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RISING INCOME TAX COMPLEXITY

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ABSTRACT

This paper provides novel estimates on the cost of filing taxes over time and in different countries. First, we ran a survey of US taxpayers. We find that taxpayers perceive that tax complexity and filing costs have been increasing and that the majority would be willing to pay for simplifying the tax system and adopting pre-populated tax returns. Second, we use word counts of the tax codes in several countries dating as far back as the early 1980's as a proxy for tax compliance costs. This measure shows that compliance costs have been steadily increasing.

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1 Introduction

High and rising tax filing costs and tax complexity is a bipartisan issue: both Republicans and Democrats agree, in principle, that filing taxes imposes a substantial burden on US taxpayers that should be reduced, but generally disagree over what methods to use to reduce them.[1] Similarly, economists and US taxpayers generally agree that these costs are high and increasing. In spite of this general consensus, there has been limited research documenting the evolution of tax compliance costs.

This paper attempts to fill this gap using two distinct and complementary approaches. We first designed and ran a survey of approximately 800 US taxpayers with the goal of eliciting their perceptions of the complexity of the tax code. While survey instruments are imperfect, they allow us to validate some of our findings from the observational data approach we describe below, and address questions that are unanswerable using observational data.

There are many reasons why a tax system might become more complex. In the US, for example, many welfare programs are administered through the tax system, such as the Earned Income Tax Credit. Similarly, government policies aimed at tackling externalities are also implemented via taxes and credits, resulting in a more complex tax system. And political considerations, such as the 10-year budget window and the sun-setting of provisions can lead to a longer tax code. In the survey, we focus on two possible justifications for adding complexity. The first one is that a more progressive tax system often leads to more complexity: a flat tax would be substantially simpler than current tax systems but has the downside of being regressive. Having a more complex tax system allows for a more progressive tax schedule. We show that US taxpayers do not share this view. The majority of our survey respondents believes that the tax code's complexity makes the tax system *less* fair overall. And because the majority of our respondents have been filing taxes for more than a decade, this appears to be representative of a long time trend. The taxpayers' perception is consistent with the findings of Saez and Zucman (2019), for example, who show that tax progressivity has not increased in the US.

1. See Senator Elizabeth Warren's "Tax Simplification Act" of 2022 (link) and the Trump administration's 2018 Economic Report of the President (link, page 41).

The second potential justification for increasing tax complexity is to hinder tax evasion: a more complex tax system requiring taxpayers to provide more information may make it harder to evade taxes. However, the majority of respondents believe that increased complexity *fosters* evasion, further exacerbating the perception of unfairness that complexity imposes on taxpayers. This is consistent with the observation that while tax complexity has increased, tax evasion has not decreased.

Given that the majority of respondents believe that the tax system has become more complex and that this complexity tends to hurt US taxpayers either via increased evasion or lower progressivity, it would come as no surprise that most taxpayers prefer a substantially simpler tax system. While a large share of taxpayers state that they would be willing to forgo some of their tax refund to make the US tax system simpler, the respondents are equally split between being very willing and not willing at all to do so. Among those that are willing to pay for a simpler tax system, the willingness to pay is on average $130 per year, which is within the range of what a taxpayer would pay when using a tax preparation software (such as TurboTax) and less than what the same taxpayer would pay if visiting a tax preparer.

Relatedly, another way to ease the complexity burden on taxpayers is to reduce filing costs. One approach, which is commonly used in some OECD countries is to pre-populate tax returns prior to sending them to taxpayers who are then given the opportunity to review, amend and then file them. While there are no pre-populated forms for US taxpayers, Goodman, Lim, Sacerdote, and Whitten (Forthcoming) show that for more than 40% of returns could be pre-populated. Pre-populating forms has the advantage of reducing record keeping costs and some form filling costs. Opponents of pre-populated forms – in the US – generally argue that they would make taxpayers too complacent, simply agreeing to anything the IRS would write on the pre-populated forms, thus leading to a higher tax burden.

To our knowledge, except for anecdotal evidence, we do not know whether taxpayers would be in favor of receiving pre-populated tax returns. According to our survey, the majority of taxpayers would be willing to pay for receiving a pre-populated tax return. And among those that are willing to pay for them, they would pay $77 on average. Both taxpayers who identify as liberal

and conservative are willing to pay for pre-populated forms, suggesting that pre-populated forms would be a popular reform. However, liberal taxpayers are significantly more willing to pay for pre-populated forms than conservative taxpayers.

We also asked US taxpayers how much time it takes them to file their taxes.[2] On average, taxpayers who do not use a tax preparer spend 2.2 hours using tax software, 1.4 hours looking for receipts and forms and 0.8 hours learning about the tax law. Those that use a tax preparer spend 1 hour going to and waiting at the tax preparer, 1.9 hours looking for forms and receipts and 0.6 hours learning about the tax law. These figures are lower than those reported by the IRS or estimated in Benzarti (2021). This could be due to the fact that the sample of US taxpayers in our survey differs from that used by the IRS. And it is consistent with the fact that our respondents believe that it is less tedious to file taxes for themselves than for others.

In our second approach, we proxy for filing costs using the length of tax codes over time and across a few different countries.[3] In general, longer tax codes do not necessarily imply more complex tax codes. A wordier tax code might even be simpler if the additional words describe the law in more detail, reducing uncertainty as to how they will be applied. A better approach would measure tax complexity by using the revealed preferences of a representative sample of taxpayers and comparing them over time and across countries. While previous research has attempted this for specific tax code provisions and a sub-sample of the population over certain periods (Benzarti (2020)), generalizing this approach to compare estimates across countries, time and individuals is challenging, if not impossible. This is why we rely on the tax code word count approach, which is incomplete in its coverage of complexity but is implementable. Moreover, this imperfect proxy has the advantage of capturing part of the complexity of the tax code due to additions to it, rather than existing provisions that are made more complex. For the US, we show that the word count measure correlates with alternative measures of income tax complexity.

Similarly, if tax complexity has been growing over time, this should be reflected in the tax preparation and software industry. The ideal measure for this would be industry profits for the tax

2. This was regularly done by the IRS but has not been updated in recent years.

3. Word counts have been used as a measure for tax code complexity before (see e.g., Moody, Warcholik, and Hodge 2005; Bacher and Brülhart 2013; Weber 2015; Hoppe, Schanz, Sturm, and Sureth-Sloane 2021).

preparer and the tax preparation software industry, which is not readily available. Instead, we use the number of employees in this industry and their average wage as a proxy and find that these have been steadily growing in the US since the early 2000's.

Overall, both the observational and survey data clearly confirm the general consensus that tax filing costs have been increasing. This pattern holds in the US, both when using word counts and survey responses, but also in the other countries we consider, namely France, Germany, Switzerland, Canada and Morocco, albeit only using the observational data.

This paper's main contribution is to show that filing costs and complexity have been growing over time and across countries, as well as to document perceptions surrounding tax filing costs and complexity. Our paper contributes to the growing literature that uses observational data to estimate tax filing costs, such as in Pitt and Slemrod (1989), Benzarti (2020), Hauck and Wallossek (2023). With the exception of Benzarti (2021), most of these papers estimate filing costs for a specific provision of the tax code (such as itemizing deductions) and a specific time period.[4] Our paper also contributes to a literature that uses survey evidence to elicit the perception of taxpayers about the tax code, pioneered by Kuziemko, Norton, Saez, and Stantcheva (2015). More recently, Blesse, Buhlmann, and Doerrenberg (2019) implemented a survey of German taxpayers eliciting their preferences over the trade-off between simplifying the German tax code and making it less progressive, which is related to one of the questions we ask our survey participants.

2 Perceived Complexity in the US

2.1 Data

Complexity describes "the state of having many parts and being difficult to understand or find an answer to" (Cambridge dictionary, link). Throughout the paper, we define tax complexity along the same lines: a complex income tax system is difficult to understand, comply with, and navigate

4. Benzarti (2021) relies on the estimates from Benzarti (2020) and extrapolates them to rest of the tax filing schedule.

because it has many parts and rules.[5] As a result, it is costly for taxpayers to deal with. We focus on the complexity of the tax code and income tax filing for individual taxpayers.

To gain some understanding into how taxpayers perceive the complexity of the tax code and elicit beliefs over the ramifications of this complexity, we developed and administered a survey of US taxpayers. The survey questions and possible responses are as follows:

1. How do you usually file taxes?
    - I usually file taxes myself (including: using a software such as TurboTax etc.)
    - Someone else files my taxes (e.g., spouse, parent, etc.)
    - I usually pay a tax preparer (such as H&R Block) to file my taxes
    - I don't usually file a tax return
2. (If responded "I usually file taxes myself" in question 1.) When you last filed your taxes, how many hours did you spend
    - Looking for forms and receipts
    - Learning about the Tax Law
    - Using the tax filing software (such as Turbotax)
3. (If responded "I usually pay a tax preparer" in question 1.) When you last used a tax preparer, how many hours did you spend
    - Looking for forms and receipts
    - Going to and wait at the tax preparer (such as H&R Block)
    - Learning about the Tax Law
4. (If responded "I usually file taxes myself" in question 1.) How tedious/pleasant is it to file your taxes?

5. Note that there is no uniform definition of tax complexity in the literature Hoppe, Schanz, Sturm, and Sureth-Sloane (2021).

- slider from 0 (very tedious) to 100 (very pleasant)

5. How tedious do you think filing taxes is for most people?

   - slider from 0 (very tedious) to 100 (very pleasant)

6. Do you think we should simplify/complicate taxes

   - slider from 0 (simplify a lot more) to 100 (complicate a lot more)

7. (If responded "I usually file taxes myself" in question 1.) Compared to when you first filed taxes, do you believe taxes have become

   - slider from 0 (much less complicated) to 100 (much more complicated)

8. Do you believe that tax complexity is contributing to making taxes more or less fair?

   - slider from 0 (much less fair) to 100 (much more fair)

9. Do you believe that tax complexity encourages or discourages people to evade taxes?

   - slider from 0 (encourages tax evasion) to 100 (discourages tax evasion)

10. Would you be willing to pay to have simplified taxes?

    - slider from 0 (not willing at all) to 100 (very willing)

11. (If responded more than 50 in question 10.) How much would you be willing to pay for simplified taxes?

    - Text entry

12. Pre-filled tax returns are forms that are automatically filled in by the IRS based on information they already have. These exist in other countries, but not in the US. Taxpayers can review and verify the pre-filled information and make any necessary adjustments or additions before submitting the form. Would you be willing to pay to receive a pre-filled tax return?

