk. Our analysis shows that only a negligible number of workers indeed attempted to participate multiple times and those were excluded from our data analysis.

As part of the introduction we presented some notes on our assumptions:

**Important:** *In this study we assume that individuals’ behavior is not affected by the existence of taxes. In particular, the estate tax will not affect economic activity, savings behavior, or lead to tax avoidance/evasion. Furthermore, no other capital taxes are levied.*

Directly below these notes, we asked participants of our survey to evaluate three statements to incentivize re-reading the notes on our assumptions:

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<sup>23</sup>Link to the survey: [https://mpibonn.eu.qualtrics.com/jfe/form/SV\\_eyq4PeXKh3WxyvP](https://mpibonn.eu.qualtrics.com/jfe/form/SV_eyq4PeXKh3WxyvP). Screenshots can be found in the appendix.

<sup>24</sup>Only about 5 percent off all respondents took less than half of the median time and only about 10 percent took more than twice this time.

<sup>25</sup>Kennedy et al. (2018) show how studies that depend on language comprehension are especially vulnerable to fraudulent IPs outside the U.S.



1. *The existence and the amount of taxes does not affect economic activity and saving behavior.*
2. *The existence and the amount of taxes does not affect the level of tax avoidance and evasion.*
3. *The [...] tax AND other capital taxes are levied.*

We took an especially conservative approach for our data analysis in monitoring who understood our assumptions instantly: respondents did not receive any feedback on the correctness of their answer and thus had no second guess. As shown in Table 3, a significant share of respondents was not able to give correct answers, although we used very similar wording and structure for the text and the subsequent questions. While the comprehension of the third question may affect the general level of proposed taxes, it does not play a role for the main findings of this study. However, assessing the absence of behavioral responses captured by questions 1 and 2 correctly is crucial for the interpretation of our results between tax instruments. To strengthen the robustness of our results, we show in an additional analysis that the estimates for the sub-sample of respondents who answered both questions correctly (54.78 percent of all respondents) point towards the same direction.

Question	Share of correct answers (in percent)
1	84.67
2	61.35
3	81.01

Table 3: Share of correctly answered control questions.

Respondents were only considered in our analysis if they met the following data quality requirements. First, respondents had to finish the whole survey. Second, we dropped those respondents, whose answers were inconsistent with respect to our principal question: the tax burden of wealthy individuals. This includes:

1. proposed tax burdens leading to tax rates higher than 100 percent in at least one of the nine indicated vignettes,
2. proposed tax burdens leading to tax rates higher than 0 percent, but lower than 1 percent in all of the nine vignettes and
3. tax burdens following some kind of 'random walk' independent of the indicated wealth levels. We assume this if the absolute tax amount for any three vignettes containing the same wealth level was on average higher than the tax burden for the three vignettes containing a higher wealth level.

In all three cases, we assume responses to be insincere as proposed tax levels do not fit the respective wealth levels of the vignettes. Furthermore, we dropped some obvious cases of nonsense like tax burdens of '\$1,234' followed by '\$5,678'. Our final sample contains 18,909 answers of 2,101 respondents (9 vignettes each; see Table 4).

Group	Pre-cleaning <sup>26</sup>	Low rates	High rates	Inconsistent	'Nonsense'	Post-cleaning
Estate tax	792	114	23	103	1	<b>593</b>
Yearly wealth tax	782	181	40	128	11	<b>481</b>
Decennial wealth	771	182	37	147	8	<b>469</b>
One-time wealth tax	785	155	28	95	2	<b>558</b>
<b>Total</b>	<b>3,130</b>					<b>2,101</b>

Table 4: Number of observations pre- and post-cleaning.

There are some further inherent challenges in interpreting our survey results. First, we cannot fully parse genuine responses from insincere ones. However, we went to great lengths to do so in our data cleaning process and rigorously removed obviously inconsistent answers. Moreover, the analysis of the open-ended answers shows that our respondents indeed took their response quite serious. 99.7 percent of respondents provided a written answer with an average length of 27 words. We are aware of only one participant providing a copied answer from a website. To the best of our knowledge, answers were given in a genuine colloquial American English minimizing the chances of bots being involved. These open-ended answers furthermore suggest that the assumptions underlying our design (i.e. no behavioral effects and no other wealth taxes) indeed were taken into account by our participants: we found only 72 incidences (3.4 percent of responses) talking about behavioral responses<sup>27</sup> and no one stating word groups like 'other capital taxes' or referring to the current 'property tax'. Second, preferences stated in survey experiments may deviate from 'real-world' (voting) behavior.<sup>28</sup> Third, data gained by a survey experiment might not be representative with respect to the real (US) population. The latter point is linked to the descriptive statistics analyzed in the next chapter.

## 3.2 Descriptive Statistics

In Table 5 we show summary statistics of our analyzed respondents, separated by treatment groups to verify the randomization process. To evaluate the representativity of our sample, we compare the characteristics of all groups to data from the General Social Survey 2018<sup>29</sup> (GSS; except political preferences) and on votes from the US House of Representatives elections in 2018 (political preferences) to evaluate the representativeness of our sample.

**Bold values** indicate significant (on 5%-level) differences of characteristics compared to those of the US population. Respondents of our samples are younger, have less children, are better educated and differ regarding ethnicity and political preferences. Furthermore, most treatment groups consist of less female and less married individuals. Obviously, some characteristics as age and marital status as well as children are correlated. Despite of these differences, the randomization process of our survey worked fairly well as only two significant differences between treatment groups occur: the share of respondents with children is greater in the estate group compared to the yearly-wealth group (no differences in the number of children) and we find a greater share of respondents who describe their ethnicity as 'white' in the one-time wealth group compared to the estate group. As voting behavior and hence political views differ between different areas of the United States, we also want to check the representativity of our

<sup>26</sup> Respondents, who are US-residents and finished the survey. Based on our initial data we deleted 188 respondents uncovered as users with an IP-address from outside the US.

<sup>27</sup> Specifically, we checked for the words 'evasion', 'avoidance', 'way around', 'plan', 'defraud' and 'loophole'. In any case, Cappelen et al. (2018) and Fisman et al. (2019) also show that efficiency concerns are not decisive for redistributive preferences.

<sup>28</sup> See Hainmueller et al. (2015).

<sup>29</sup> The General Social Survey (GSS) is a project of the independent research organization NORC at the University of Chicago, with principal funding from the National Science Foundation. A survey "is based on approximately 2,500 face-to-face interviews with a nationally representative sample of English and Spanish speakers who reside in the US"; see <https://hub.jhu.edu/2019/04/10/general-social-survey-stephen-morgan/> (26.07.2019).

sample in this regard. A comparison of the geographical backgrounds of our survey participants and the US population shows very similar distributions among states (figure 1). Hence, the geographical coverage of our survey worked well. To control for differences between groups, a covariate vector will consider personal characteristics in our regression analyses.

Deviations from the 'real world' population are not a problem for the internal validity of our study. However, we need to be careful talking about external validity as the representativeness of our sample is limited and due to the reasons discussed at the end of the previous chapter. Despite this limitation, analyses, especially based on sample splits, may help understand the preferences regarding the taxation of wealth of different parts of the society and hence of the US population.

	estate	yearly wealth	decennial wealth	one-time wealth	GSS 2018
age	<b>36.5</b>	<b>36.5</b>	<b>36.3</b>	<b>36.8</b>	46.6
female	0.51	<b>0.49</b>	<b>0.46</b>	<b>0.48</b>	0.53
married	<b>0.43</b>	<b>0.43</b>	0.45	0.45	0.49
has children	<b>0.49</b>	<b>0.41</b>	<b>0.44</b>	<b>0.45</b>	0.71
# children	<b>1.02</b>	<b>0.90</b>	<b>0.97</b>	<b>0.92</b>	1.85
black	<b>0.08</b>	<b>0.07</b>	<b>0.09</b>	<b>0.07</b>	0.15
white	0.74	<b>0.78</b>	<b>0.77</b>	<b>0.79</b>	0.72
high school	<b>0.99</b>	<b>0.99</b>	<b>1.00</b>	<b>1.00</b>	0.88
bachelor	<b>0.56</b>	<b>0.56</b>	<b>0.57</b>	<b>0.58</b>	0.31
employed	0.70	0.73	0.74	0.72	0.71
republican	<b>0.28</b>	<b>0.29</b>	<b>0.26</b>	<b>0.29</b>	0.44
democrat	0.51	0.54	0.52	0.54	0.53
observations	593	481	469	558	2,348

Table 5: Descriptive statistics (average values) of our sample, by treatment group, and the US population based on the GSS 2018.

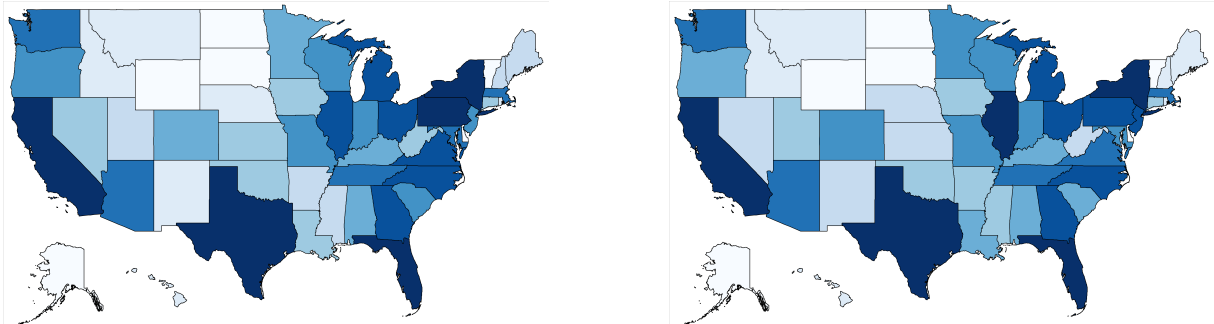


Figure 1: Number of our survey participants (left) and the real population (right) by state; the darker the color the higher the number of people from the respective state.

As it will be crucial for our analyses, significant differences in characteristics depending on partisanship should be briefly mentioned. Supporters of the Republicans are older and have more children compared to those supporting the Democrats. Furthermore, the share of female, employed and non-white respondents is smaller in the subgroup of Republicans, whereas the share of married respondents is higher. No differences can be found regarding the level of education. Regarding our comprehension questions, Republicans performed significantly worse. However, as differences in shares of correct answers are only about 5 percentage points in each case, the effect on response quality might be neglectable.

Comparing attitudes of supporters of both parties reveals further findings: First, those respondents who support the Republicans prefer significantly lower taxes on wealth throughout all tax instruments compared to Democrats. Second, we find remarkable and significant differences in answers to some additional questions we consider within our socioeconomic questionnaire: Democrats see inequality as a greater problem for society and show stronger support for general redistribution by the government. Furthermore, we ask whether our respondents consider either luck or effort as a more important factor for accumulating wealth. While Republicans see effort as the more important reason, Democrats state the opposite.

## 4 Empirical Strategy

To analyze the proposed tax burdens, they are always translated into effective tax rates, i.e. the ratio of the proposed tax burden and the value of assets being taxed. These effective tax rates represent the key variable throughout our analyses and serve as dependent variable in our regression analyses.

In a first step we always show differences in *average* effective tax rates between different tax instruments and vignette dimensions graphically. As described above, our randomly ordered vignette-assignment procedure ensures that each vignette category is equally often displayed to every respondent and in combination with every other category. Hence, all respondents are confronted with e.g. each of the three wealth levels (\$1m, \$10m, and \$30m) *exactly three times*. Furthermore, each wealth level is displayed in combination with every category of every other dimension *exactly once*. Therefore, all sets of vignettes and average proposed tax burdens are 'balanced' with respect to the categories and combinations. The presented 95%-confidence intervals are calculated based on average effective tax rates per respondent.

In a second step, we estimate different regression equations to control for socioeconomic differences between treatment groups and exploit information of the whole set of answers of every respondent. We analyze effects between tax instruments and vignette effects. The identification of effects between taxes is given by the equation:

$$etr_{ij} = \alpha + \beta_1 treat + \beta_2 X_i + \varepsilon_{ij} + u_i$$

Vignette effect estimates based on the following equation:

$$etr_{ij} = \alpha + \beta_1 value_{ij} + \beta_2 source_{ij} + \beta_3 type_{ij} + \beta_4 children_{ij} + \beta_5 X_i + \varepsilon_{ij} + u_i$$

In both cases,  $i$  indexes the respondent and  $j$  the vignette,  $etr_{ij}$  is the proposed effective tax rate<sup>30</sup> and  $X_i$  is a covariate vector capturing the respondents' characteristics<sup>31</sup>. As we gather nine observations of proposed tax burdens for each respondent, we cannot assume these observations to be independent. To consider the structure of our data, our estimations include participant specific random effects.

<sup>30</sup>I.e. the quotient of the proposed tax burden and the indicated level of wealth.

<sup>31</sup>These include gender, age, ethnicity (dummies white, black), partisanship (dummies Republican, Democrat), education (ordinal), entrepreneurial activities within the family (dummy) and two wealth-related questions (dummies, whether the respondent has ever received a gift or inheritance greater than \$10,000 in the past or expects to be affected by the estate tax in the future).

## 5 Results

### 5.1 General Findings

We present our findings graphically and add regression tables to substantiate the results. Main analyses are based on the full sample, i.e. neglecting answers of the assumption control questions. However, as our analysis *between* tax instruments might be affected by the correct understanding of our 'behavioral assumptions', we also account for respondents who wrongly answered this control question in separate regression analyses. All regression estimates presented in this chapter are based on the full set of covariates and random effects on respondent-level. However, estimates for covariates are only reported whenever they are of interest. As our regression analyses confirm most of the findings shown graphically, regression results are only briefly summarized.

Our general results of average chosen tax levels shed some light on our first research objective, the general preferences regarding the taxation of wealth. We find relatively high proposed tax level across all tax treatments. Interestingly, this even pertains to 'lower' wealth levels that are not taxed under current estate tax law: Due to an estate tax exemption of \$11.18m in 2018 assets worth \$1m and \$10m would lead to a tax of zero.

The proposed tax burdens result in effective tax rates varying from 12.8 percent (decennial wealth tax) and 12.9 percent (yearly wealth tax as well as estate tax) to 14.9 percent (one-time wealth tax). Whereas these results seem relatively high, [Fisman et al. \(2019\)](#) find preferred yearly wealth tax rates between 0.8% and 3.0% that translate into even higher effective tax rates of lifetime tax burden.<sup>32</sup>

Greater differences between tax instruments occur when comparing treatment groups with respect to the share of respondents who choose a tax amount of \$0 throughout all vignettes. While only around 6 percent of respondents consistently reject taxes for the three 'wealth tax' instruments, almost 14 percent do so for the estate tax.<sup>33</sup>

A broad discussion in the context of wealth taxation is about the link between misinformation and preferences. In our socioeconomic questionnaire we ask our participants for their best guess on what share of the population is affected by the (existing) estate tax. To answer the question on who is affected correctly, respondents not only need to know the current estate tax law, but also need to be aware of the current distribution of wealth. We therefore argue that respondents with answers closer to the true value are better informed. Our results confirm the existence of misperception: On average, our respondents assumed 31 percent of the population being affected by the estate tax. About one third of all respondents expected less than 10 percent of all Americans to be affected. The correct answer of '1 percent' was chosen by about 5 percent of our respondents<sup>34</sup>. Looking for differences between different subgroups gives some better insights about who has the better assessment of the actual estate tax. On average, these respondents support the Democrats, are older and better educated. Splitting the sample into 'better informed' respondents (those who gave answers *not* higher than 10 percent, i.e. about one third of all respondents) and 'uninformed' respondents (those who gave answers higher than 10 percent), we find significantly lower proposed effective tax rates for the latter group. However, in contrast to other studies in this field, our study is explicitly not about revealing preferences regarding an existing tax system: Respondents are rather asked to state how their preferred tax system should look like. Although,

<sup>32</sup>With a time horizon of 30 years, a yearly rate of 0.8 percent respectively 3.0 percent would be equivalent to an effective tax rate of 21.4 percent respectively 59.9 percent.

<sup>33</sup>The exact numbers are: estate tax: 13.8 percent; yearly wealth tax: 5.8 percent; decennial wealth tax: 6.4 percent; one-time wealth tax: 6.6 percent. Only considering 'non-refusers' yields effective tax rates of: estate tax: 15.7 percent; yearly wealth tax: 13.7 percent; decennial wealth tax: 13.7 percent; one-time wealth tax: 15.9 percent.

<sup>34</sup>As the choice '1 percent' is the closest possible choice to the correct value of about 0.1 percent, this can be seen as the 'correct' answer. See: <https://www.taxpolicycenter.org/briefing-book/how-many-people-pay-estate-tax> (26.07.2019).

no causal link between misinformation and preferences can be concluded from our research design, some of these rather general findings may still contribute to the ongoing discussion.

In the following subsections, that orientate towards our three hypotheses, we want to explore how specific design features affect the support for different types of wealth taxes. One could try to deal with these issues based the average numbers presented above. However, instead of reporting results based on average values of the full sample, we argue that more differentiated analyses based on sample splits provides better insights. The reasons are twofold: First, due to the fact that surveys based on MTurk do not deliver representative samples insights (for policy advice) would be limited. Second, treatment effects (differences between tax instruments as well as effects across subgroups) turn out to be clearly heterogeneous.

## 5.2 Hypothesis 1: Framing Effects

The estate tax and the one-time wealth tax are - except for their names - perfectly congruent. Furthermore and valid for all of our analyses, differences in the presentation and questions are kept on a minimal level to avoid any manipulation beyond rationality. Hence, preferences should not differ between both type of taxes if respondents were fully rational

Proposed effective tax rates are on average 2 percentage points lower in the estate tax group (12.9 percent) compared to the one-time wealth group (14.9 percent). Interestingly, the data reveal that this effect is mainly driven by differences in preferences of one subgroup: Supporters of the Republican Party (see figure 2, left).<sup>35</sup> While average effective tax rates are not significantly different in the group of democratic voters (estate tax: 17.0 percent; one-time wealth tax: 18.2 percent), Republicans propose on average significantly lower tax rates for the estate tax (7.1 percent) compared to the one-time wealth tax (10.2 percent). This latter difference is strongly driven by those Republicans, who reject the estate tax entirely ('opponents'; see figure 2, right): While the rejection rate is almost 30 percent in for the estate tax, it is only about 10 percent for the one-time wealth tax.

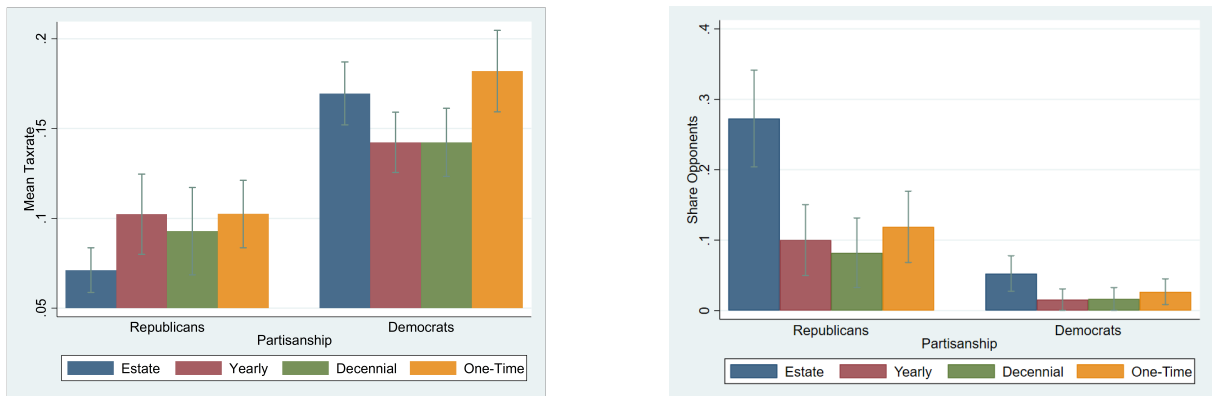


Figure 2: Average effective tax rates (left) and share of opponents (right) by partisanship of the respondent and treatment group; 95%-confidence intervals.

This result can be confirmed by our regression analysis results as shown in table 6. Effective tax rates proposed by supporters of the Republicans are lowest in the estate tax group (between 2.1 and 3.3 percentage points lower than in other groups), whereas supporters of the Democrats propose higher tax rates in the concentrated tax instruments compared to both periodical taxes. Considering only those

<sup>35</sup>Interpreting confidence intervals, one has to keep in mind the different group sizes.

respondents who understood our assumptions correctly, results are similar in levels, though only partially significant. Of course, one has to keep in mind the much smaller group sizes of the restricted sample when interpreting significance levels.

	full set			behavioral question correctly		
	(1) Republicans	(2) Democrats	(3) other	(4) Republicans	(5) Democrats	(6) other
base: one-time wealth						
estate	-0.033*** (-2.59)	-0.006 (-0.43)	0.014 (0.65)	-0.023 (-1.36)	-0.005 (-0.26)	0.018 (0.60)
yearly wealth	-0.005 (-0.34)	-0.037*** (-2.69)	0.002 (0.09)	-0.004 (-0.23)	-0.029 (-1.60)	-0.012 (-0.34)
decennial wealth	-0.012 (-0.88)	-0.038*** (-2.72)	0.009 (0.39)	-0.005 (-0.29)	-0.048*** (-2.71)	0.008 (0.23)
Observations	5283	9981	3636	2664	5688	1998

t statistics in parentheses; \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table 6: Between results (random effects model; full set of controls; dependent variable: effective tax rate); **by partisanship**.

Although the sample split based on partisanship reveals the greatest differences, they can also be found along different lines. If looking at the correlation between the respondent's age and proposed effective tax rates (see figure 3), it is slightly positive in the one-time wealth tax group and clearly negative in the estate tax group. This pattern leads to an effect that can also be observed in figure 4: While younger respondents are indifferent between both taxes, the elderly clearly prefer the one-time wealth tax over the perfectly congruent estate tax. Finally, splitting the sample into respondents with and without children reveals that those respondents who have own children somehow oppose the estate tax (see figure 5).

As mentioned in the section 'Descriptive Statistics', supporters of the Republicans are (on average) older and have (on average) a larger number children compared to Democrats. Hence, differences may be driven by both partisanship as well as age and the existence of children. Looking at respective subgroups, it turns out that each of these effects remains stable. First, Republicans, regardless of age and the existence of children, prefer the one-time wealth tax over the estate tax. Second, among Republicans and Democrats, older respondents and those with children propose lower effective tax rates in the estate tax group compared to those in the one-time wealth tax group. This latter finding is the main driver for slightly lower effective tax rates in the estate tax group if looking at all Democrats.

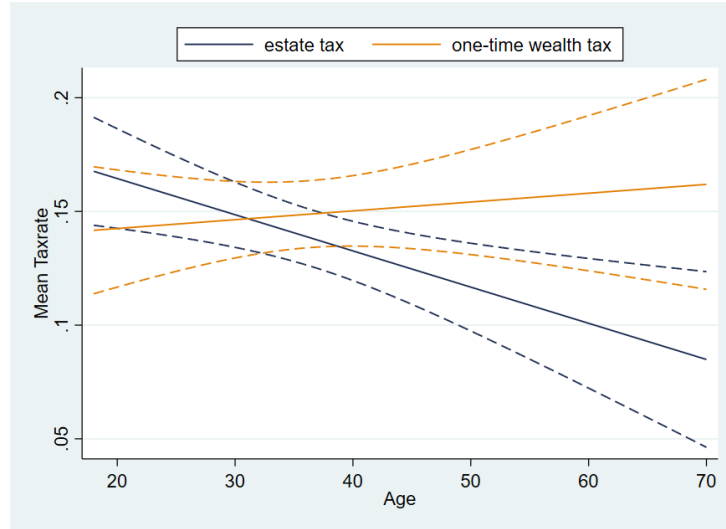


Figure 3: Linear correlation between age of the respondent and proposed effective tax rates; concentrated tax groups; 95%-confidence intervals.

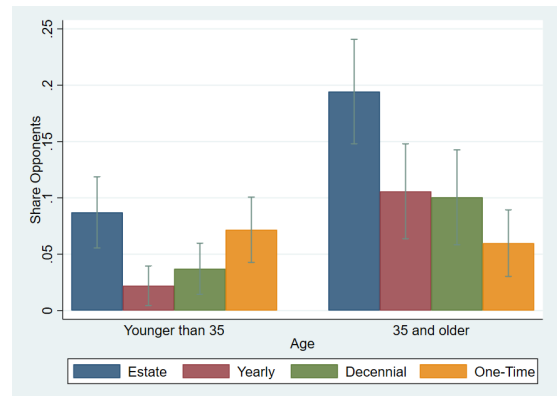
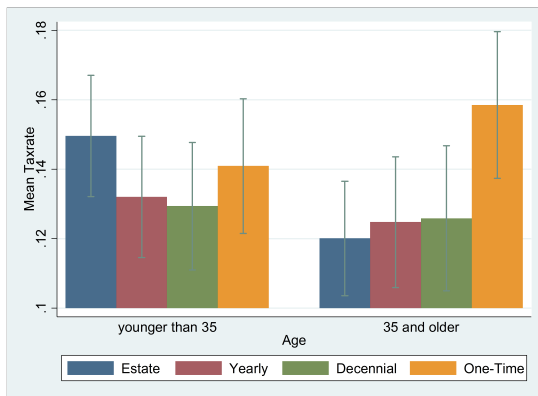


Figure 4: Average effective tax rates (left) and share of opponents (right) by age of the respondent and treatment group; 95%- confidence intervals.