    - slider from 0 (not willing at all) to 100 (very willing)

13. (If responded more than 50 in question 12.) How much would you be willing to pay to receive a pre-filled tax return?

    - Text entry

14. What was your annual household income in 2022?

    - Less than $20,000
    - $20,000 to $40,000
    - $40,000 to $60,000
    - $60,000 to $80,000
    - $80,000 to $100,000
    - $100,000 to $150,000
    - $150,000 to $200,000
    - More than $200,000
    - I don't know
    - I prefer not to answer

15. On economic policy matters, where do you see yourself on the liberal/conservative spectrum?

    - slider from 0 (very liberal) to 100 (very conservative)

For most survey questions, we provide respondents with a slider ranging from one extreme option to another, e.g. from "not willing" to "willing". The underlying scale ranges from 0 to 100 (these numbers are not displayed when the survey is being administered). The default position for the slider is 50 and respondents are required to move the slider. Throughout our empirical analysis, we often group respondents in two subgroups, indicating support or opposition for a given statement. We divide the sample based on whether the response is greater or smaller than 50, excluding those who are exactly at 50.

We ran the survey using the platform Prolific. This platform, similar to Amazon MTurk, recruits a pool of participants who are available to participate in surveys. Participants self select into the

survey they want to participate in. We pre-screened participants in order to focus on US respondents that are of prime working age and have had some experience with tax filing. In particular, we pre-screened participants on the following characteristics: live in the US, first language is English, older than twenty five years old and full- or part-time employment status. To further ensure that our sample is drawn from tax filers, we noted that anybody who has never filed taxes themselves or using a tax preparer should not participate in the study recruitment message. We also drop participants who responded that they do not usually file taxes (Question 1). Information on age and race is collected by Prolific. As with all surveys administered using an online platform we can expect that survey participants might be selected on being more comfortable with technology than the rest of the population. This might bias the sample towards taxpayers who self-file using tax software.

The survey ran from July 10th, 2023 to July 11th, 2023. The survey was expected to take three minutes and the median completion time was two minutes and forty three seconds. Participants were approximately paid twelve dollars an hour for completing it. Note that, prior to running the survey, we ran a pilot to ensure that there were no issues with the implementation of the survey.[6] We recruited eighty individuals to participate in the pilot and ensured that none of the individuals who participated in the pilot were part of the main survey. We also excluded the pilot observations from the analysis. We did not detect any issues with the pilot and therefore did not make any changes to the survey when running it on the full pool of participants, with the exception of some minor wording changes. Appendix Figure A.1 shows screenshots of the survey instruments as experienced by the survey participants.

Our final sample of survey participants contains 796 US taxpayers. Overall, 85% of survey respondents report that they self-file their tax returns, which may include the usage of paid tax preparation software (e.g., TurboTax) but not paid tax preparers.[7] Figure 1a shows the distribution of income in this sample using income bins. Overall, all income levels below $150,000 appear to be relatively well represented in our sample. There are also some respondents who reported income

6. The pilot survey was ran on June 23rd, 2023.

7. The share of self-filers in our sample is higher than in the overall US population. For 2022, the IRS reports that 44% of individual tax returns were self-prepared (link). One explanation for the deviation is that taxpayers using paid tax preparers may be underrepresented on Prolific, e.g., because they are more likely to be tech savvy or higher income.

levels above $150,000. Given that we have elicited income using bins, the median appears to fall in the $60,000 to $80,000 bin, which matches the US median household income (≈ $70,784).

Figure 1b shows the distribution of the first year a given taxpayer has filed a tax return. The earliest year is 1970 and the latest year is 2023. The median year is 2006. It is hard to know whether this distribution is representative of the US population, although we believe that our sample is likely to be skewed towards more recent first-time filers. However, there are enough early first-time filers to assess whether taxpayers perceive that the tax code has changed significantly over the past two decades.

Figure 1c shows the age distribution in our sample. The average age is 41, which is consistent with the distribution of the first year of filing a tax return, and the youngest age is 25, which is due to the fact that we have added a restriction that participants should be older than 25. The oldest taxpayer is 86 years old. Moreover, 82% of of the sample are employed full time (all respondents are employed), 55% are male, 79% are White, 8% are African American and 5% are Asian.

Figure 1d shows the distribution of self-reported political preferences of respondents on the liberal/conservative spectrum. The sample tends to lean towards liberal, with the average respondent falling to left of center, however conservatives are still well represented.

2.2 Results

We first analyze how taxpayers perceive income tax filing with respect to complexity. We find that the majority (77%) of taxpayers consider tax filing to be tedious (Figures 2a and 2b). The average taxpayer in our sample spends approximately 4 hours filing taxes: 4.4 hours if self-filing (Figure 3a, Figure 3b and Figure 3c) and 3.5 hours when using tax preparation services (Figure 4a, Figure 4b and Figure 4c). Interestingly, neither income nor political preferences appear to matter when it comes to the perception of how complex the tax system is. The mean response for high-income individuals is 31 (where 0 is the perception that the tax system is very complex and 100 is that it is not complex at all). Whereas for low-income individuals it is 32.[8] Similarly, we find that perceived

8. We divide the sample into below and above median household income based on the 2021 median income for US households of $70,784, as reported by the US Census Bureau (link).

complexity is similar across political preferences: respondents who identify as liberal report a mean complexity of 31 and those that identify as conservative report only a slightly higher mean of 33. This across the board perception of complexity matches well with the fact that tax complexity is a bi-partisan issue in the US, attracting attention from both the conservative and liberal voters and politicians.

When asked whether tax complexity has changed over time, the majority of taxpayers say that filing income taxes has become more complex (Figure 5a). Moreover, as shown in Figure 5b, taxpayers with more experience filing taxes perceive that complexity has increased more over time than taxpayers with a more limited experience. This subjective measure of individual taxpayers is in line with our objective word-count measure, discussed below. The average taxpayer in our sample filed their first income tax return in 2006 (Figure 1b), providing them with 17 years of individual tax filing experience. Over this period, the number of words of the IRC from the Internal Revenue Code has increased by approximately 70%, as we show in Section 3.2. We take these results as evidence that tax filing is costly for the vast majority of US taxpayers and that these complexity costs have increased over time.

Desired simplification. When asked about the ideal tax filing system, most taxpayers describe it as less complex than the current one. Figure 5c shows that 46% of respondents choose the most extreme answer in favor of less complexity. The desire for a simpler tax filing system is almost universal in our sample. Virtually all taxpayers want a simpler tax system, irrespective of income, age, gender, or political affiliation.

In theory, one may be in favor of a more complex tax filing system if it increases the fairness of income taxation, allowing taxpayers to deduct different expenses to account for individual circumstances and/or allowing for more progressivity via more tax brackets and credits for low-income taxpayers, among other reasons. We show that most taxpayers do not share this view. The majority of the respondents believe that complexity is contributing to making the income tax system *less fair* (Figure 5d). In general, taxpayers share this view across income groups and party affiliation, but the degree to which they believe complexity *reduces* fairness varies by party affiliation as discussed

below.

Another argument in favor of a more complex tax filing system is that it may discourage tax evasion by requiring taxpayers to report their income and deductions in more detail. Similarly to the progressivity argument, we find that most taxpayers do not share this view, believing that complexity *encourages* evasion (Figure 5e).

Willingness to pay for reduced complexity. Next, we elicit taxpayers' willingness to pay (WTP) for a simplified tax system. We provide respondents with a hypothetical scenario of a simplified tax filing system that offers fewer deduction possibilities than then the current tax system. We explain that this saves time and effort for tax filers, but may lead to a higher tax liability, because there are fewer options to reduce taxable income. We then ask whether taxpayers would be willing to pay more taxes in exchange for such a simplified tax system, and if so, how much more. Note that we ask each of these questions conditional on the response to the question before. We ask for the WTP at the extensive margin (yes/no) only if the respondent stated that they want a less complex tax filing system in the previous question. We then ask for the WTP at the intensive margin (how many dollars) conditional on reporting some WTP at the extensive margin. More specifically, we ask taxpayer how much more in taxes they would be willing to pay if the simplified tax system saves them 50% of their time (or money for tax preparation service users).

We find that the majority of taxpayers are willing to pay more taxes in exchange for a simplified tax filing system (Figure 6a), with substantial heterogeneity.[9] The average taxpayer's annual WTP for reducing filing costs is \$130 (Figure 6b). This is equivalent to about 4% of the average annual tax refund for US taxpayers.[10] This figure is of a similar magnitude as the fees charged by the tax preparation software industry. While these fees vary by the specific tax filing status (what schedules a taxpayer has to file etc.), the fees are commonly around \$100 for standard cases. For example, TurboTax charges \$129 for a taxpayers who itemize deductions and \$69 for those who claim the standard deduction (link with current pricing information).

9. Figure 7a shows that income heterogeneity does not matter much for explaining differences in whether taxpayers are willing to pay for simplification.

10. For the 2022 filing season, the IRS reports an average tax refund of \$3,039 (link).

A specific approach to simplification: pre-populated forms. Given the widespread desire and substantial willingness to pay for a simplified tax filing system, we turn to a specific approach to tax simplification: pre-populated forms. Pre-populated forms are ready-made tax return forms, where tax authorities automatically fill in the information that is available to them, such as income and certain deductions. Pre-populated forms reduce filing costs by limiting the amount of information taxpayers have to provide. They are relatively common in other countries (OECD 2021) and are also being discussed in the US context (Benzarti 2021; Goodman, Lim, Sacerdote, and Whitten, Forthcoming).

The majority of taxpayers report that they are willing to pay more taxes if provided with pre-populated forms (Figure 6c) with an average annual WTP of $77 (Figure 6d).[11] This support for pre-populated forms stands in contrast with the conservative counter-argument to using them, which is that it is likely to increase tax bills for inattentive taxpayers. This argument is also contradicted by empirical evidence showing that inattentive taxpayers tend to be forgetful and will often leave tax deductions/credits on the table, which are more likely to be claimed when the tax authorities pre-fill them, as shown by Gillitzer and Skov (2018) in Denmark.