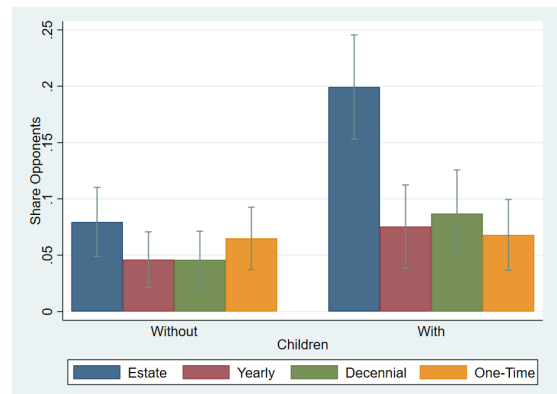
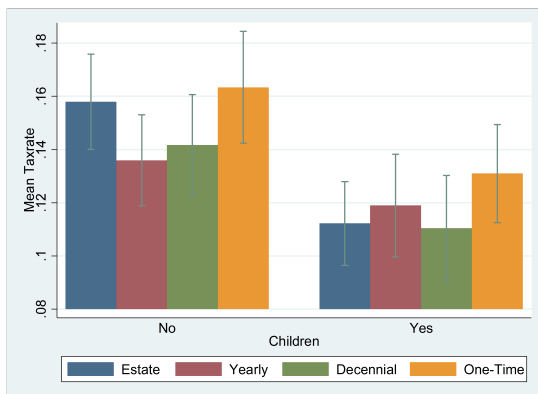


Figure 5: Average effective tax rates (left) and share of opponents (right) by children of the respondent and treatment group; 95%- confidence intervals.



### 5.3 Hypothesis 2: Concentration Bias

Given our research design and the economic equivalence, preferences should also be identical for concentrated wealth taxes and both periodical wealth taxes, i.e. the yearly and the decennial wealth tax. Challenging our first hypothesis, we already found unexpected low effective tax rates in the estate tax group for some subgroups. Hence, we will focus on the comparison of the one-time wealth tax and both periodical taxes when analyzing the second hypothesis.

Proposed effective tax rates are on average 2 percentage points lower in both periodical wealth tax groups (12.8 percent and 12.9 percent) compared to the one-time wealth tax group (14.9 percent). This difference is mainly driven by differences in preferences of one subgroup: Supporters of the Democrat Party (see figure 2). While Republicans seem to be indifferent between the one-time wealth tax and periodical wealth taxes, the effective tax rates proposed by Democrats are significantly and about 4 percentage points higher in the one-time wealth tax group (18.2 percent) compared to those in the periodical wealth tax groups (14.2 percent). Again, both results can be confirmed when looking at regression results (see table 6). At the same time it becomes obvious that preferences regarding both periodical taxes do not differ in either subgroup. This confirms the robustness of the 'periodical' treatments and our results with respect to our second hypothesis.

Importantly, one has to keep in mind that the concept of 'preferences' is here only reflected in terms of proposed tax rates. In a second part of our study we also asked our participants in a direct within-subject comparison to decide between a concentrated and a periodical wealth tax, *keeping the level of taxation constant*. Here our results are somewhat different yet not conflicting - again pointing towards the decisiveness of tax concentration. See section 6 for further results.

### 5.4 Hypothesis 3: The Effect of Specific Wealth Characteristics

Characteristics of the (hypothetical) taxpayers and their assets should not be differently decisive for our respondents between economically equivalent tax instruments. We expect proposed tax levels to be non-identical for different categories of the vignette dimensions, i.e. 'value of assets', 'source of assets', 'type of assets' and 'number of children'. However, these differences should be identical across tax instruments, i.e. treatment groups.

As shown in figure 6, hypothesis 3 can be confirmed for the dimensions 'source of assets' as well as 'type of assets'. With respect to these dimensions, we find similar and robust results across all different treatments. In contrast, the results regarding the dimensions 'value of assets' and 'number of children' challenge hypothesis 3 as preferences differ between treatment groups. These differences are even more remarkable as they follow a clear pattern: Preferences are robust across both concentrated wealth tax groups as well as across both periodical wealth tax groups, but differ between concentrated and periodical taxes. Looking at the effect of the value of assets, effective tax rates of the estate tax and the one-time wealth tax show a significant progressivity, whereas no clear effect can be observed for both periodical taxes. Similarly, while proposed effective tax rates clearly decrease with the taxpayer's number of children<sup>36</sup> in both groups with concentrated tax instruments, there is no clear correlation in both periodical tax groups.

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<sup>36</sup>This decrease is significant when comparing proposed effective tax rates of taxpayers with no children and those, who have three children.

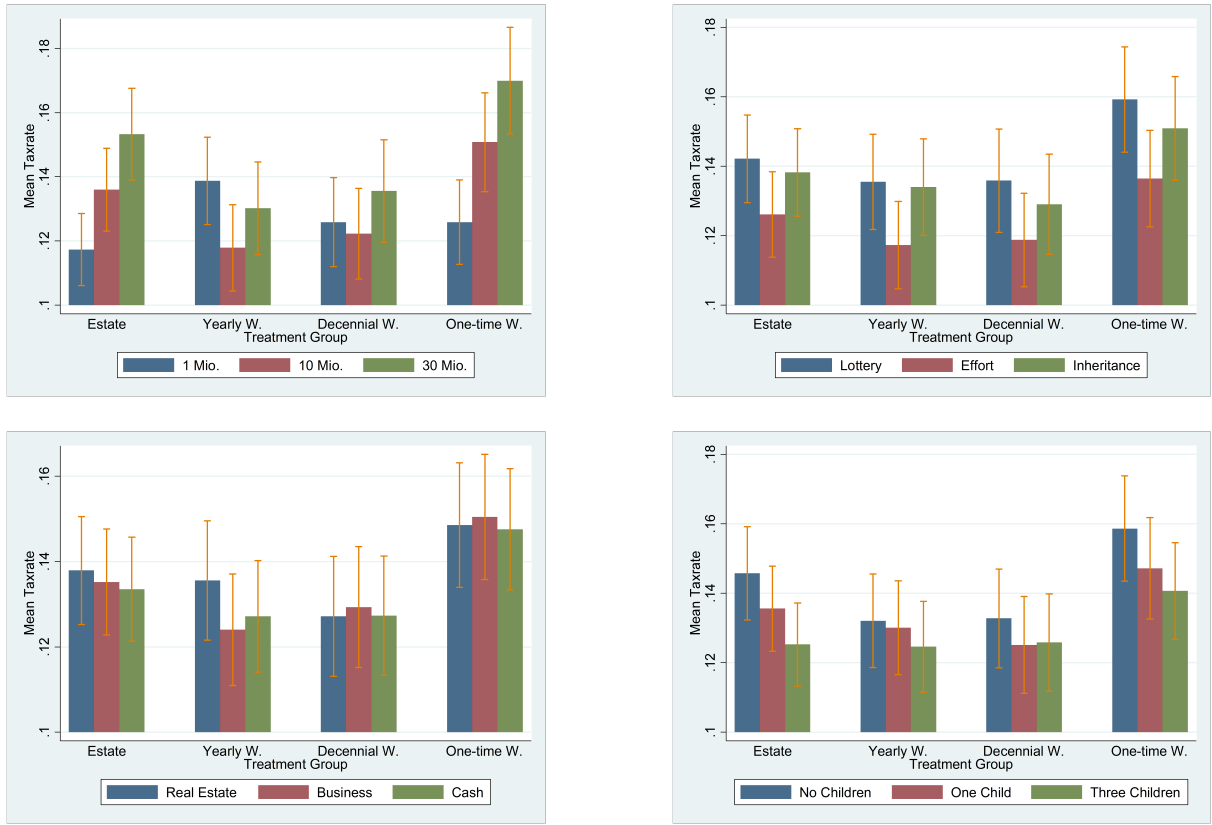


Figure 6: Average effective tax rates; by treatment group and vignette dimension; 95%-confidence intervals.

The regression analysis presented in Table 7 confirms the graphical analysis: Strictly and significantly increasing effective tax rates with respect to the value of assets and number of children can only be found for the estate tax and the one-time wealth tax. The effects of the type of assets are still small and taxes on inherited or 'luckily gained' wealth are significantly higher compared to those on 'earned' wealth. Both latter findings are robust across treatment groups.

	(1)	(2)	(3)	(4)
	estate tax group	yearly wealth tax group	decennial wealth tax group	one-time wealth tax group
<b>Vignette variables</b>				
Base: \$1m				
\$10m	0.019*** (5.90)	-0.021*** (-5.47)	-0.004 (-1.07)	0.025*** (7.76)
\$35m	0.036*** (11.36)	-0.008** (-2.23)	0.010*** (2.89)	0.044*** (13.73)
Base: effort				
lottery/lucky	0.016*** (5.07)	0.018*** (4.77)	0.017*** (5.08)	0.023*** (7.11)
inheritance	0.012*** (3.84)	0.017*** (4.39)	0.010*** (3.06)	0.014*** (4.51)
Base: cash				
real estate	0.004 (1.38)	0.008** (2.20)	-0.000 (-0.05)	0.001 (0.32)
business shares	0.002 (0.53)	-0.003 (-0.82)	0.002 (0.60)	0.003 (0.89)
Base: no children				
one child	-0.010*** (-3.23)	-0.002 (-0.53)	-0.008** (-2.28)	-0.011*** (-3.57)
three children	-0.021*** (-6.49)	-0.007* (-1.95)	-0.007** (-2.07)	-0.018*** (-5.59)
<b>Control variables</b>				
female	-0.021* (-1.72)	-0.016 (-1.18)	-0.002 (-0.13)	-0.040*** (-2.80)
age	-0.001 (-1.04)	-0.000 (-0.73)	0.001 (0.94)	0.001 (0.96)
has children	-0.025* (-1.93)	-0.009 (-0.60)	-0.033** (-2.07)	-0.025* (-1.66)
black	-0.019 (-0.78)	0.008 (0.26)	0.027 (0.90)	0.016 (0.48)
white	-0.014 (-0.89)	0.021 (1.14)	-0.002 (-0.11)	0.032 (1.56)
republican	-0.060*** (-3.49)	-0.029 (-1.45)	-0.038* (-1.86)	-0.030 (-1.42)
democrat	0.032** (2.05)	0.012 (0.65)	0.001 (0.05)	0.058*** (3.01)
education	0.006 (0.92)	0.009 (1.35)	0.022** (2.55)	-0.000 (-0.05)
entrepr. in family	0.022 (1.63)	0.002 (0.10)	0.005 (0.35)	0.016 (1.05)
expect estate tax	-0.020 (-1.58)	-0.013 (-0.94)	-0.021 (-1.38)	-0.014 (-0.89)
inherited in past	0.008 (0.50)	0.004 (0.24)	0.011 (0.53)	0.079*** (3.81)
Observations	5337	4329	4221	5022

t statistics in parentheses; \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table 7: **Vignette results** (random effects model; full set of controls; dependent variable: effective tax rate); **by treatment group**.

Although not strictly related to our third hypothesis, the variation between different categories provides some interesting insights. First, proposed tax burdens are highest on assets if they are luckily accumulated (lottery and lucky investments) and lowest if they originate from savings of earned income. The significant difference between both kinds of assets clearly shows that our respondents value effort and somehow support a 'punishment' of pure luck. Furthermore, average effective tax rates on inherited wealth are not significantly different to those on 'luckily' gained assets. Hence, inherited wealth is perceived similar to rather luckily gained assets by the majority of our respondents. Second, tax levels are very similar independent of the type of assets. Hence, our respondents tend to prefer a uniform taxation across assets and see no need for further differentiation.<sup>37</sup>

## 6 Add-On: Within-Comparison of Concentrated vs. Periodical Taxes

The preceding analysis assessed the personal preferences towards the different tax instruments on the basis of the proposed level of taxation in the respective treatment group. However, such a notion of 'preferences' may well be too narrow in order to draw conclusions for a preferred tax instrument: the

<sup>37</sup>Although we consider three very different types of assets, we do not capture preferences regarding more 'emotionally charged' assets like ones' childhood home or family jewelry.

presented proposed effective tax rates are always conditional on the assigned tax instrument due to the between-subject design of our study. We therefore added a second part to our study to elicit how preferences towards concentrated and periodical taxes are shaped *apart from the level of taxation*. Put differently, the 'preference' for a specific tax instrument could also be dominated by its administrative implementation apart from the tax rates that are perceived fair for a different tax instrument. This is particularly interesting in light of political discussions as politicians can choose from a choice set of different tax instruments to meet revenue or redistributive targets.

For this, we added a simple within-subjects comparison to investigate the effects of the administrative implementation. After answering the vignette-based part about the assigned tax instrument, participants were presented one additional question where the initial allotted instrument was set in direct comparison to either a concentrated tax (i.e. the estate tax) or, depending on the randomization, a periodical tax (i.e. the yearly wealth tax). To be precise, respondents were asked if they would either prefer the already familiar tax instrument or the alternative instrument *holding the tax burden constant over the life course*: The wealth level was set to \$10 million and the effective tax rate fixed to 10 percent. All other vignette dimensions of our previous study were excluded<sup>38</sup>. Subsequently, they had to state their motivation for this choice in an open-ended response format question providing a deeper understanding of underlying motives and reasoning.

Treatment group	Compared tax instrument
Estate tax	Yearly wealth tax
Yearly wealth tax	Estate tax
Decennial wealth tax	Estate tax
One-time wealth tax	Yearly wealth tax

Table 8: Overview of the within-subject comparisons.