Our findings complement the fact that US tax returns could be accurately pre-populated in many cases (Goodman, Lim, Sacerdote, and Whitten, Forthcoming) by showing that this would also have support from large parts of the US taxpayer population. Goodman, Lim, Sacerdote, and Whitten (Forthcoming) also provide one potential explanation for the observed WTP here: taxpayers for whom pre-populated forms can accurately determine their tax liability, i.e., taxpayers for whom the IRS has all the required information already at hand, often pay for tax preparation services when filing their tax returns. These costs would be dispensable for this group of taxpayers if forms were pre-populated.

Political preferences matter (some) We find that political preferences, with and without controls for income, do not seem to correlate with any of the "factual" questions we ask. Liberals and conservatives report that it takes them similar numbers of hours to file their tax returns. They

11. Figure 7b shows that income heterogeneity does not matter much for explaining differences in whether taxpayers are willing to pay for pre-populated tax returns.

also perceive tax filing as being equally tedious. And both groups hold similar beliefs over how tedious it is for other individuals to file their taxes.

However, political affiliation does matter when we ask respondents about their opinions as to how to reform the tax system in order to reduce filing and complexity costs. Liberals believe that tax system complexity tends to encourage evasion and decreases fairness more than conservatives. On average both liberals and conservatives are in favor of more tax simplification and adopting pre-populated forms, but liberals are more willing to forgo some of their tax refund in exchange for a simpler tax system and for having access to pre-populated tax returns. These results, which are obtained by running a simple linear regression with linear controls, are reported in Table 1.

Next, we use observational data from the US and other countries to add external validity to our survey data and put it in context across time and other countries.

3 Complexity Over Time and Across Countries

3.1 Data

To get an objective measure of the complexity of the income tax code, we count the number of words in the tax code using a simple word count algorithm.[12] The length of the tax code has been previously used as a measure for tax complexity. For example, Bacher and Brülhart (2013) use the number of words to measure Swiss cantonal tax code complexity. Similarly, Moody, Warcholik, and Hodge (2005) and Weber (2015) use it to measure tax code complexity in the US. In a similar vein, Slemrod (2005) measures US state income tax complexity by counting lines of tax forms and pages of instruction booklets.

While the number of words is only a proxy for complexity, it has several advantages. First, it accounts for added complexity from additions to the income tax code. Second, it is readily available across time and across countries. Third, it allows for comparisons across different income

12. We begin by tokenizing each income tax code into individual words, employing white space as the separator. We then count the resulting number of these words to determine the overall word count in a given text.

tax systems from different countries. To further support the use of word counts as a complexity measure in our context, we show, in subsection 3.2, that an increase in the number of words in the Internal Revenue Code (IRC) correlates with alternative measures of tax filing complexity in the US.

We collect data on the length of the (income) tax law for six countries on three continents: Canada, France, Germany, Morocco, Switzerland, and the United States. We chose these countries for three main reasons: (1) their tax codes were available online, (2) their tax codes are available in languages we speak and (3) they span a diverse set of countries. We compile panels of annual data for each country. For countries with Federal and state level income taxation, we only consider their Federal tax code. When countries have income tax codes that are separate from the rest of the tax code (Canada, Germany, Switzerland), we only count the income tax code portion. Conversely, in the case of countries with tax codes that do not separate income taxes from the rest (France, Morocco, US), we count the entire tax code. If there is more than one version of the tax code for a given year and country, we always use the version that applies as of December 31 of that year.

Canada For Canada, we use the English version of the Income Tax Act. Historic versions are provided by the Canadian government for years 2004 to 2023 (link). For 2023, we use the latest available version, enacted in June 2023. We count words on the website.

France For France, we use the general tax code (*Code Général des Impôts*). The French government provides historic versions of the tax code dating back as far as January 1, 1979 (link for 2023-01-01). We count words on the website.

Germany For Germany, we use the income tax code (*Einkommensteuergesetz*). The website Juris (link) provides historic versions of the income tax code from 1980 to 2023.[13] For years before the German reunification, i.e. before 1990, we use the income tax law from the Federal Republic of Germany (West Germany). We count words in PDFs we downloaded from Juris.

Morocco For Morocco, we use the French version of the general tax code (*Code Général des Impôts*). The Moroccan government provides the tax code as PDF files for the years 2008, 2009,

13. To the best of our knowledge, there is no publicly available archive of the German income tax code.

2010, 2015, 2021, and 2022 (link 2021 version). We count words in the PDF files.

Switzerland For Switzerland, we use the German version of the Federal income tax code (*Bundesgesetz über die direkte Bundessteuer*). The Swiss government provides historic versions since 1980 (link). We downloaded the tax code as PDF files and then count words in the PDF files.

United States For the US, we use the Internal Revenue Code, which is the Federal tax law. The IRC is provided by the Federal government online for years 1994 to 2021 (link 2021 version). We downloaded the PDF versions of the IRC for each year and then count words in the PDF files.

3.2 Results

Figure 8 plots our word-count based measure of tax complexity, over time. All countries share a common trend: tax code complexity is increasing over time, although there is substantial heterogeneity in levels, i.e., the absolute number of words. Differences in levels across countries may occur because of language differences as well as because of differences in the national income tax system, but since our analysis is within rather than across countries and over time, this is not an issue. Volatility in the word count within countries over time is explained by changes in the content of the tax code. For example, the German word count increases sharply in 1995, when the country adds child support regulations to its income tax code, expanding the number of paragraphs from 61 to 78. In Switzerland, the word count drops in 2014, when 19 paragraphs with rules for special tax assessment are dropped from the tax code.

In the US, over the past 30 years, the number of words in the IRC has increased from 3.1 million to 4.3 million (Figure 8f). In relative terms, this is equivalent to an increase of about 40%. To compare this development with other countries, we normalize the tax code complexity within each country, with 2021 as reference year. Figure 9 plots this relative complexity measure over time and shows that other countries have experienced even larger increases in complexity over time. Notably, the United States is the country with the longest income tax code in our six-country sample.

Alternative measures To support the use of word counts as a measure for complexity in our context, we examine the trends in alternative complexity measures for the US. During our sample period, the US tax code experienced not only an increase in the number of words but also in the number of sections: between 1954 and 2005 the number of income tax sections increased from 103 to 736 (Moody, Warcholik, and Hodge 2005). In a similar vein, Marcuss et al. (2013) document that the number of subdivisions and cross references in the internal revenue code has increased from less than 50,000 to almost 70,000 between 1991 and 2012. This suggests that more words indicate more complexity because they are used to describe more content.

An increased complexity of the income tax code does not necessarily imply an increase in the complexity of the tax filing process for individual taxpayers. Although taxpayers spend time learning about the tax code, they spend more time filing (see, for example, our survey results in subsection 2.2). To assess the complexity of the filing process itself, we provide two measures. First, we analyze how many tax forms taxpayers have filed. Figure 10 shows that the number of forms filed by the average US taxpayers has increased over time. Second, we analyze the web search behavior for tax filing related queries. Figure 11 shows that the Google searches for "tax filing", "help filing", "tax preparer" , and "easy tax" have increased over time, indicating that taxpayers increasingly search for help with tax filing. Both measures support that an increased tax code complexity implies an increase in the individual tax filing complexity.

In addition to direct costs from individual tax filing, tax complexity also imposes indirect costs on taxpayers, by making tax administration more costly. Over the past three decades, the operating costs of the IRS have doubled, amounting to $14 billion in 2022 (Figure 12a). In per-capita values, this is equivalent to an indirect cost of about 40$ per US inhabitant.

While tax complexity can be costly for individual taxpayers, it contributes to the business model of the tax preparation industry. Revenue from the tax preparation industry provides an alternative measure for the costs of tax filing complexity. We proxy for profits in the tax preparation industry by using the number of employees and the total wages paid in firms with the respective 4-digit NAICS Code (accounting, tax preparation, bookkeeping, and payroll services). Figure 13 shows that the industry has significantly grown over the past two decades with an increase in employment

of about 30%.[14] This lends further support to the fact that tax (filing) complexity in the US has increased over time.

4 Discussion

Although some argue that a progressive tax system requires more complexity, allowing for more deduction possibilities does not benefit all taxpayers equally. First, deduction possibilities are likely to vary over the income distribution with high-income taxpayers being more likely to have deductible expenses. Second, conditional on having deductible expenses, the likelihood of claiming those can vary over the income distribution. It is well established that incomplete take-up is pronounced at the lower end of the income distribution. Low-income taxpayers leave money on the table by not claiming EITC benefits they are eligible for (Bhargava and Manoli 2015; Ramnath and Tong 2017, e.g.,) or not filing an income tax return at all (Goodman, Lim, Sacerdote, and Whitten, Forthcoming; Hauck and Wallossek 2023).

Based on our survey results, we find that most taxpayers share the latter view, believing that complexity decreases the fairness of the tax system (see subsection 2.2 for details).[15] This view is supported when comparing the trends in complexity and progressivity of the US income tax system over time. We show that tax complexity has increased over the past decades. Effective average tax rates of the (very) rich however have decreased over the past decades, weakening the effective progressivity of the US income tax system (e.g., Piketty, Saez, and Zucman 2018; Saez and Zucman 2019).

In addition, filing costs have been shown to be regressive in the cross-section: lowest income taxpayers face the highest burden, measured relative to income (Marcuss et al. 2013). Consequently, reducing filing costs by reducing complexity is expected to have a progressive effect. Goodman, Lim, Sacerdote, and Whitten (Forthcoming) find that pre-population is most accurate at the bottom of the income distribution. If policy makers want to increase the effective progressivity of the income

14. This data was obtained from the Bureau of Labor and Statistics.
15. We decided to ask about fairness rather than progressivity to avoid economic jargon and facilitate understanding for respondents.

tax (filing) system, reducing complexity, particularly via pre-populating forms, seems to be a well-suited approach.

Another argument in favor of a more complex tax (filing) system is that complexity may impede tax evasion, requiring more information from tax filers. In the context of French self-employed, Aghion, Akcigit, Gravoueille, Lequien, and Stantcheva (2023) argue that taxpayers choosing a simpler tax regime can partly be explained by evasion. However, with more opportunities for misreporting and mistakes, complexity may also facilitate evasion. Our survey results show that most taxpayers share the latter view, believing that complexity encourages evasion. This is in line with statements from the Congressional Research Service (2023, link), the Joint Committee on Taxation (2015, link)), and the Office of Tax Policy at the US Department of the Treasury (2006, link), who all argue that complexity fosters evasion.