The results of our within-comparison suggest that drawing conclusions about preferences for tax instruments on the mere basis of proposed tax levels is indeed too short-sighted. When our participants could freely chose the level of taxation we found preferred average tax rates of about 13 percent across all tax instruments. Now, imposing a comparatively moderate lifetime tax burden of 10 percent we found that a periodical wealth tax is clearly and significantly preferred above a concentrated tax. Whereas the concentrated tax is preferred by only 33 percent, the periodical tax is picked by 48 percent. Comparing answers of Republicans and Democrats (see figure 7, right) this pattern is even more pronounced for Democrats: Interestingly Democrats favor the periodical tax over a concentrated tax relatively more than Republicans. These results, importantly, need to be interpreted separately from the preceding quantitative analysis of preferred tax rates. Since we do not hold the tax rate constant to that proposed by the participants in previous within comparison of the vignettes, this part of our study can not be set in direct comparison to our main study.

<sup>38</sup>A screenshot can be found in the appendix fig.14.

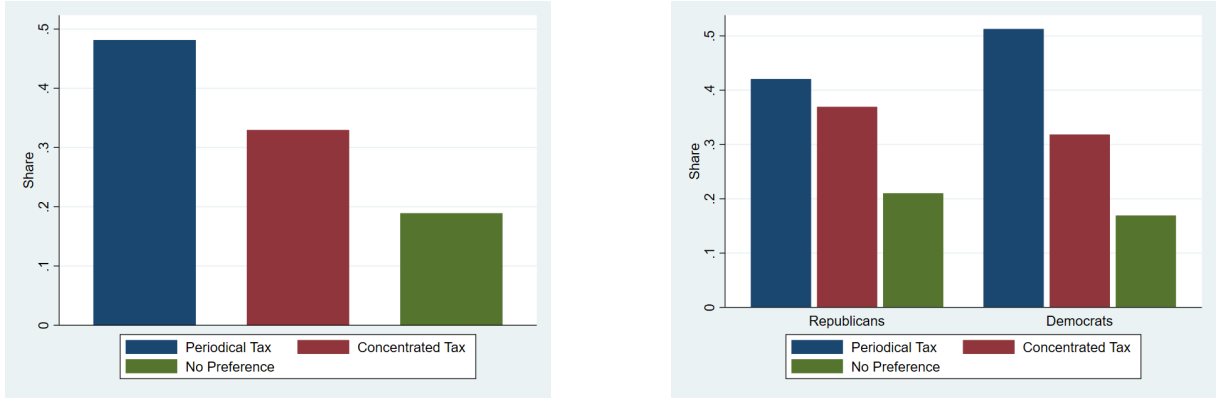


Figure 7: Share of choices between tax instruments ('concentrated', 'periodical' or 'no preference'). Aggregated shares right, shares by party affiliation left.

At first glance, this finding may seem somewhat in contradiction to our findings of the significantly higher proposed tax rates for both concentrated tax instruments by Democrats. However, this is not the case if it points towards an interaction effect between the tax instrument and personally perceived fair tax rates: maybe Democrats prefer a periodical wealth tax instrument only if the yearly installments do not exceed a certain threshold. On the other hand, with an imposed tax rate well above what Republicans proposed in the first part of the study, they would favor a concentrated payment relatively more to the Democrats due to their relatively higher perceived yearly installment. Since our design does not allow to infer any causal inference on this point for multiple reasons<sup>39</sup>, this has to stay in the realm of speculation for this paper and offers room for further research. We will address these remarkable findings again in our discussion in section 7.1.

## 6.1 Textual Analysis

After our participants stated their preference between a concentrated and a periodical wealth tax (holding the lifetime tax burden constant), we asked them to briefly motivate their choice in an open-ended question format. Whereas the aforementioned analyses of this study provide insights on the specific patterns for different types of wealth taxation, we still lack profound understanding on the underlying motives. In our design we explicitly attempt to cancel out differences in preferences due to bounded rationality (i.e. the inability to translate a periodical into a concentrated tax) and efficiency concerns (i.e. tax base elasticity) in order to isolate the specific effects of framing and design features. So what is left on which basis' our participants form their preferences? The following textual analysis sheds some light on some broad patterns of common reasoning.

With a response rate of 99.7 percent and a mean length of 27 words our respondents seem to take the task quite seriously. Respondents who reasoned their choice for a concentrated tax wrote on average around 10 percent longer texts than their periodical counterparts (mean of 29 vs. 26 words;  $p$ -value = 0.0094). Figures 8 and 21 show a first overview of the most frequent adjectives and nouns per choice group. Overall these patterns are fairly similar with adjectives like 'fair', 'easier' and 'less' appearing prominently. However, there are also subtle differences pointing towards the importance of the textual

<sup>39</sup>This part of our study can not be set in direct comparison to our main study since we do not hold the named tax rate constant to the preceding within comparison of the vignettes. Second, we also find evidence for significant anchoring effects towards the initially assigned tax instrument. However, these effects are rather small and should not change the overall pattern of this comparison.

context: For concentrated taxes words like 'alive' and 'dead' are distinct whereas it is 'smaller', 'huge', and 'consistent' for periodical taxes. Interestingly, 'government' is much more frequent in periodical taxes.

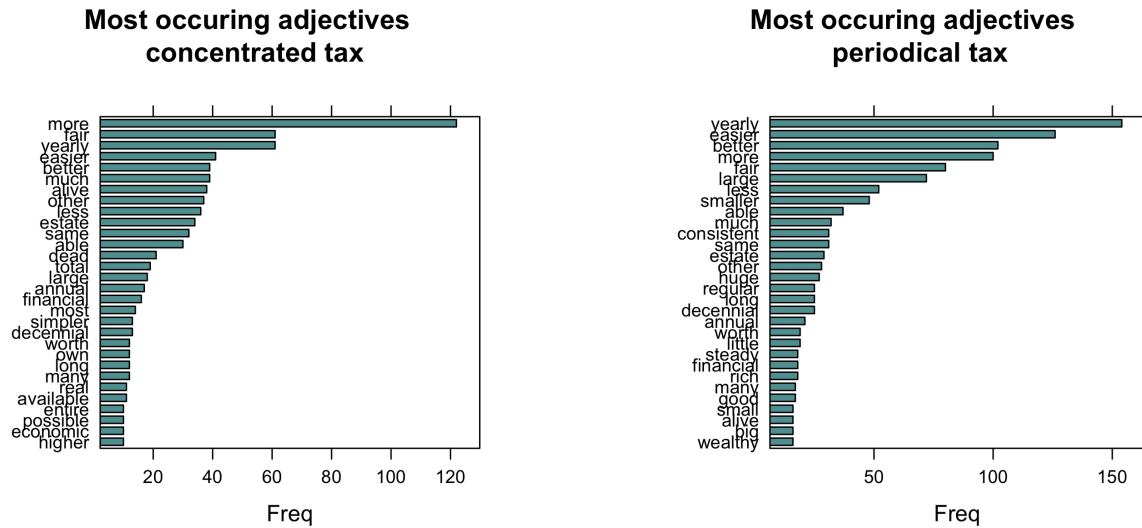


Figure 8: Most frequently used adjectives in the open-ended answers when a concentrated tax (estate or one-time, left) or a periodical tax (yearly or decennial, right) was chosen.

In absence of context, such comparisons are of very limited insight. Therefore we created a dictionary with 5 different categories of prominent reasoning. To investigate the importance of these categories, simple relative frequencies in which these categories appear are calculated for each decision. In particular these categories are: 'political positive' and 'political negative' in order to test for common political sentiment of proponents and opponents of a wealth tax; 'behavior' in order to see if respondents actually show concerns about the tax base elasticity; 'transfer' in order to assess if the intergenerational transfer of wealth is decisive in specific tax instruments and finally 'procedure' in order to see if it is merely administrative preferences that drive the decision. Figure 9 shows the share of each category for each choice type in decimals. Figure 22 furthermore distinguishes between specific tax instruments and party affiliation.

	political_pos	political_neg	behavior	transfer	procedure
concentrated	0.014	0.038	0.022	0.090	0.120
periodical	0.039	0.024	0.047	0.097	0.234
no_type	0.015	0.063	0.010	0.048	0.028

Figure 9: Heatmap of the most occurring motives from green (low number of matches) to red (high number of matches) relative to the number of comments within this choice in decimals. Underlying dictionary: transfer: 'children', 'heir', 'kids', 'generation', 'transfer', 'family'; political\_neg: 'theft', 'death tax', 'unfair', 'not fair', 'double', 'robbery', 'steals', 'twice', 'evil', 'waste', 'punish', 'repeatedly', 'already'; political\_pos: 'inequality', 'fair share', 'redistribution', 'fund'; behavior: 'evasion', 'avoidance', 'way around', 'plan', 'defraud', 'loophole'; procedure: 'easier', 'chunk', 'not at once', 'lump sum', 'overwhelming', 'simpler', 'spread', 'ongoing', 'consistent'.

Procedural considerations are by far the most important motives across all choices (with more than 23 percent of participants stating this in the periodical treatment), followed by intergenerational transfer considerations. Behavioral considerations are generally very low, and play at most for around 5 percent of participants choosing the periodical tax a decisive role. Whereas these categories are quite evenly

distributed across tax instruments and party affiliations, the two political framing categories show strong differences: 'political negative' is driven by Republicans who opted for the third option 'Doesn't matter to me' expressing strong reservations against both types of wealth taxes. This class is strongly driven by the 'double tax' argument.<sup>40</sup> On the contrary the 'political positive' category is driven by Democrats opting for the yearly wealth or estate tax.<sup>41</sup>

In a final step, we manually skimmed through the specific cells of each category, which provides the most informative insights. Two very prominent patterns can be identified between the proponents of a concentrated tax and proponents of a periodical tax. Those who favor a concentrated tax at the end of the life stress how the individual is able to enjoy more freedom regarding his wealth during his lifetime (i.e. intertemporal choice of investments) and like the idea of only being confronted once without having to deal with it on a regular basis<sup>42</sup>. Generally this group perceives it 'easier' if only one payment has to be made. Moreover, they are generally worried that a periodical tax would be hard to pay if funds are not sufficient or liquid. Proponents of a periodical tax (who are by far the majority, even among Democrats), on the other hand, argue that the tax burden is easier to be handled in small amounts. Further, they emphasize the advantage how such a tax would generate an immediate, consistent revenue stream to the government<sup>43</sup>. The second-most prominent motive 'transfer' works in both directions: Proponents of the concentrated wealth taxes stress the importance of keeping dynastic wealth in check (mostly Democrats) or favor the idea that only the heirs carry the burden and not the decedent herself. Proponents of the periodical wealth, by contrast, explicitly want the earner and not the children to be burdened. These readings are further underlined by two additional, algorithmic driven text-mining methods, see figures 23 and 24 in the appendix.

## 7 Discussion

Thus far, misinformation was identified as one of the major drivers for the strong opposition towards estate taxation (Slemrod, 2006; Krupnikov et al., 2006; Kuziemko et al., 2015). The high level of misinformation is also revealed in our subsequent socio-economics questionnaire: our respondents assumed on average 31 percent of the population being affected by the estate tax. About one third of all respondents expected less than 10 percent of all Americans to be affected. The correct answer of '1 percent' was chosen by only about 5 percent of our respondents. The objective of our study is to reveal preferences for wealth taxation beyond this misinformation, i.e. normative preferences triggered through framing or due to the specific tax design. Therefore, this experiment explicitly does not take an existing tax system into account, in contrast to other studies in this field. Our respondents are rather asked to calibrate how their personally preferred tax system would look like and proposed average tax rates of lifetime wealth-tax burdens between 12.8 and 14.9 percent. This finding is especially remarkable since it has to be kept in mind that these effective tax rates already include any tax exemptions: due to exemptions of \$11.18m for single persons assets worth \$1m and \$10m would lead to a tax of zero under the US estate tax system (as of 2018). As an example, the average effective estate tax rate of 15 percent on assets worth \$30m as proposed by our respondents translates into a statutory tax rate of about 24 percent, given this actual tax exemption. Despite these seemingly high proposals our study reflects similar wealth tax preferences

<sup>40</sup>E.g. 'An estate tax is blatant theft by the government. All of these earnings and accumulations of wealth have already been taxed when earned or aquired. To tax is again is a disgusting display of government overreach and is a disgrace.'

<sup>41</sup>E.g. 'Inherited wealth is one of the reasons we have such inequality in our society. The richest 1% mostly didn't work for their money - their money worked for them.'

<sup>42</sup>'Get all the taxes paid for and done at once rather than over time.'

<sup>43</sup>The government needs to have a steady stream of revenue. I don't think that would be achieved by a one time taxation of people as described.

as in [Fisman et al. \(2019\)](#). Moreover, in asking for the tax burden in total US-Dollars, we applied a rather conservative method. [McCaffery and Baron \(2006\)](#) show that responses in total amounts lead to lower progression and lower effective tax rates compared to responses given in percentages.

## 7.1 Rationalizing Treatment Effects: Potential Motives

Related to our first hypotheses our results clearly indicate the existence of a strong framing effect for Republicans. They clearly prefer significantly higher tax rates in the one-time wealth tax over the estate tax (around 3.1 percentage points). To put it another way: Republicans reject the estate tax. Even more impressive is the fact that no further significant differences in preferences can be observed when Republicans are asked: they are indifferent between all other tax instruments. This opposition is mainly driven by a great share of Republican opponents consistently stating zero tax rates. Moreover, the framing effect is especially strong for older people and those with children. Democrats, on the other hand, do not distinguish in their preferences between the estate and a one-time wealth tax. Given the mere difference in name and not in design, we believe this finding being a result of the highly polarized political debate in the US. [Graetz and Shapiro \(2011\)](#) point out how a 'growing think tank gap' of conservative actors being better funded prominently pushing a conservative tax cutting agenda. [Bartels \(2006\)](#) and [Krupnikov et al. \(2006\)](#) already reported strong differences in preferences towards the estate tax in 2006. With highly targeted campaigning and growing support for wealth taxation on the liberal side, framing might even be more prevalent and powerful.