We can further support this view by showing that when tax complexity increases over time, tax evasion does not decrease. The standard measure for income tax evasion in the US is the federal tax gap, defined as the difference between income taxes owed and income taxes paid. Over the past two decades, it has been relatively stable at around 500 billion in 2021$ (Figure 14a). Over the same period, the income tax code complexity, measured by the number of words, has steadily increased: Between 2001 and 2016, the number of words has increased by about 18% (Figure 8f).[16] Figure 14b documents a positive correlation between tax complexity and tax gap.

5 Conclusion

Measuring tax complexity is complex. In this paper, we use one simple proxy for complexity – the number of words in the income tax code – and we show that it correlates with both other measures of complexity and with perceived complexity of the tax code as measured by our survey. Understanding complexity at the individual level can help us understand the welfare implications

16. Tax gap estimates constitute a lower bound for tax evasion (International Monetary Fund 2021), particularly for high income taxpayers (Guyton, Langetieg, Reck, Risch, and Zucman 2021). One reason is limited resources for tax enforcement: since the 1990s, the IRS workforce dropped from more than 110,000 full-time equivalent positions to less than 80,000 (Figure 12b) and an analysis from the Government Accountability Office shows that this decline comes largely from a decrease in the positions in enforcement (link GAO report). This implies that the true extent of tax evasion in the US is likely higher than the tax gap estimates we report in Figure 14a.

of tax (filing) complexity. Here, further research could shed light on how the length of the income tax code and the number of forms translate into individual filing costs. Particularly, the interplay between tax complexity and progressivity is not fully understood yet. In addition to the cost side of complexity, there is more to learn about the benefit side as well. We provide suggestive evidence that an increasing tax complexity benefits the tax preparation industry, but it is still not well understood how that industry and tax complexity interact. The Biden administration recently mandated that the IRS implement a free filing option, as an alternative to the different options offered by the tax filing industry. It will be interesting to see how this free filing option is implemented, whether it will compete with the non-free tax filing software and if it will affect tax filing and tax bills.

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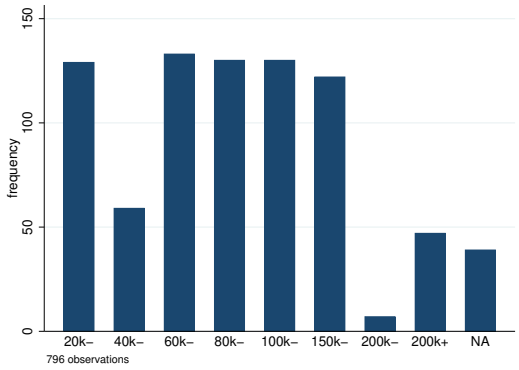
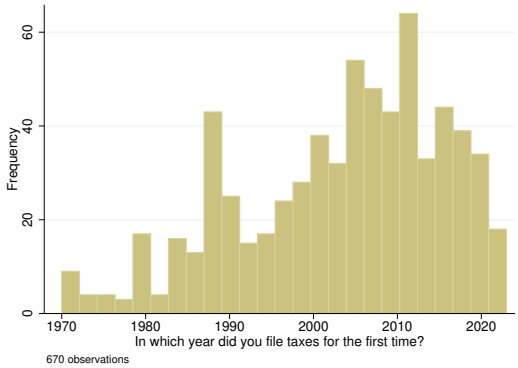
Figures and Tables

Figure 1: Survey Participant Demographics

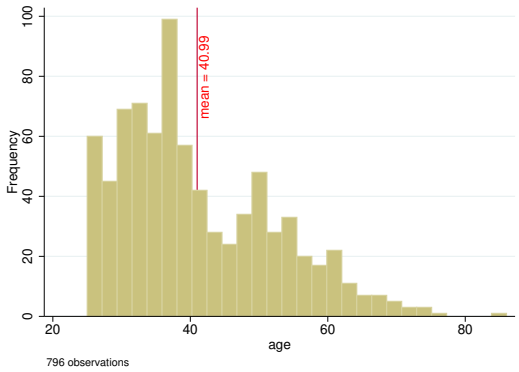
(a) What was your annual household income in 2022?



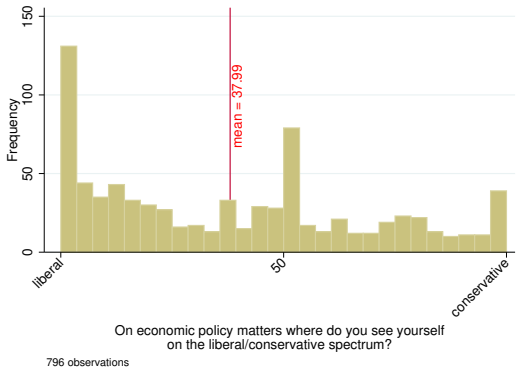
(b) Year First File



(c) Age of Survey Respondents



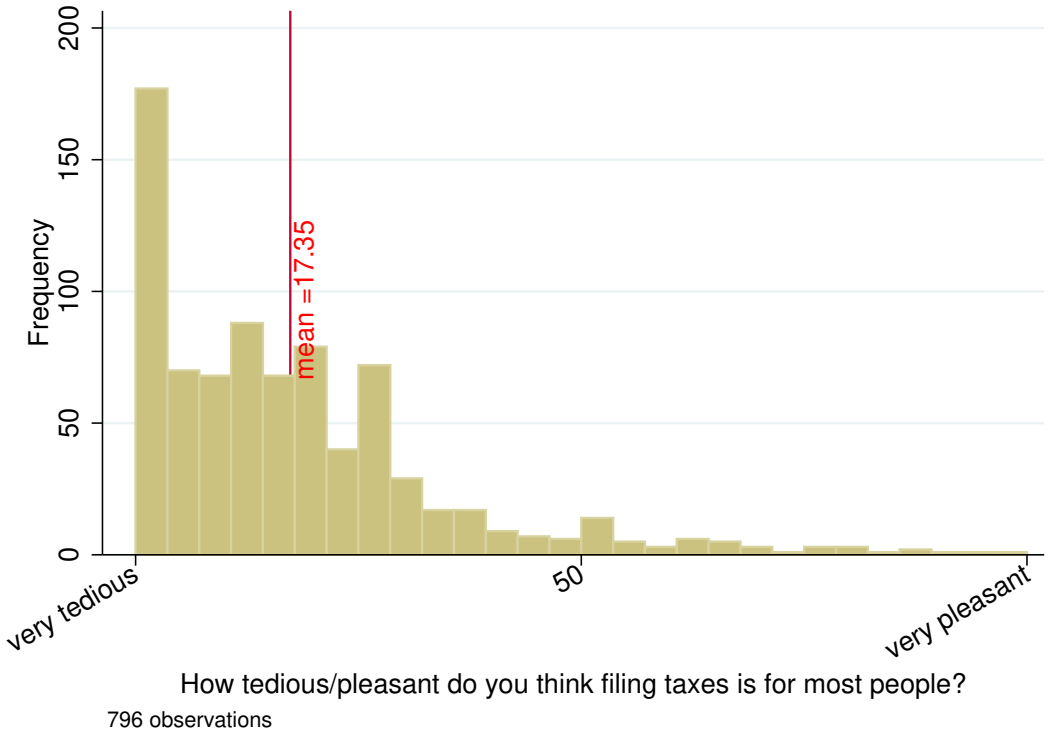
(d) Political Preferences



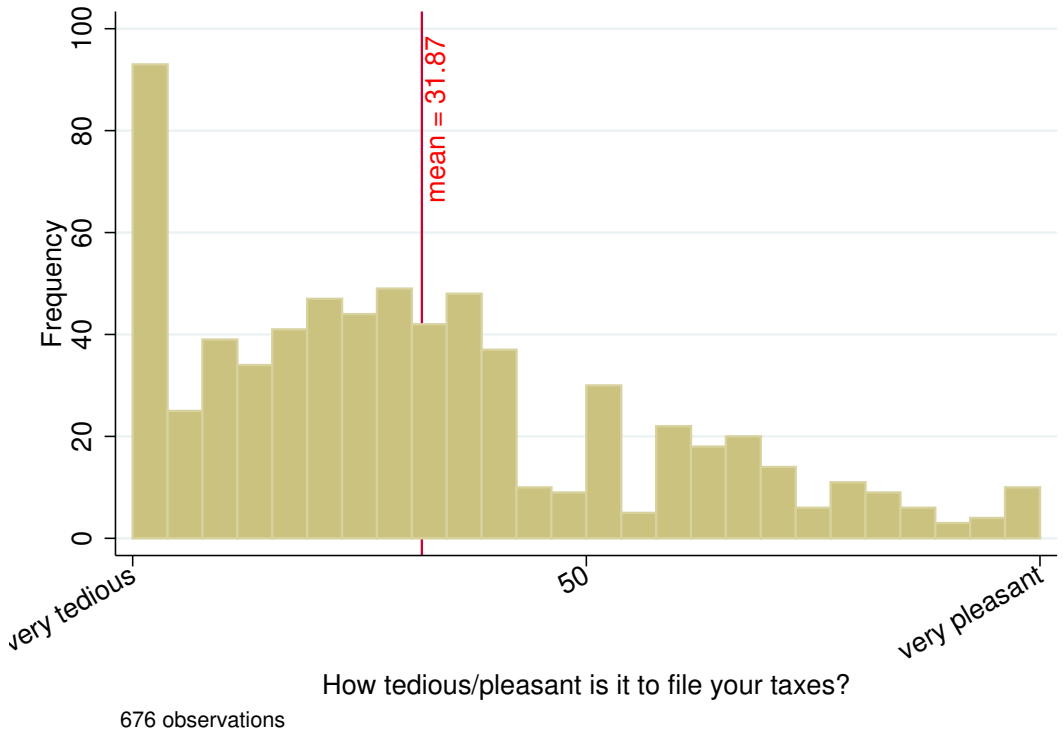
Notes: These figures show some demographics of the survey respondents. Panel (a) shows the distribution of survey answers to the question stated above, where xk- refers to an income bin below \$x0,000 and above the previous bin. E.g.: 40k- corresponds to individuals with annual household incomes below \$40,000 and above \$20,000.. Panel (b) shows the distribution of the first year a given respondent filed their tax return. Panel (c) shows the distribution of the age of each survey participant. Panel (d) plots the distribution of self-stated political preferences.

Figure 2: How tedious/pleasant is it to file taxes?