Our findings regarding our second hypothesis, the comparison between concentrated and periodical taxes, is not as straight forward to rationalize. Whereas Democrats significantly indicate higher preferred tax rates for both concentrated taxes over both periodical tax instruments, Republicans only reject the estate tax and do not distinguish between other types of taxes. It is important to note however, that their proposed tax rates (except their particularly low estate tax rate) are about 6 percentage points (about 40 percent) lower than those proposed by Democrats. While the preference for concentrated wealth taxes may be true in terms of proposed levels of taxation, the direct within-subject comparison complements the story with an interesting peculiarity: a clear majority of respondents, both Democrats and Republicans, favored the periodical tax over a concentrated tax instrument. This illustrates how the concept of preferences merely based on quantitative preferences does not reveal the full picture. Hence, it seems to be worthwhile to complement quantitative findings by a qualitative analysis. Democrats apparently prefer the periodical wealth tax over the concentrated taxes - if the level of a potential wealth tax is fixed and relatively low. This interpretation is supported by the lower proposed tax burdens in the periodical tax instruments, which against this background might be a result of concerns about the capacity to bear the periodical installments. Our textual analysis also matches this pattern. The majority of motives are of procedural nature: smaller payments are perceived to be easier. Interestingly, this motive is evenly distributed among Democrats and Republicans. Democrats furthermore like how a periodical wealth tax would generate an immediate and consistent revenue flow to the government.

Finally, also the findings regarding our third hypothesis feed into this interpretation. Across all tax instruments our participants want to tax luckily gained and inherited assets higher than assets obtained through effort. Preferences for types of assets do not differ in any instrument. However, children and level of wealth trigger different preferences for concentrated than for periodical taxes: In concentrated taxes the existence of children significantly lowers the preferred amount whereas higher levels of wealth are taxed at a higher rate. For periodical taxes something like a flat tax around 12.5 percent (lifetime tax burden) is proposed. In light of our textual analysis the reason for missing progressivity might be the caution of taxing too heavily on a periodical basis. The strong effect of children on tax rates in



concentrated instruments is also mirrored in our textual analysis. Here, the transfer motive was the second most prominent - especially for Republicans (see figure 22). In fact, the proposed tax rates in the absence of children in the one-time tax is comparable with the proposed tax rate in presence of children in the periodical taxes.

Taken together, Democrats seem to prefer a periodical tax with more moderate tax levels. Nonetheless, if high levels of taxes can be imposed, they like to prefer high wealth taxes by the end of one's life in the style of an estate tax. Republicans, however, strongly oppose every instrument called estate tax but are more open to a one-time tax or periodical taxes, although on a much lower level.

The current theoretical literature predominantly does not reflect those tastes for a positive wealth tax. The classic conclusion of [Atkinson and Stiglitz \(1976\)](#); [Chamley \(1986\)](#); [Judd \(1985\)](#) implies an optimal wealth tax of zero. This paper especially ties in with the more current work of [Weinzierl \(2014\)](#) and [Saez and Stantcheva \(2016,0\)](#) who bridge the gap between standard models of optimal (wealth) taxation and public preferences. Their framework allows to augment the welfare analysis of optimal taxation by a broad range of fairness principles and value judgments to determine a level of redistribution a society deems to be fair. Along these lines, our study yields a couple of insights: Apart from the classic optimal zero capital tax result (or even a positive subsidy) our respondents yet voice strong preferences for the taxation of wealth (in line with the findings of [Fisman et al. \(2019\)](#)). These preferences are shaped by fairness principles and transfer motives similar to those proposed by [Cremer and Pestieau \(2006\)](#). However, our study also suggests a different type of motives beyond those provided in previous literature: The mere administrative implementation, i.e. the design configuration<sup>44</sup>. Such sentiment is yet hardly represented in familiar social welfare functions, however might provide substantiations for limited redistribution as a result of political discussions being strongly tied to existing policies (here the estate tax).

## 8 Conclusion

The understanding of preferences for redistributive policies gained more and more momentum in the theoretical literature and was subject to extensive empirical research over the past decade. Especially against the background of increased wealth inequality and income-wealth ratios [Piketty \(1995\)](#) and [Saez and Zucman \(2016\)](#), the literature aimed to explore ambiguous empirical findings on the preferences regarding wealth taxation and conceptualize public opinions ruling the political debate. Yet, the current research frontier on preferences regarding wealth taxation centers around either rather abstract normative concepts [Weinzierl \(2014\)](#) or the emotionally loaded estate tax. Whereas [Fisman et al. \(2019\)](#) and [Kuziemko et al. \(2015\)](#) do find preferences for a positive wealth taxation, ample literature presents an exceptionally strong opposition towards the estate tax. [Kuziemko et al. \(2015\)](#) indicate that the fundamental opposition towards the estate tax might be driven by misinformation, however, they admit that it remains unclear if misinformation actually fully explains this phenomenon (just as [Krupnikov et al. \(2006\)](#)). [Bastani and Waldenström \(2018\)](#) are among the first who survey participants on different instruments of wealth taxation: They conclude that there are "some clues" about mechanisms behind the emotional load of taxing wealth.

This study presents an experimental investigation of preferences regarding wealth taxation with tangible, real-word policy choices beyond estate taxation. In addition to the effect of various dimensions derived from the public debate, we aim to identify the role of tax-specific design features on preferences regarding wealth taxation and their interactions. In doing so, we are explicitly not interested in the underlying personal efficiency concerns or bounded rationality in comparison with these instruments.

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<sup>44</sup>To the best of our knowledge only [Bastani and Waldenström \(2018\)](#) discussed initial clues for such motives.

We run a factorial vignette survey experiment with over 3,200 respondents on Amazon’s Mechanical Turk (MTurk). Whereas our treatments capture other general channels that influence the preferences they crucially reflect design specific differences between the taxes. Our novel methodology enables us to disentangle the effect of general policy dimensions (i.e. value of assets, existence of children etc.) on the preferred level of taxation while identifying relative differences of these effects across the different tax instruments (between-subject). This comprehensive view on instruments of wealth taxation has another advantage: it strengthens the robustness of our findings by using different tax instruments as reference points for each other.

Our results connect and contribute to the existing literature in several ways. First, we are able to confirm major findings of previous literature: misinformed individuals propose a significantly lower level of wealth taxation across all tax instruments (Kuziemko et al., 2015); the source of wealth is decisive (Alesina and Angeletos, 2005) as assets accumulated by luck or inheritances are taxed significantly higher than savings from past salaries; the existence of children leads to a lower proposed tax burden (Cremer and Pestieau, 2006) and Republicans prefer much lower and less progressive tax rates than Democrats (Cappelen et al., 2018). Second, we show how the specific design of tax instruments is indeed decisive for preferences towards wealth taxation, especially along the lines of concentrated (i.e. estate and one-time tax) versus periodical (i.e. yearly and decennial tax) taxes. While proposed effective tax rates of concentrated taxes show a significant progressivity, this pattern does not exist for periodical taxes. Third, these differences differ starkly along partisanship. Whereas Democrats clearly prefer concentrated taxes (both the estate and the one-time wealth tax) over periodical wealth taxes in proposed tax rates, Republicans only reject the estate tax in particular. When imposing a moderate lifetime tax burden of 10 percent, a direct within-subjects comparison however reveals that both Democrats and Republicans prefer a periodical wealth tax over a concentrated wealth tax. Thus, we believe preferences probably are strongly connected to an interaction between the specific tax instrument and the tax rates. Since our within-comparison is not comparable to the previously proposed tax rates, we can not draw causal conclusions at this point. The investigation of preferences towards design features in direct interaction with tax rates offers room for future research. Finally, we present strong evidence for drivers of opposition towards the estate tax beyond the well documented misinformation: Republicans do not reject the perfectly congruent one-time wealth tax, for which they propose significantly higher tax rates than for the estate tax. This constitutes novel experimental clues for emotional charges, likely triggered by political framing (Birney et al., 2006). Remarkably, Democrats unambiguously do not differentiate between these tax instruments.

Connecting the dots of our paper, one interpretation might not be too far fetched: Democrats like to impose relatively high levels of taxes by the end of one’s life. Nonetheless, they seem to prefer a periodical tax if the level of wealth taxes has to be rather low. Republicans, however, strongly oppose every instrument called estate tax but are more open to a one-time tax or periodical taxes, although on a much lower level. So the answer to the initially raised question of the Forbes Magazine “*Why Do People Hate Estate Taxes But Love Wealth Taxes?*” might be: Because they are perceived as more bearable, generate an immediate government revenue and do not explicitly affect intergenerational wealth transfers in the context of death.

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## A ANNEX

### A.1 Selection and Comparability of Tax Instruments

We consider several wealth taxes, which tax the *entirety of all assets*<sup>45</sup> one owns and which are *formally comparable*, but differ in their tax design. Fortunately, different instruments of wealth taxation already exist and thus can be used as a basis for our study. Besides the taxation of wealth transfers at the end of one's life, concepts of periodical (net worth<sup>46</sup>) wealth taxes have been discussed and implemented in other countries.<sup>47</sup>

Despite the differences in their implementation, the formal comparability of concentrated and periodical wealth tax instruments is straightforward to demonstrate. Concentrated and periodical tax payments can be compared by using measures such as the future value. In the absence of any taxes, the future value of an initial asset stock  $I_0$  that grows for  $n$  years (e.g. until one's death) by rate  $r$  can be easily calculated by:

$$FV_{n, no\ tax} = I_0 \times (1 + r)^n$$

Considering a wealth tax with tax rate  $t_e$  and tax exemption  $e_e$  that is levied once at the end of one's lifetime, e.g. an estate tax, the formula has to be modified:

$$FV_{n, e} = I_0 \times (1 + r)^n \times (1 - t_e) + \min[I_0 \times (1 + r)^n, e_e] \times t_e$$

The wealth accumulated over  $n$  years is simply reduced by the estate tax, which is levied on assets exceeding the exemption.

To illustrate the mechanism of periodical wealth taxes, we look at a yearly wealth tax. Given a tax rate  $t_y$  and a tax exemption  $e_y$  we have to take into account that the tax reduces the asset stock at the end of every year<sup>48</sup>, i.e.:

$$\begin{aligned} FV_{1, y} &= I_0 \times (1 + r) - \max[I_0 \times (1 + r) - e_y, 0] \times t_y \\ FV_{2, y} &= FV_{1, y} \times (1 + r) - \max[FV_{1, y} \times (1 + r) - e_y, 0] \times t_y \\ &\dots \\ FV_{n, y} &= FV_{n-1, y} \times (1 + r) - \max[FV_{n-1, y} \times (1 + r) - e_y, 0] \times t_y \end{aligned}$$

If the asset stock never falls below the tax exempted value, we can transform this to:

$$FV_{n, y} = I_0 \times [(1 + r) \times (1 - t_y)]^n + e_y \times t_y \times \frac{1 - [(1 + r) \times (1 - t_y)]^n}{1 - [(1 + r) \times (1 - t_y)]}$$

The effective tax rate  $etr$  of any tax can always be calculated based on future values before and after the respective tax:

$$etr = 1 - \frac{FV_{with\ tax}}{FV_{without\ tax}}$$

<sup>45</sup>I.e., we do not consider taxes such as the property tax, which is only levied on some categories of assets.

<sup>46</sup>The frequently used term 'net' just clarifies something common to all wealth taxes: Only the net wealth (assets after the deduction of liabilities) is subject to these taxes.

<sup>47</sup>Countries levying periodical (net) wealth taxes are e.g. Japan (only on real estate and business assets), Switzerland, Norway and Spain (Drometer et al., 2018). See Piketty and Saez (2013), Seim (2017), Bird (1991) and Kopczuk et al. (2013) for further discussions.

<sup>48</sup>Of course this could also be any other date of every year.

Two taxes leading to the same future values can be seen as formal equivalent as the burden of taxation is equal. Furthermore, based on future values or effective tax rates, wealth taxes can be easily compared quantitatively.

We describe the wealth accumulating processes in our tasks to be fully exogenous as we specify the source of assets as 'win in the lottery and lucky investments', 'received inheritance and gifts from family members' or 'saved salaries from employment'. Furthermore, we only specify the wealth of assets at the end of the life of a person to not trigger thoughts about any endogenous growth in general. We prefer this approach over an explicit note on endogenous and exogenous growth as it keeps notes on assumptions lean and minimizes potential confusion. Referring to the calculations above, exogenous growth in case of periodical taxes can be expressed by simply specifying  $r$ : E.g., given an exogenous saving amount of  $\$Z$  p.a., we set  $r = Z \times \frac{1}{FV_{t-1,y}}$  in every period  $t$ .