(a) For oneself



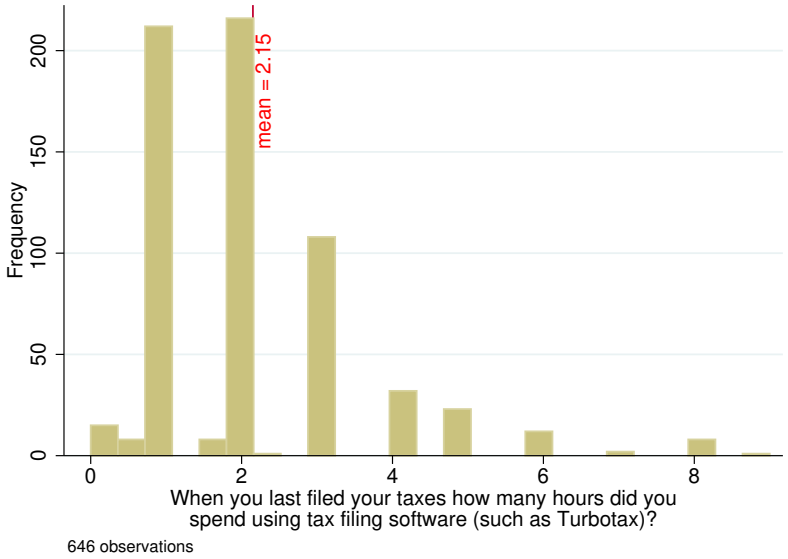
(b) For others



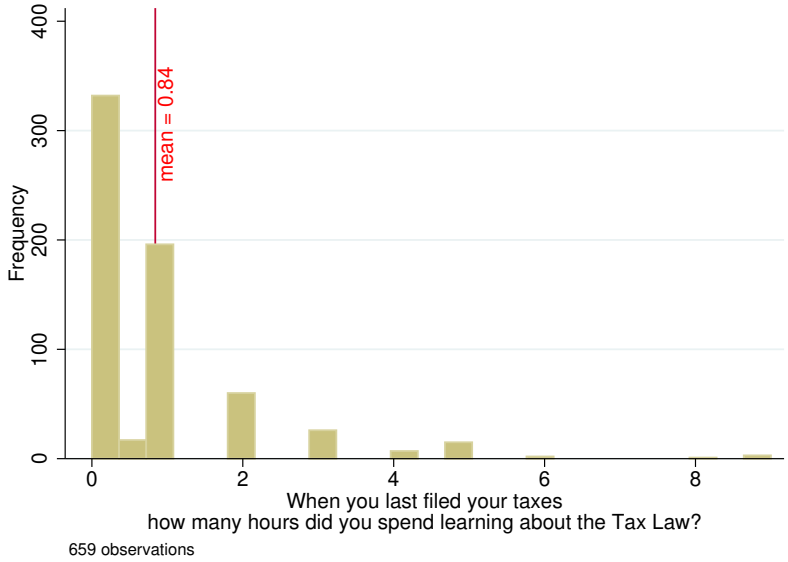
Notes: These two figures show the distribution of responses to the question of how tedious/pleasant it is to file taxes.

Figure 3: Hours Spent Filing Taxes if Self File

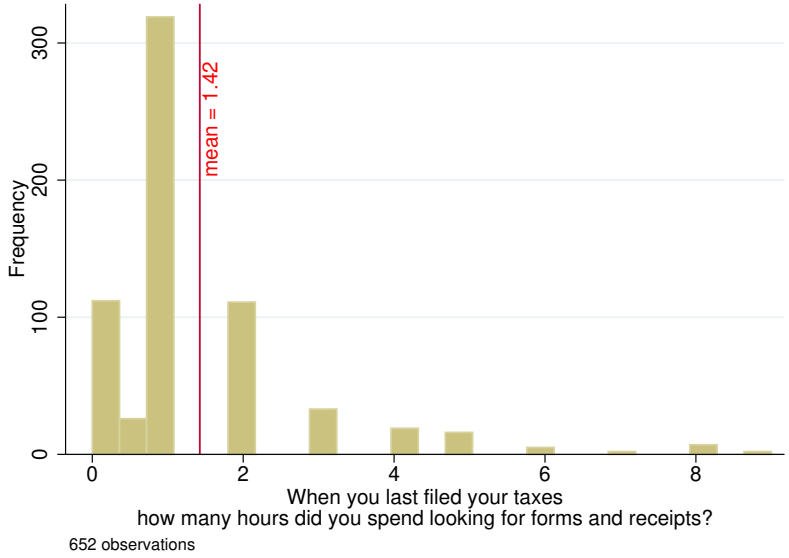
(a) Using software



(b) Learning about the tax law



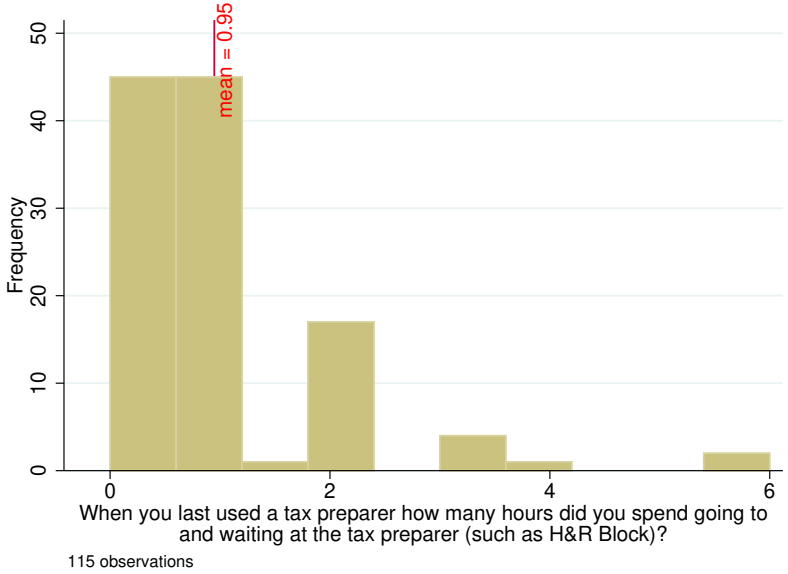
(c) Filing



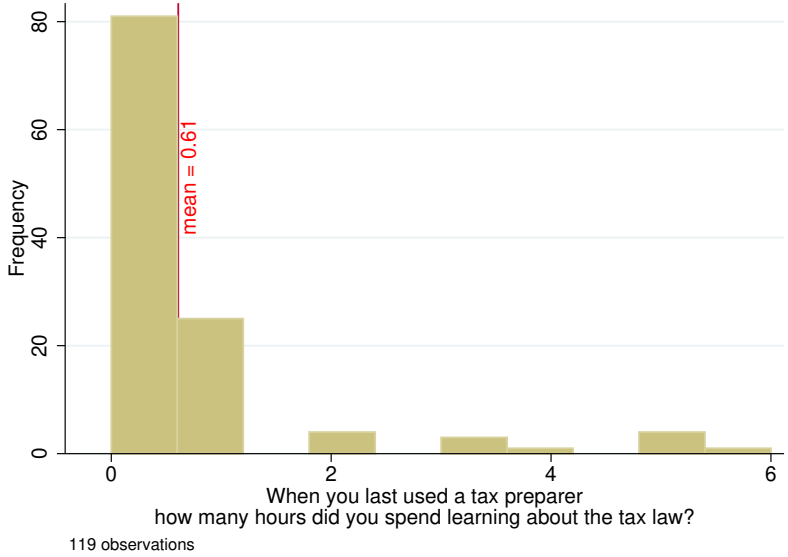
Notes: These three figures show the distribution of responses to the question of how much time taxpayers who self file spending working on their tax returns.

Figure 4: Hours Spent Filing Taxes if Using Tax Preparer

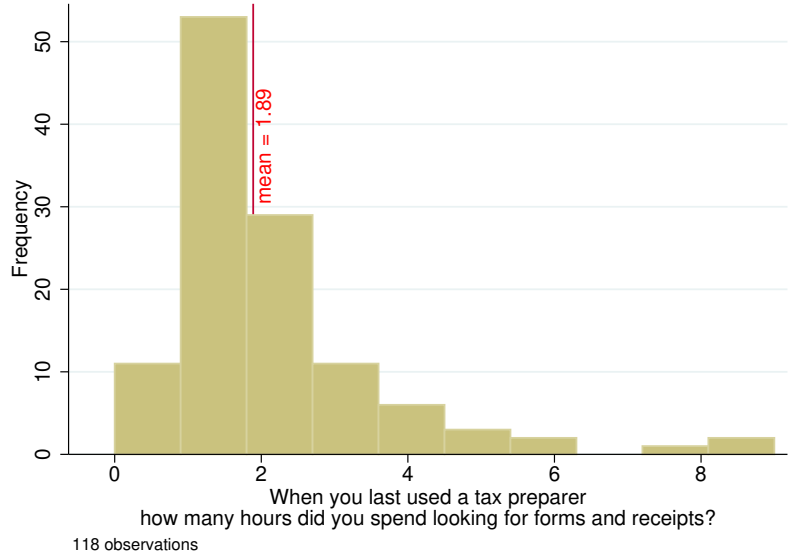
(a) Visiting tax preparer



(b) Learning about the tax law



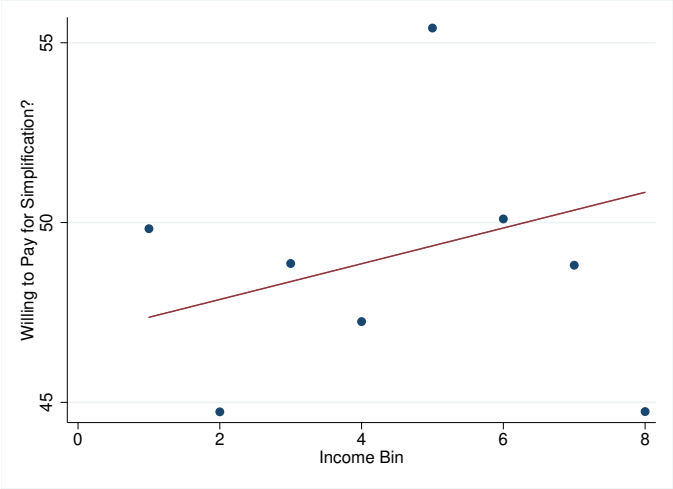
(c) Filing



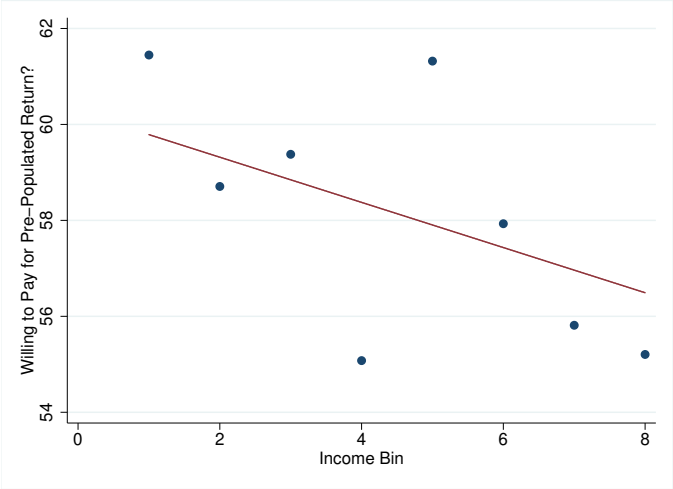
Notes: These three figures show the distribution of responses to the question of how much time taxpayers who self file spending working on their tax returns.

Figure 7: Heterogeneity

(a) Income and WTP for Simplification



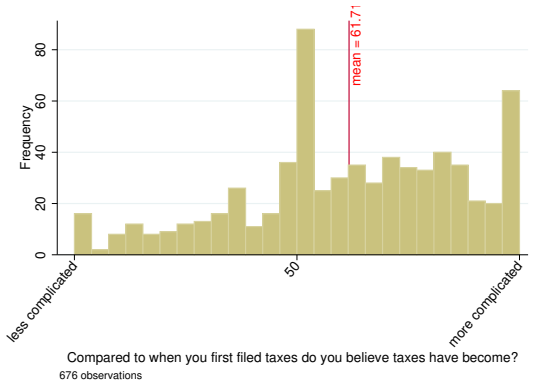
(b) Income and WTP for Pre-Populated Forms



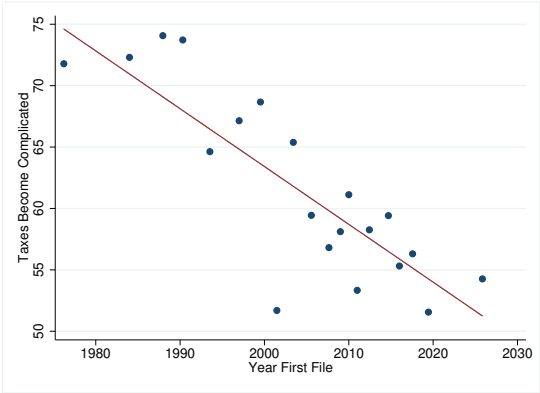
Notes: These Figures show heterogeneity analysis by income and filing experience. Panel (a) shows a correlation between income and whether a taxpayer is willing to pay for simplifying taxes. Panel (b) shows a correlation between income and whether a taxpayer is willing to pay for pre-populated tax returns.

Figure 5: Complexity, Fairness and Evasion

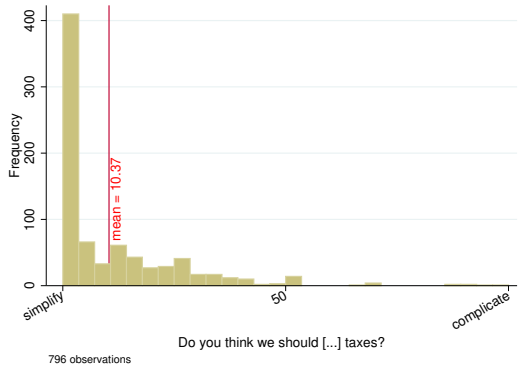
(a) Complexity over time



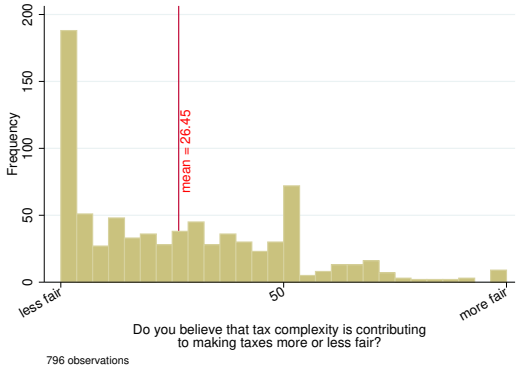
(b) Year First File and Complexity over Time



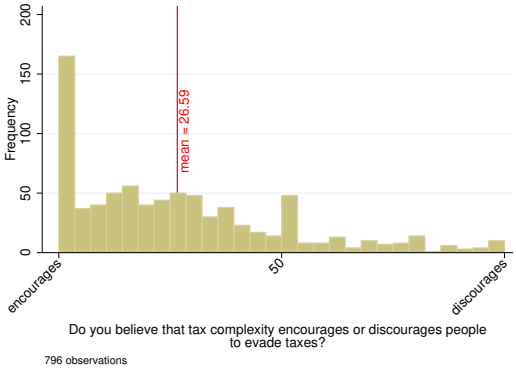
(c) Should we simplify taxes?



(d) Does complexity affect tax fairness?



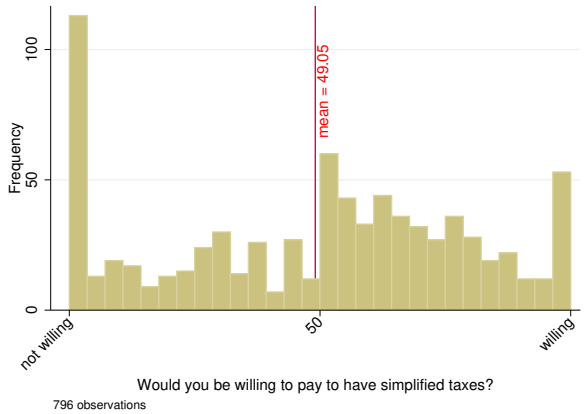
(e) Does complexity lead to tax evasion?



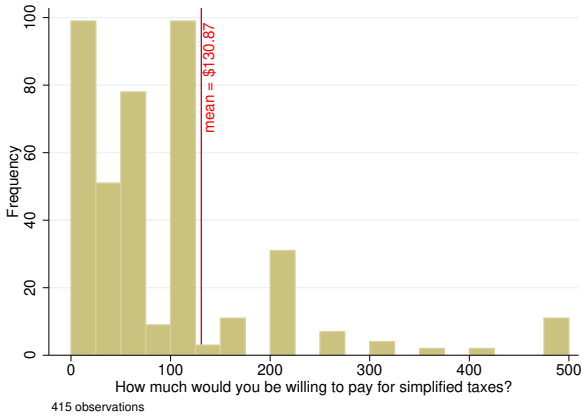
Notes: These figures show the respondents attitudes towards tax complexity. Panel (a) shows the distribution of participants' perception of tax complexity over time. Panel (b) shows a correlation between years of experience filing a tax return and the perception that taxes have become more complicated. Panel (c) shows the distribution of responses to the question of whether taxes should be simplified. Panel (d) shows their perception of whether tax complexity leads to a more/less fair tax system and panel (e) shows their perception as to whether complexity leads to more/less tax evasion.

Figure 6: Willingness to pay for simplifying taxes and Pre-populated Returns

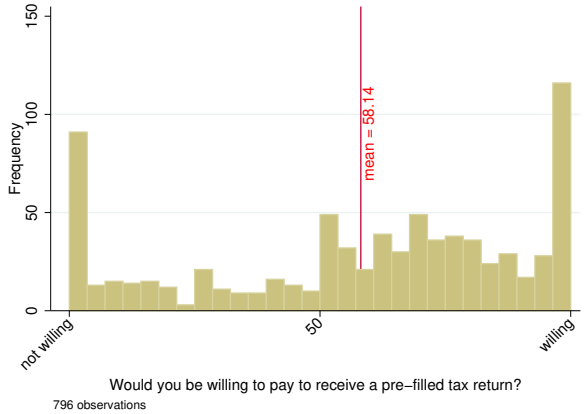
(a) Willing to pay to simplify taxes?



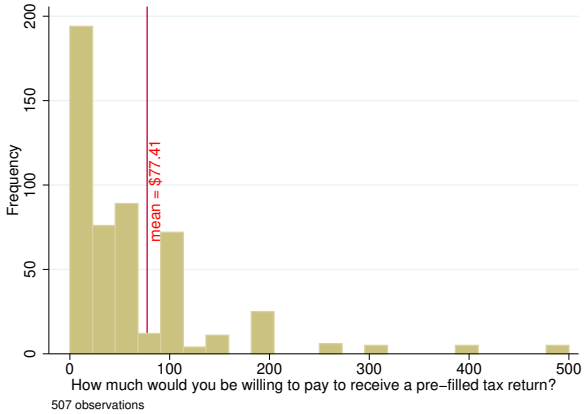
(b) WTP to simplify taxes



(c) Willing to pay for pre-populated return?