## A.2 Further Discussion of Differences Between Tax Instruments

A number of empirical works find indications for behavioral responses towards the taxation of intergenerational wealth: Estimated elasticities of the reported estate tax base with respect to the net-of-tax rate range from 0.1 to 0.2.<sup>49</sup> By contrast, the effect of recurrent wealth taxation on taxable wealth is estimated to have an elasticity between 0.1 and 0.85.<sup>50</sup> Nevertheless, it is important to bear in mind that these studies are highly sensitive to specific institutional settings and methodological approaches and are thus hardly comparable. An empirical claim as to which tax is more prone to these responses can therefore not be made. Here, we take a closer look at specific behavioral channels and how they might affect preferences towards the proposed tax instruments.<sup>51</sup> These are saving, consumption and wealth accumulation as well as different forms of tax avoidance (like mobility, reporting and timing).

Beyond the formal equivalence of tax instruments, economic behavior can depend on the tax design as the utility might differ due to certain time preferences for consumption. In case of differences between debit and credit interests or credit limitations, periodical taxes increase the price of consumption or reduce the consumption opportunities in early periods. However, as we a) only consider wealthy individuals who build up assets in the course of their lives, b) do not mention any consumption in our vignettes and c) always present an already completed wealth accumulating process, this should only play a minor role in the perception of our cases. One additional issue that may occur and is hard to control for is the scenario that individuals gain utility solely on the grounds of their wealth accumulating process, e.g. they enjoy their current account balance.

In addition to the differences in preferences due to the wide variety of assumptions with regard to lifetime consumption, tax-specific planning opportunities might play a role in the stated preferences. These comprise numerous channels of which mobility, (under)reporting and intertemporal shifting of the tax base are among the most prominent. While estimating tax base elasticities, the empirical literature remains unclear about the prominence of specific channels. Adam et al. (2011) argue in favor of taxing wealth during the entire course of one's life to prevent a long-time horizon that would enable the richest to plan tax avoidance. When large amounts of money are accumulated by the end of one's life, investments in tax avoidance become more attractive.<sup>52</sup> Moreover, current estate and inheritance tax schemes provide timing opportunities in the (partial) exemption of lifetime gifts. Even the timing of death seems to

<sup>49</sup>See Kopczuk and Slemrod (2006); Holtz-Eakin and Marples (2001); Joulfaian (2006); Glogowsky (2016).

<sup>50</sup>See Brülhart et al. (2017); Seim (2017); Zoutman (2015).

<sup>51</sup>See Kopczuk et al. (2013) for a more detailed discussion on the differences of the taxation of transfers (i.e. bequests) and the (net-)wealth.

<sup>52</sup>Kopczuk et al. (2013) notes that estate tax planning might be driven by expected tax rates rather than the actual tax scheme.

provide room for tax planning (Kopczuk and Slemrod, 2003). These aspects suggest a potential bias in preferences for the annual wealth tax. However, we address such efficiency concerns by communicating behavioral assumptions as described in chapter 3.1. Although we are not able to fully cancel out this bias, we at least find similar results between the full sample and the sample restricted to those who understood our assumptions correctly.

An opposing bias could be induced by the potentially high administrative costs of periodical taxes. The assessment of taxes in general is time-consuming and associated with direct and indirect costs. In case of wealth taxes, an additional challenge is the valuation of assets. Especially for real estate and businesses, a proper valuation is anything but straightforward and thus potentially very costly for both taxpayers and the fiscal authorities.<sup>53</sup> This issue may be even more severe for highly diversified asset portfolios. It is obvious that costs of general assessments and valuations increase with the frequency of taxation periods.

Finally, one important difference between (periodical) wealth taxes and the estate tax is the (mis) perceived transfer tax related character of the latter: Whereas a recurrent wealth tax presumably only limits one's own consumption (at short sight), the estate tax likely affects two (or more) related parties, which potentially involves externalities. Cremer and Pestieau (2006) show how the optimal tax structure crucially depends on the underlying bequest motive. With a high proportion of accidental motives, the optimal tax should be higher. On the contrary, altruistic and strategic motives are more prone to distortive effects regarding economic behavior. This potentially induces not only a preference bias towards periodical wealth taxes, but also towards the one-time wealth tax, which does not imply a transfer due to its name.<sup>54</sup> We believe that our research design takes this into account: The existence of children was stressed in the (periodical) wealth tax treatments just as the non-existence of children was stressed in some vignettes of the estate tax<sup>55</sup>.

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<sup>53</sup>See Hey et al. (2012, Part B, Chapter IV).

<sup>54</sup>Regarding the important comparison of the one-time wealth tax and the estate tax, one could argue that the name of the estate tax actually triggers some perception of a transfer payment. However, in both questions we asked about the tax at "the age of 80", which was described as the end of one's life in the vignette text.

<sup>55</sup>Of course, (periodical) wealth taxes also burden inter-vivos giving.



### A.3 Experimental Design (Screenshots)

The following questions are about **your personal opinion** on how much hypothetical people should pay in taxes on their wealth.

In order to finance public spending, taxes are levied. For this, the government employs different types of taxes, e.g. on income, consumption, or assets. If the government aims to collect a certain tax revenue, every increase in one tax should decrease other taxes by the same amount.

This study is about an **estate tax**. An estate tax once taxes the entire assets, which the decedent owns at the end of his or her life. The taxed estate may include cash, account balances, real estate, and shares. Low asset values might be exempted.

**Important:** *In this study we assume that individuals' behavior is not affected by the existence of taxes. In particular, the estate tax will not affect economic activity, savings behavior, or lead to tax avoidance/evasion. Furthermore, no other capital taxes are levied.*

#### **Control Question:**

Which of the following assumptions should be kept in mind when participating in this study? For this, multiple answers are allowed.

The existence and the amount of taxes does not affect economic activity and saving behavior.

The existence and the amount of taxes does not affect the level of tax avoidance and evasion.

The estate tax AND other capital taxes are levied.

Figure 10: Screenshot of explanations and control questions (estate tax group).

The following questions are about **your personal opinion** on how much hypothetical people should pay in taxes on their wealth.

In order to finance public spending, taxes are levied. For this, the government employs different types of taxes, e.g. on income, consumption, or assets. If the government aims to collect a certain tax revenue, every increase in one tax should decrease other taxes by the same amount.

This study is about a **yearly wealth tax**. A yearly wealth tax taxes the entire assets one owns at the end of each year. The taxed assets may include cash, account balances, real estate, and shares. The yearly wealth tax works similar to a property tax, but has to be paid based on all assets, not only real estate. Low asset values might be exempted.

Example: If one owns assets over a period of 50 years, the total tax burden would be the sum of the 50 yearly payments. E.g. a total tax burden of \$100 would be the sum of 50 payments that are on average \$2 each.

***Important:*** *In this study we assume that individuals' behavior is not affected by the existence of taxes. In particular, the yearly wealth tax will not affect economic activity, savings behavior, or lead to tax avoidance/evasion. Furthermore, no other capital taxes are levied.*

**Control Question:**

Which of the following assumptions should be kept in mind when participating in this study? For this, multiple answers are allowed.

The existence and the amount of taxes does not affect economic activity and saving behavior.

The existence and the amount of taxes does not affect the level of tax avoidance and evasion.

The yearly wealth tax AND other capital taxes are levied.

Figure 11: Screenshot of explanations and control questions (yearly wealth tax group).

Consider a person who starts building assets at the age of 30. By the age of 80, the end of his or her life, these assets are worth **\$30,000,000**. The assets mainly consist of **cash** and were mostly accumulated by **a received inheritance and gifts from family members**. The person has **no children**.

If it were up to you, what amount should the person pay in estate tax at the end of his or her life?

\$100,000

The Tax Authority charges a tax payment of **\$100,000** at the end of his or her life.



Figure 12: Example of a single vignette (estate tax group).

Consider a person who starts building assets at the age of 30. By the age of 80, the end of his or her life, these assets are worth **\$30,000,000**. The assets mainly consist of **cash** and were mostly accumulated by **a win in the lottery and lucky investments**. The person has **one child**.

If it were up to you, what amount should the person pay in yearly wealth taxes over his or her entire life in total?

\$100,000

The Tax Authority charges an average tax payment of **\$2,000** each year.



Figure 13: Example of a single vignette (yearly wealth tax group).

An estate tax once taxes the entire assets, which the testator owns at the end of his or her life. The taxed estate may include cash, account balances, real estate, and shares. Low asset values might be exempted.

The state decides to tax wealth and has two different taxes at its disposal for this: the yearly wealth tax, as described in the first part of this survey, or the estate tax, explained just now.

What kind of taxation would you prefer for a person, who owns \$10,000,000 before taxes over a period of 50 years? **The lifetime tax burden is identical in both cases.**

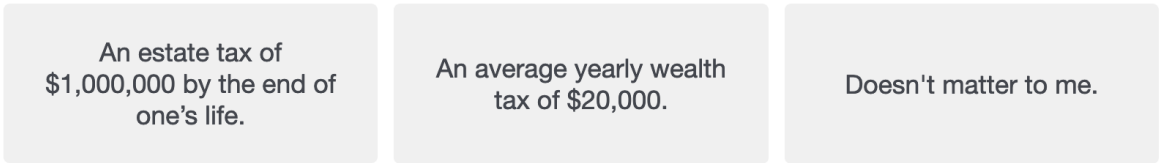


Figure 14: Within-question (yearly wealth tax group).

#### A.4 Effective tax rates by region

We analyzed effects of the existence of estate or inheritance taxes on state level<sup>56</sup> as well as the level of income and property taxes on state level on proposed effective tax rates. However, we find no significant correlation between actual taxes that are levied in the state of the respondent and her proposed tax burdens. Due to the very small number of observations for some states, we display aggregated values per region. Average proposed effective tax rates based on different regions of the United States are shown in figure 15. Defining these, we follow the Bureau of Economic Analysis and split the country into eight different regions:<sup>57</sup> Far East, Rocky Mountains, Plains, Great Lakes, Mideast, New England, Southeast and Southwest. In general, respondents living in southern regions tend to propose lower taxes compared to those living in the north. The lowest average tax rates can be found in the Southwest, whereas the survey participants living in the Plains proposed the highest taxes.

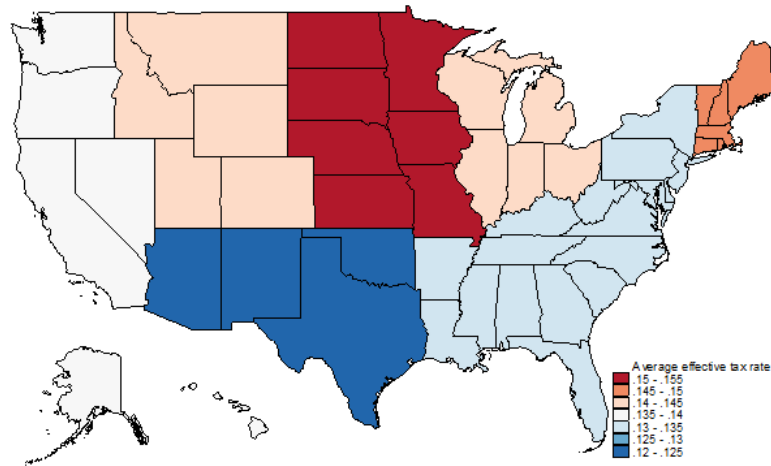


Figure 15: Proposed average effective tax rates of respondents by region.

<sup>56</sup>We consider the existence rather than the level of estate and inheritance taxes as tax levels are not comparable due to a huge variation in tax exemptions.

<sup>57</sup>See <https://apps.bea.gov/regional/docs/regions.cfm> (22.07.2019).

## A.5 Further between results

	full set (1)	behavioral control question correctly (2)
Base: one-time wealth		
estate	-0.010 (-1.13)	-0.005 (-0.42)
yearly wealth	-0.020** (-2.13)	-0.020 (-1.54)
decennial wealth	-0.021** (-2.24)	-0.025** (-1.99)
Vignette variables		
Base: \$1m		
\$10m	0.006*** (3.72)	0.014*** (6.38)
\$35m	0.022*** (13.00)	0.034*** (15.28)
Base: effort		
lottery/lucky	0.019*** (10.93)	0.021*** (9.47)
inheritance	0.013*** (7.89)	0.015*** (6.67)
Base: cash		
real estate	0.003** (2.00)	0.004* (1.87)
business shares	0.001 (0.57)	-0.000 (-0.20)
Base: no children		
one child	-0.008*** (-4.77)	-0.007*** (-3.00)
three children	-0.014*** (-8.14)	-0.015*** (-6.86)
Control variables		
female	-0.020*** (-2.94)	-0.024*** (-2.63)
age	-0.000 (-0.02)	-0.000 (-1.09)
has children	-0.022*** (-3.08)	-0.015 (-1.52)
share black	0.006 (0.42)	-0.047** (-2.28)
share white	0.006 (0.61)	-0.000 (-0.02)
republican	-0.041*** (-4.11)	-0.065*** (-4.73)
democrat	0.027*** (3.06)	0.014 (1.17)
education	0.009** (2.31)	0.010* (1.91)
entrepr. in family	0.013* (1.76)	0.016 (1.58)
expect estate tax	-0.017** (-2.33)	-0.026*** (-2.63)
inherited in past	0.025*** (2.61)	0.013 (0.96)
Observations	18909	10359

t statistics in parentheses; \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table 9: Between results (random effects model; full set of controls; dependent variable: effective tax rate).

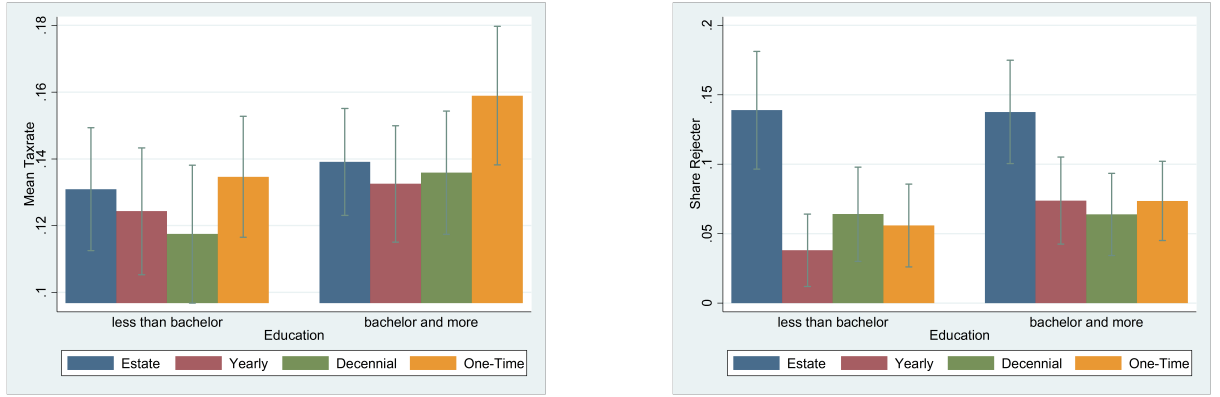


Figure 16: Average effective tax rates (left) and share of opponents (right) **by education and treatment group**; 95%-confidence intervals.

	full set		behavioral control question correctly	
	$\leq 10\%$ affect.	$> 10\%$ affect.	$\leq 10\%$ affect.	$> 10\%$ affect.
Base: one-time wealth				
estate	-0.022 (-1.05)	-0.008 (-0.82)	-0.011 (-0.40)	-0.008 (-0.59)
yearly wealth	-0.054** (-2.47)	-0.011 (-1.11)	-0.050* (-1.81)	-0.010 (-0.72)
decennial wealth	-0.020 (-0.89)	-0.022** (-2.21)	-0.030 (-1.09)	-0.027* (-1.95)
Observations	4833	14076	3024	7335

t statistics in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 10: Between results (random effects model; full set of controls; dependent variable: effective tax rate); **by information**.

	full set		behavioral control question correctly	
	age $< 35y$	age $\geq 35y$	age $< 35y$	age $\geq 35y$
Base: one-time wealth				
estate	0.009 (0.73)	-0.032** (-2.51)	0.019 (1.06)	-0.027 (-1.64)
yearly wealth	-0.011 (-0.87)	-0.030** (-2.20)	0.002 (0.13)	-0.042** (-2.35)
decennial wealth	-0.017 (-1.34)	-0.028** (-1.98)	-0.021 (-1.16)	-0.029 (-1.62)
Observations	10440	8469	5499	4860

t statistics in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 11: Between results (random effects model; full set of controls; dependent variable: effective tax rate); **by age**.

	full set		behavioral control question correctly	
	no childr.	has childr.	no childr.	has childr.
Base: one-time wealth				
estate	-0.003 (-0.27)	-0.016 (-1.32)	-0.006 (-0.38)	-0.001 (-0.04)
yearly wealth	-0.025* (-1.86)	-0.012 (-0.90)	-0.033* (-1.84)	0.004 (0.24)
decennial wealth	-0.024* (-1.78)	-0.020 (-1.56)	-0.051*** (-2.83)	0.009 (0.53)
Observations	10386	8523	5922	4437

Table 12: Between results (random effects model; full set of controls; dependent variable: effective tax rate); **by children**.

	full set		behavioral control question correctly	
	no bachelor	bachelor	no bachelor	bachelor
Base: one-time wealth				
estate	-0.005 (-0.36)	-0.015 (-1.24)	-0.003 (-0.16)	-0.005 (-0.29)
yearly wealth	-0.015 (-1.14)	-0.024* (-1.87)	-0.013 (-0.70)	-0.027 (-1.52)
decennial wealth	-0.023* (-1.68)	-0.021 (-1.58)	-0.033* (-1.72)	-0.023 (-1.31)
Observations	8136	10773	4491	5868
t statistics in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.01				

Table 13: Between results (random effects model; full set of controls; dependent variable: effective tax rate); **by education**.



## A.6 Further vignette results

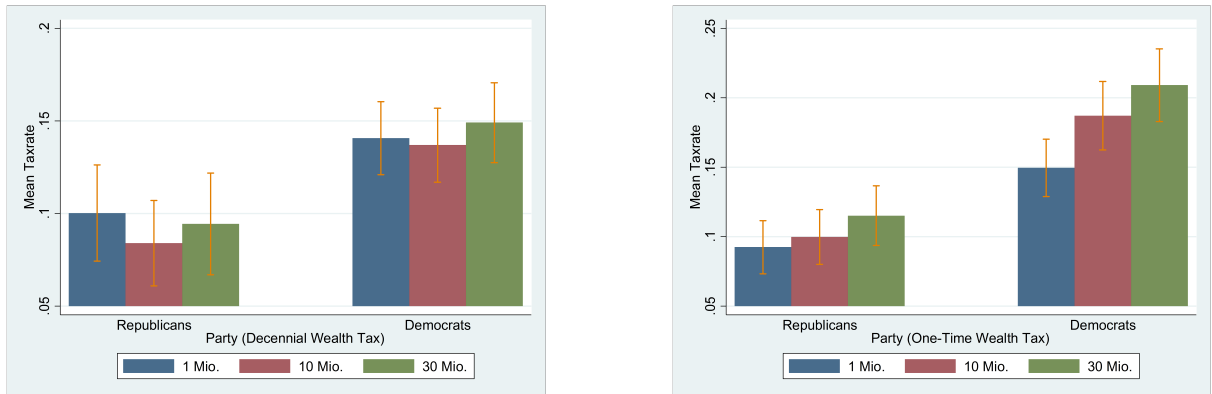


Figure 17: Average effective tax rates in the decennial wealth tax group (left) and the one-time wealth tax group (right); by partisanship of the respondent and vignette dimension 'value of assets'; 95%-confidence intervals.

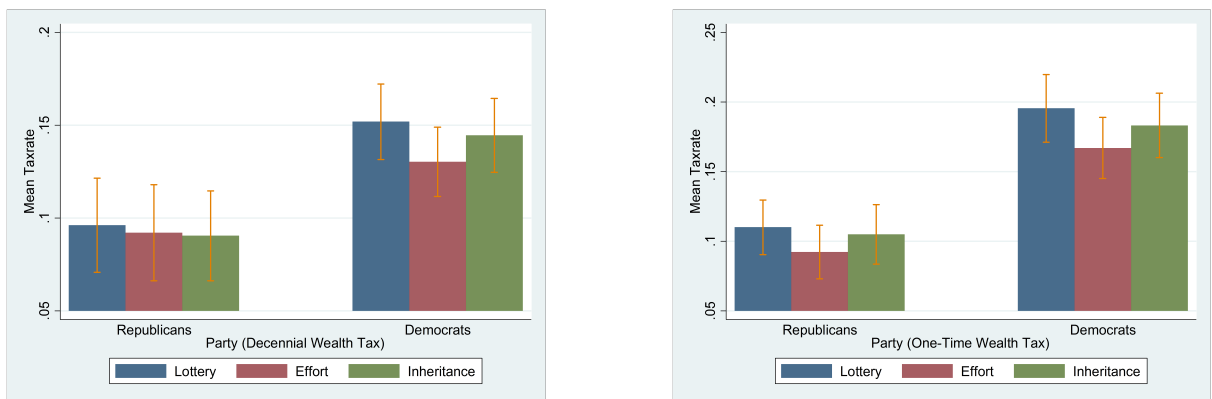


Figure 18: Average effective tax rates in the decennial wealth tax group (left) and the one-time wealth tax group (right); by partisanship of the respondent and vignette dimension 'source of assets'; 95%-confidence intervals.

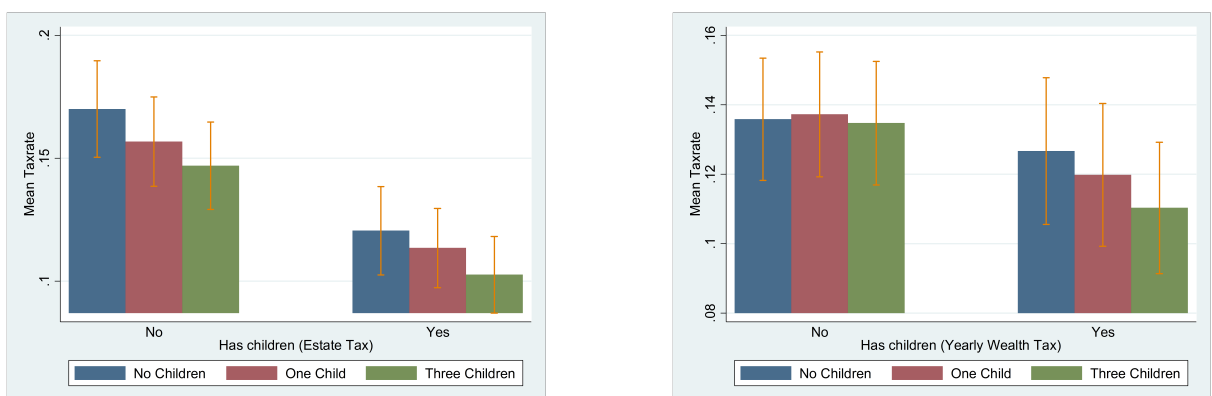


Figure 19: Average effective tax rates in the estate tax group (left) and the yearly wealth tax group (right); by children of the respondent and vignette dimension 'number of children'; 95%-confidence intervals.

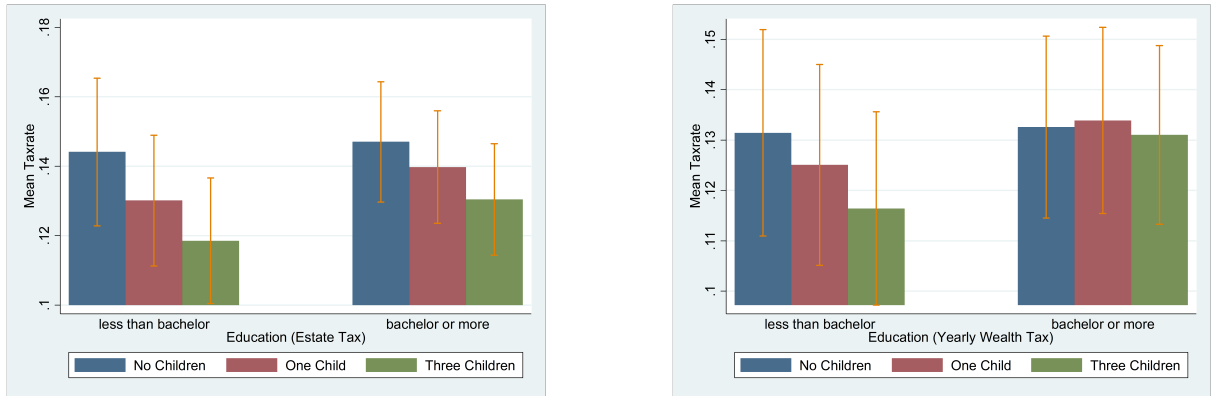


Figure 20: Average effective tax rates in the estate tax group (left) and the yearly wealth tax group (right); **by education of the respondent and vignette dimension ‘number of children’; 95%-confidence intervals.**

	decennial wealth tax group		one-time wealth tax group	
	(1) Republicans	(2) Democrats	(3) Republicans	(4) Democrats
Base: \$1m				
\$10m	-0.016*** (-2.95)	-0.004 (-0.77)	0.007 (1.36)	0.037*** (7.95)
\$35m	-0.006 (-1.07)	0.008* (1.70)	0.023*** (4.25)	0.060*** (12.62)
Base: effort lottery/lucky	0.004 (0.75)	0.022*** (4.40)	0.018*** (3.33)	0.028*** (6.04)
inheritance	-0.002 (-0.29)	0.014*** (2.92)	0.013** (2.40)	0.016*** (3.44)
Base: cash real estate	-0.001 (-0.19)	0.001 (0.12)	-0.008 (-1.50)	0.003 (0.62)
business shares	0.006 (1.08)	0.003 (0.59)	-0.001 (-0.19)	0.003 (0.55)
Base: no children				
one child	-0.005 (-0.84)	-0.011** (-2.26)	-0.009* (-1.69)	-0.013*** (-2.81)
three children	-0.003 (-0.53)	-0.008* (-1.65)	-0.018*** (-3.35)	-0.017*** (-3.66)
Observations	1098	2196	1440	2709

t statistics in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 14: Vignette results (random effects model; full set of controls; dependent variable: effective tax rate); **by partisanship.**