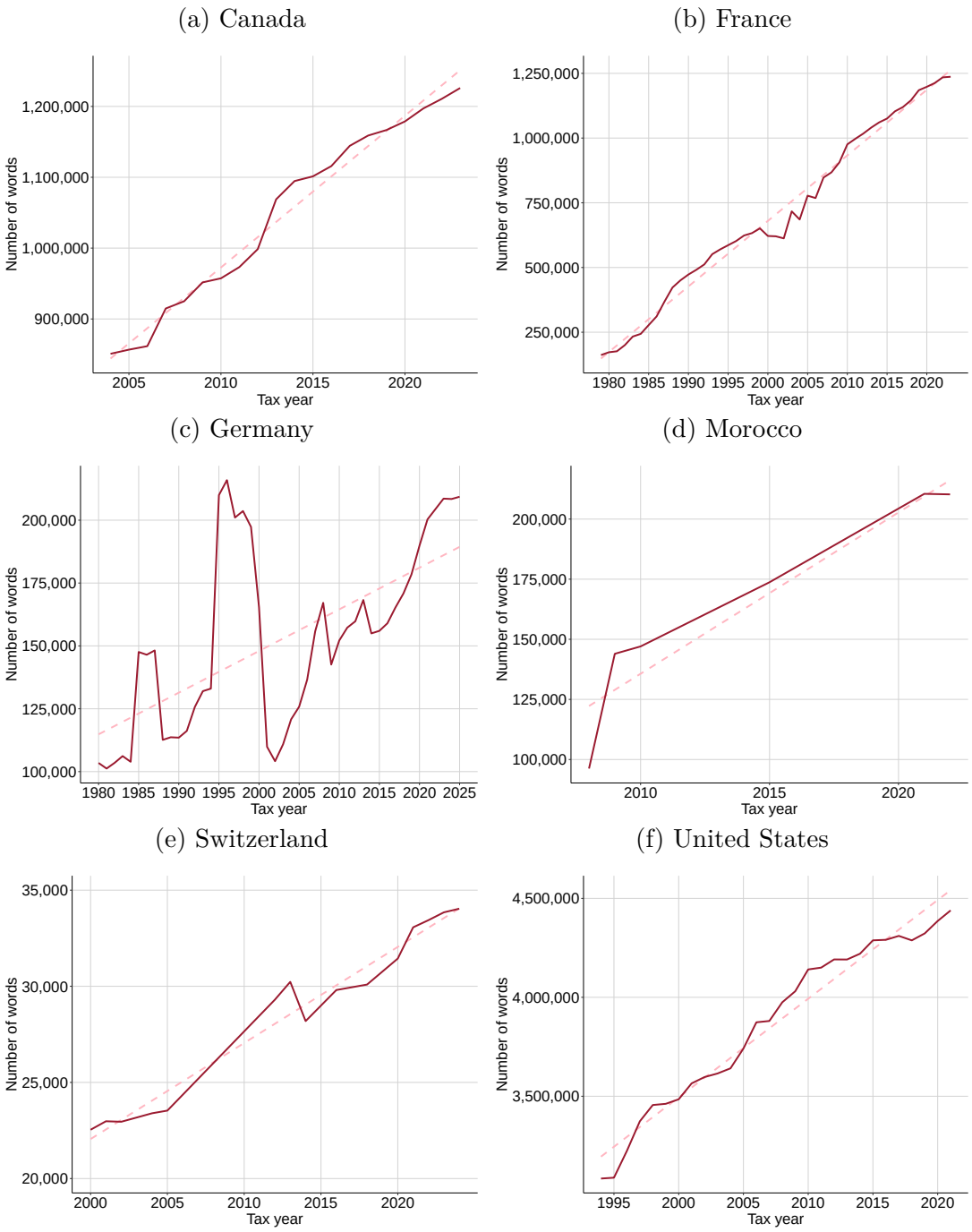


(d) WTP for pre-populated returns



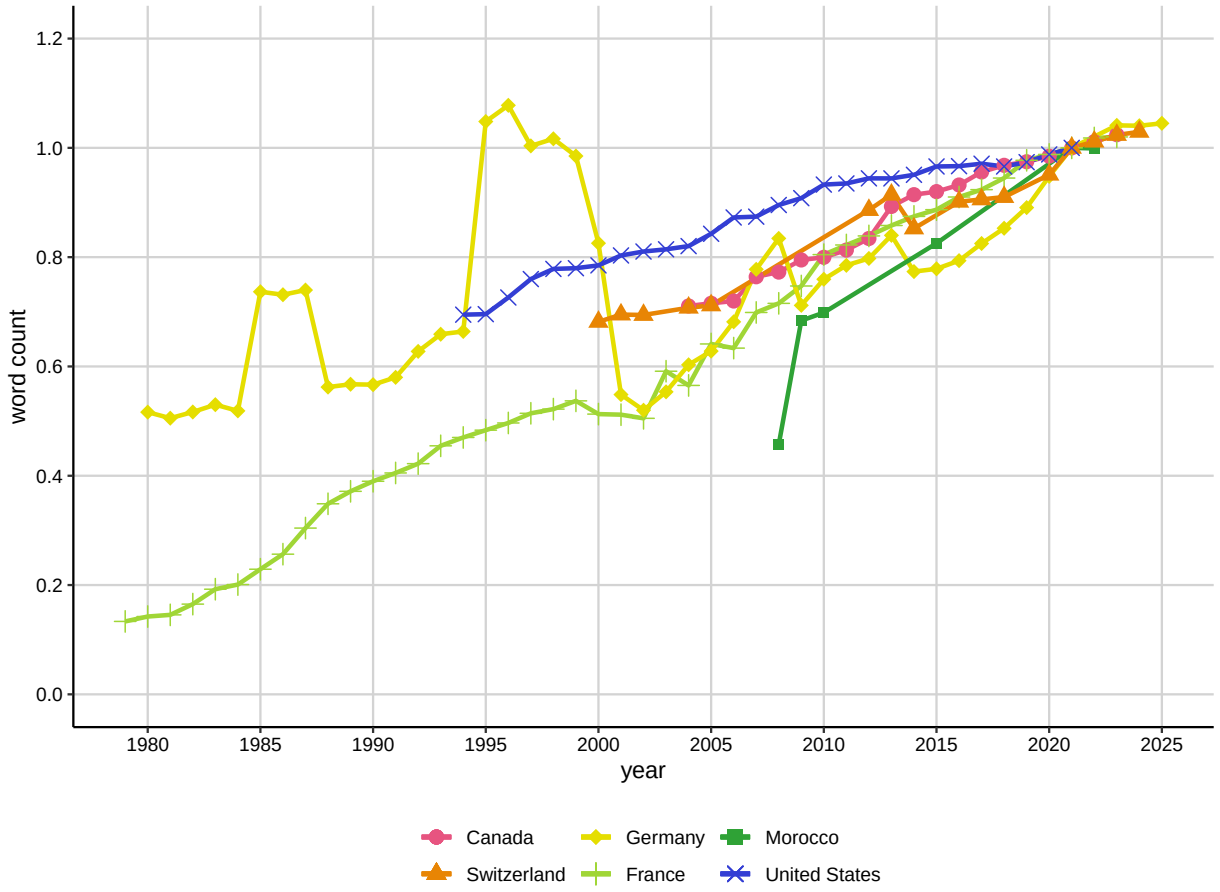
Notes: These figures show the distribution of survey responses to the questions of whether (panel (a)/panel (c)) and how much (panel (b)/panel (d)) participants would pay for simpler tax filing/pre-populated returns.

Figure 8: Word count tax code over time – cross-country comparison



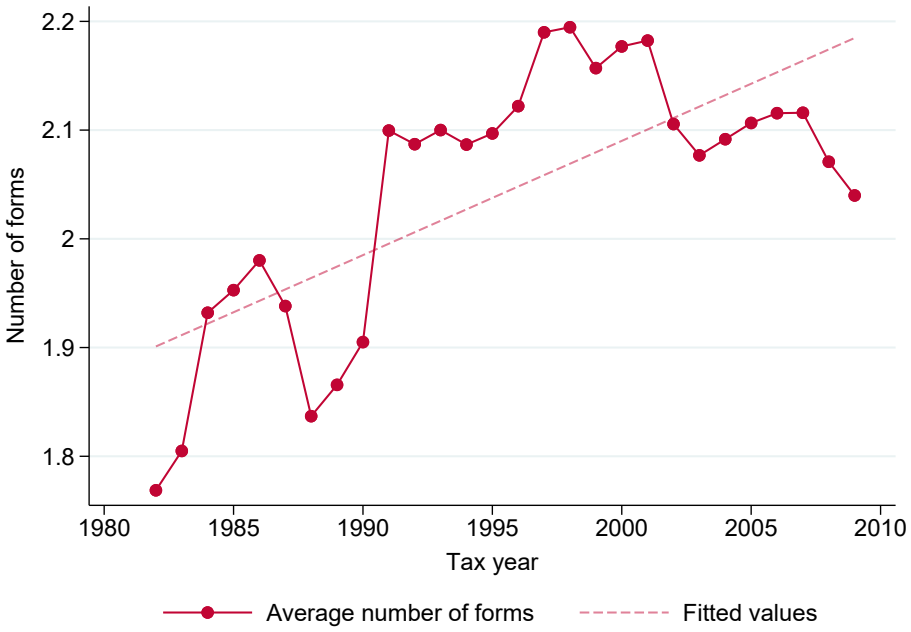
Source: Own calculations. The figures show how the length of different tax codes develops over time for Canada, France, Germany, Morocco, Switzerland, and the United States. We define length of tax code as the number of words in the respective income tax law. For details on the word word count, see subsection 3.1. Dashed lines show linear predictions.

Figure 9: Relative word count tax code over time – cross-country comparison



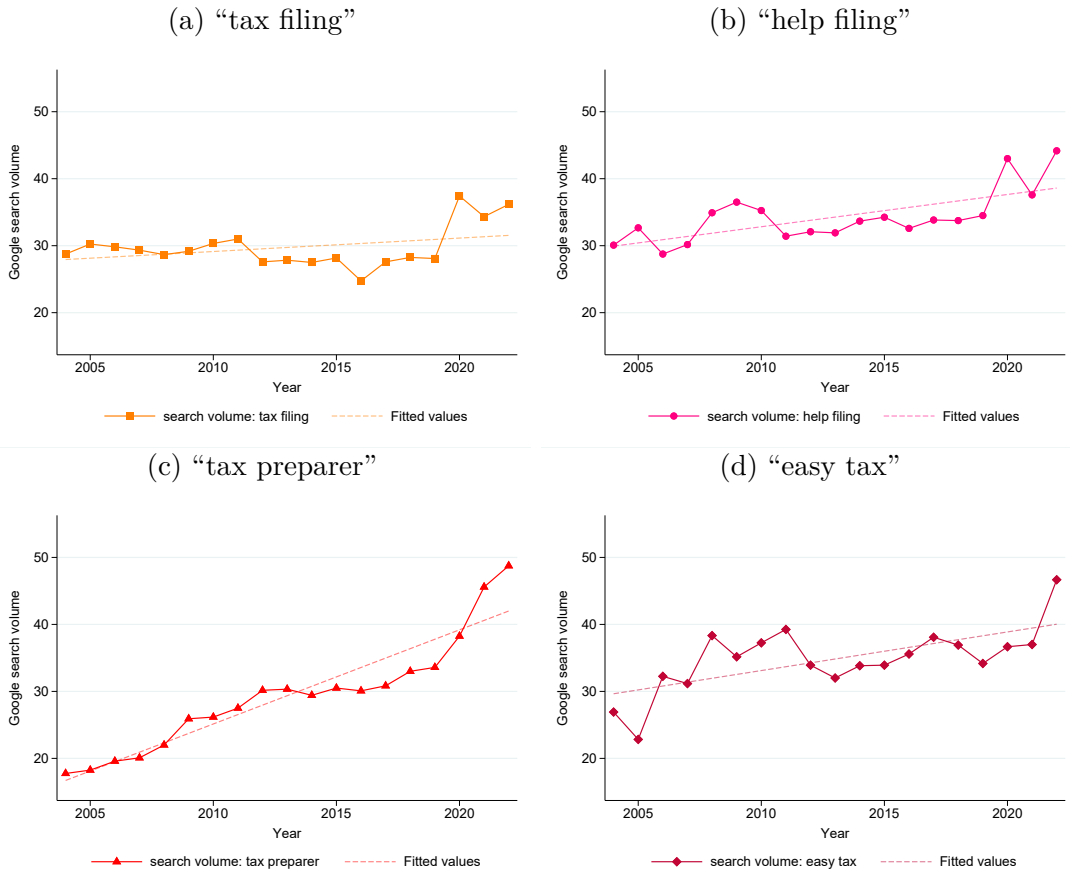
Source: Own calculations. This figure shows how the tax code length develops over time for different countries. To account for differences in levels across countries, we normalize the tax code length, taking 2021 as reference year. We define length of tax code as the number of words in the respective income tax law. For details on the word count, see subsection 3.1. Some countries publish the income tax code already in prospective for future years, which is why the x-axis includes years > 2023.