	estate tax group	yearly wealth tax group	decennial wealth tax group	one-time wealth tax group
Base: \$1m				
\$10m	0.014 (1.65)	0.003 (0.26)	-0.013 (-1.44)	0.022** (2.60)
\$35m	0.034*** (4.11)	0.011 (1.07)	0.014 (1.61)	0.042*** (4.95)
Base: effort				
lottery/lucky	0.015 (1.85)	0.024* (2.35)	0.013 (1.46)	0.025** (2.90)
inheritance	0.004 (0.44)	0.019 (1.90)	-0.007 (-0.79)	0.017* (2.03)
Base: cash				
real estate	-0.003 (-0.33)	0.035*** (3.45)	0.009 (0.97)	-0.009 (-1.10)
business shares	0.009 (1.09)	0.012 (1.18)	0.012 (1.36)	-0.007 (-0.78)
Base: no children				
one child	-0.012 (-1.40)	0.014 (1.42)	-0.011 (-1.27)	-0.028*** (-3.32)
three children	-0.011 (-1.27)	0.005 (0.51)	0.004 (0.46)	-0.034*** (-4.02)
10 Mio. × lottery/lucky	0.008 (1.03)	-0.005 (-0.57)	0.003 (0.39)	0.004 (0.53)
10 Mio. × inheritance	0.008 (1.04)	-0.008 (-0.86)	0.024** (2.93)	0.002 (0.27)
35 Mio. × lottery/lucky	0.008 (0.97)	-0.004 (-0.44)	-0.005 (-0.60)	-0.007 (-0.88)
35 Mio. × inheritance	0.014 (1.82)	-0.003 (-0.30)	0.013 (1.55)	-0.005 (-0.69)
10 Mio. × real estate	0.005 (0.65)	-0.027** (-2.86)	-0.005 (-0.65)	-0.004 (-0.48)
10 Mio. × business shares	-0.000 (-0.06)	-0.013 (-1.43)	-0.004 (-0.51)	0.001 (0.10)
35 Mio. × real estate	0.001 (0.16)	-0.025** (-2.69)	-0.002 (-0.23)	-0.002 (-0.30)
35 Mio. × business shares	-0.006 (-0.71)	-0.012 (-1.32)	-0.003 (-0.34)	0.002 (0.24)
10 Mio. × one child	-0.006 (-0.79)	-0.008 (-0.85)	0.006 (0.77)	0.003 (0.39)
10 Mio. × three children	0.000 (0.05)	-0.009 (-1.00)	0.004 (0.51)	0.002 (0.28)
35 Mio. × one child	-0.007 (-0.96)	-0.011 (-1.16)	-0.005 (-0.60)	0.007 (0.94)
35 Mio. × three children	-0.005 (-0.63)	-0.002 (-0.25)	-0.011 (-1.31)	0.010 (1.22)
lottery/lucky × real estate	-0.006 (-0.78)	-0.006 (-0.63)	-0.004 (-0.45)	-0.004 (-0.52)
lottery/lucky × business shares	-0.005 (-0.67)	0.008 (0.87)	-0.009 (-1.07)	-0.012 (-1.52)
inheritance × real estate	0.010 (1.23)	0.003 (0.37)	0.007 (0.90)	0.004 (0.48)
inheritance × business shares	-0.000 (-0.05)	-0.003 (-0.32)	0.008 (1.03)	-0.000 (-0.03)
lottery/lucky × one child	0.006 (0.77)	-0.001 (-0.10)	0.019* (2.34)	0.013 (1.70)
lottery/lucky × three children	-0.009 (-1.12)	-0.009 (-0.93)	0.008 (0.94)	-0.001 (-0.11)
inheritance × one child	0.002 (0.23)	0.000 (0.03)	0.005 (0.67)	-0.003 (-0.41)
inheritance × three children	-0.008 (-0.97)	0.003 (0.32)	-0.007 (-0.80)	-0.006 (-0.73)
real estate × one child	0.013 (1.74)	-0.016 (-1.76)	-0.010 (-1.17)	0.012 (1.52)
real estate × three children	-0.002 (-0.22)	-0.009 (-1.00)	-0.013 (-1.54)	0.025** (3.21)
business shares × one child	-0.003 (-0.37)	-0.014 (-1.48)	-0.006 (-0.74)	0.019* (2.37)
business shares × three children	-0.007 (-0.95)	-0.011 (-1.16)	-0.015 (-1.82)	0.019* (2.40)
Observations	5337	4329	4221	5022

† statistics in parentheses; \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table 15: Vignette results (random effects model; full set of controls; dependent variable: effective tax rate); additional interaction effects; by treatment group.

## A.7 Further Textual Analyses

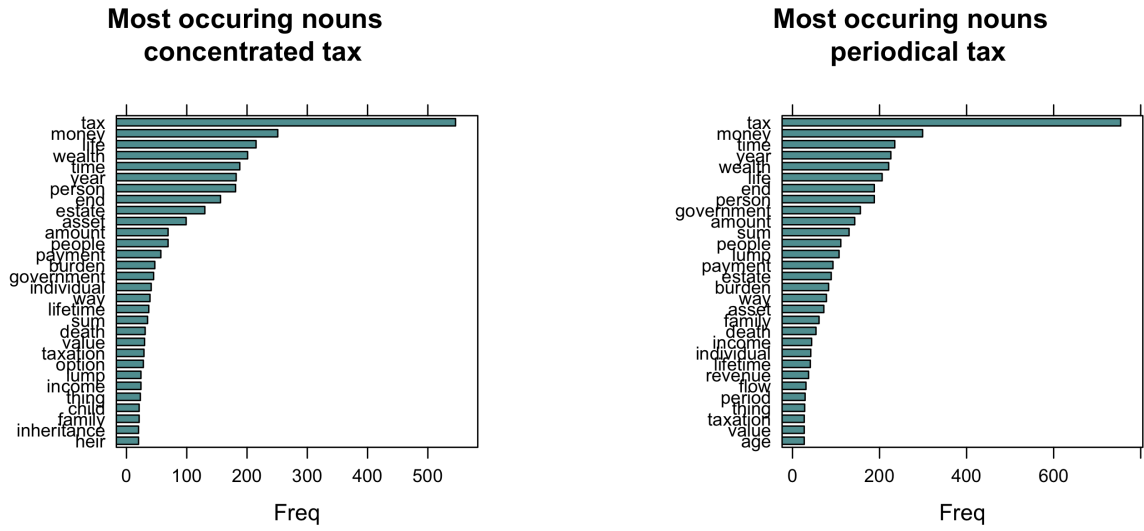


Figure 21: Most frequently used nouns in the open-ended answers when a concentrated tax (estate or one-time, right) or a periodical tax (yearly or decennial, left) was chosen.

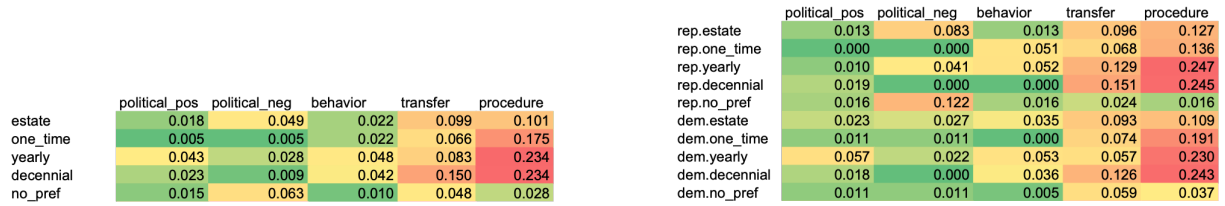


Figure 22: Heatmap of the most occurring motives from green (low number of matches) to red (high number of matches). Underlying dictionary: transfer: 'children', 'heir', 'kids', 'generation', 'transfer', 'family'; political\_neg: 'theft', 'death tax', 'unfair', 'not fair', 'double', 'robbery', 'steals', 'twice', 'evil', 'waste', 'punish', 'repeatedly', 'already'; political\_pos: 'inequality', 'fair share', 'redistribution', 'fund'; behavior: 'evasion', 'avoidance', 'way around', 'plan', 'defraud', 'loophole'; procedure: 'easier', 'chunk', 'not at once', 'lump sum', 'overwhelming', 'simpler', 'spread', 'ongoing', 'consistent'.

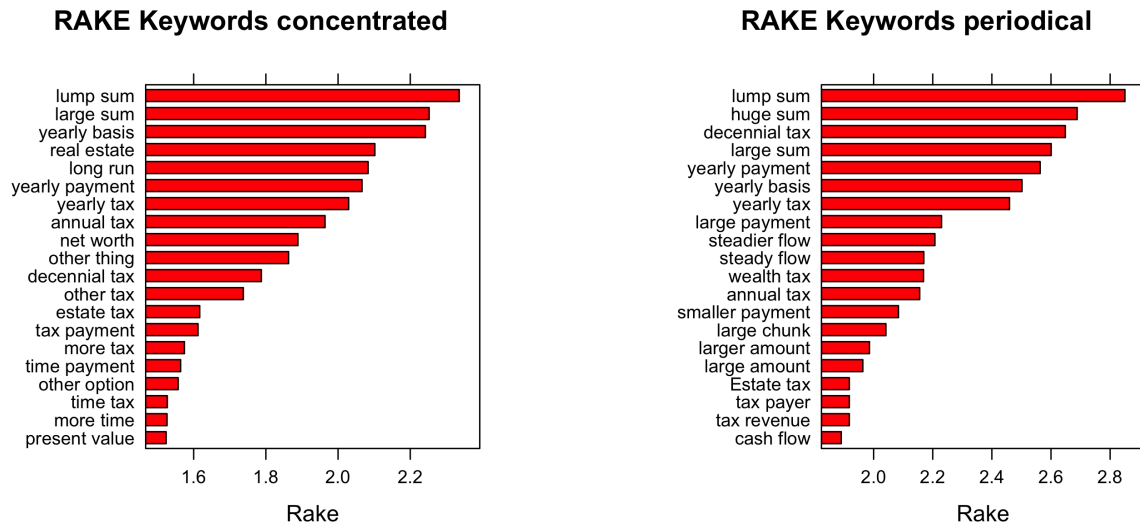


Figure 23: Keywords identified by the RAKE algorithm<sup>a</sup> based on the open-ended answers when a concentrated tax (estate or one-time, left) or a periodical tax (yearly or decennial, right) was chosen.

<sup>a</sup>'RAKE' stands for 'Rapid Automatic Keyword Extraction' and is a common keyword extraction method. Basically it deploys a list of stopwords and phrase delimiters to remove those items from a text to identify the most relevant words or phrases. In a next step, the algorithm creates a matrix of word co-occurrences and calculates both the sum of the number of co-occurrences each word has with any other word as well as the number of times each word appears in the text. Finally, if keywords or keyphrases appear together in the same order multiple times, a score of these keyphrase is computed like the one for a single keyphrase.

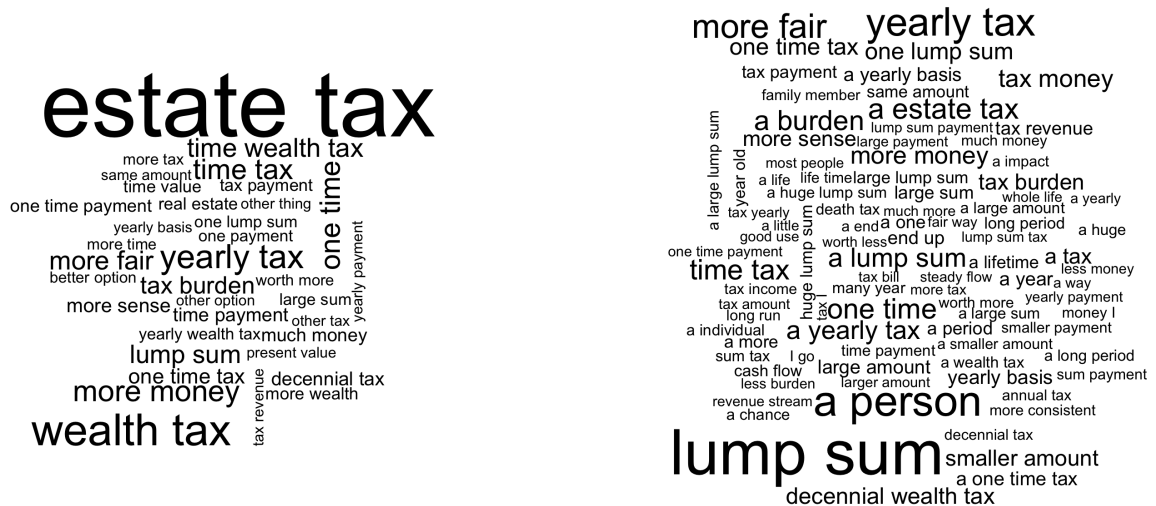


Figure 24: Wordcloud compiled by the Textrank algorithm<sup>a</sup> based on the open-ended answers when a concentrated tax (estate or one-time , left) or a periodical tax (yearly or decennial, right) was chosen.

<sup>a</sup>The 'Textrank' algorithm is, just as the RAKE algorithm, another method to identify keywords and key phrases. Basically, the algorithm identifies how phrases are related to each other by exploring overlapping terminology and then setting up links between sentences. Keywords are identified based on a constructed network to explore how words are following each other. Both the resulting key phrases and keywords are finally ranked by their importance.

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