Figure 10: Number of forms filed over time



Source: Data from Benzarti (2020). The figure shows the average number of forms filed per tax return for US tax payers over time. Forms include 1040 and schedules A – F. The dashed line shows the linear prediction.

Figure 11: Google search volume

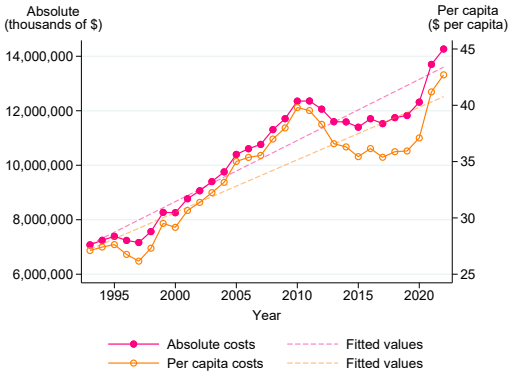


Source: Data from Google trends. Each panel plots the Google search volume for the indicated query in the US between January 2004 and December 2022. The search volume is defined as relative search interest within a given query, ranging from 0 to 100, with 100 indicating the month with peak interest. Plotted values are always > 0 and < 100 because we averaged the monthly data over years to smooth out seasonal search behavior. Dashed lines show linear predictions.

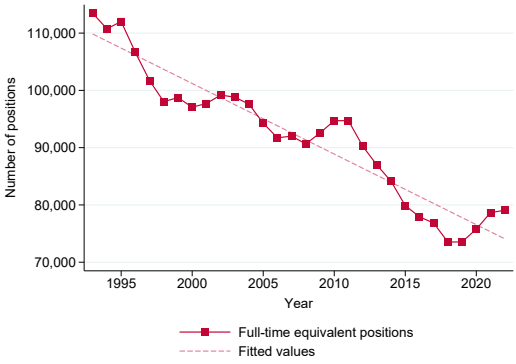
To download the data visit https://trends.google.com/trends/explore?date=all&geo=US and search for the respective key words.

Figure 12: IRS Statistics

(a) Operating costs



(b) Workforce

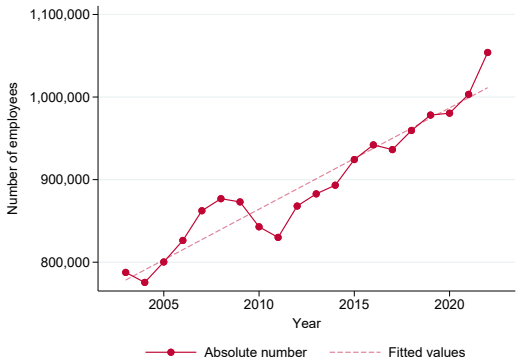


Source: Data from Internal Revenue Service (2023). Panel a plots the operating costs in absolute terms (pink line, left axis) and as per capita value (orange line, right axis). Per capita value is defined as absolute value divided by US-population. All values are in current US Dollar. Panel b plots the IRS workforce, measured in full-time equivalent positions. Dashed lines show linear predictions.

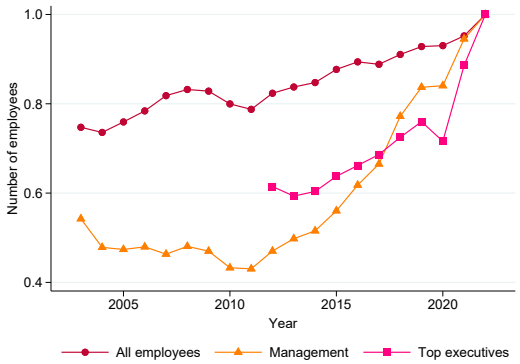
To download the data visit https://www.irs.gov/pub/irs-soi/22dbs06t31cs.xlsx.

Figure 13: Tax preparation industry

(a) Number of employees

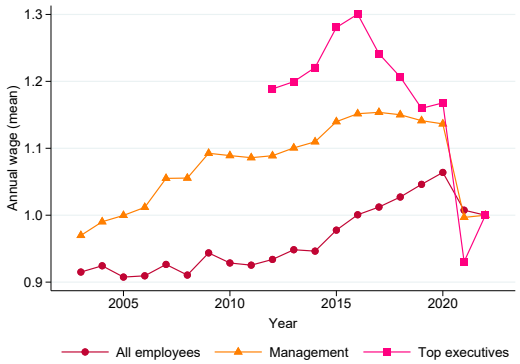


(b) Employee growth by occupation



(c) Annual wages

(d) Wage growth by occupation

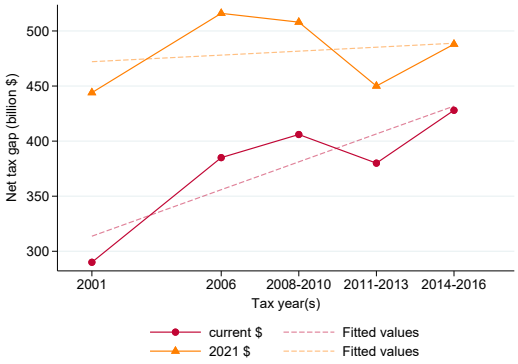


Source: Data from the Occupational Employment and Wage Statistics from the U.S. Bureau of Labor Statistics. All panels refer to NAICS = 541200 "Accounting, Tax Preparation, Bookkeeping, and Payroll Services". All Dollar values are CPI adjusted to 2022 values. Panel a shows the total number of employees over time. Panel b shows the relative growth of the number of employees for all employees (this corresponds to panel a), as well as for the two subgroups of management and top executive employees, with 2022 being the reference year. Data on top executives is only available from 2012 onward. Panel c plots the inflation adjusted sum of annual wages paid to all employees. Panel d shows the growth of the mean inflation adjusted wage for all employees (this corresponds to the sum plotted in panel c), as well as for the two subgroups of management and top executive employees, with 2022 being the reference year.

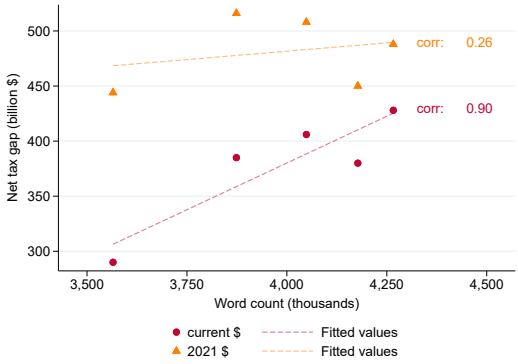
To download the data visit https://www.bls.gov/oes/special-requests/oesmYYin4.zip and replace YY with the last two digits of a given calendar year 20YY (link for 2022 data). Data is available for 2003 to 2022.

Figure 14: The US tax gap

(a) Tax gap over time



(b) Tax gap and tax complexity



Source: Tax gap estimates from the IRS as reported by Congressional Research Service (2023). Panel a plots the net federal tax gap for the US over time in current US Dollars and in 2021 US Dollars. Panel b plots the same values over the length of the US Federal tax code. When the tax gap estimate is for > 1 year, we take the average tax code length across the years. Dashed lines show linear predictions and *corr* (panel b) reports the correlation coefficients.

Table 1: Political preferences and attitudes towards tax filing

	(1)	(2)	(3)	(4)	(5)	(6)
Liberal	-0.62	-6.98	-7.02	-1.53	4.32	7.86
	(1.99)	(1.72)	(1.83)	(1.12)	(2.25)	(2.46)
Income controls	yes	yes	yes	yes	yes	yes
Constant	65.4	30.4	31.7	12.7	47.5	53.2
	(2.69)	(2.05)	(2.31)	(1.43)	(2.92)	(3.35)
Observations	676	796	796	796	796	796
R^2	0.026	0.027	0.024	0.019	0.017	0.020

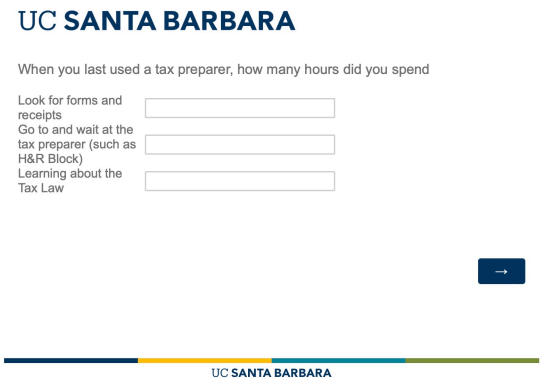
Notes: Each column in this table reports the regression of an outcome variable defined below on an indicator variable for whether a given respondent identifies as liberal and income controls. The outcome variables we consider are answers to the following questions: (1) "Compared to when you first filed taxes do you believe taxes have become more complicated/less complicated?", (2) "Do you believe that tax complexity is contributing to making taxes more or less fair?", (3) "Do you believe that tax complexity encourages or discourages people to evade taxes?", (4) "Do you think we should simplify/complicate taxes?", (5) "Would you be willing to pay to have simplified taxes?" and (6) "Would you be willing to pay to receive a pre—filled tax return?". Robust standard errors in parentheses.

Online Appendix for: "Tax Filing Costs"

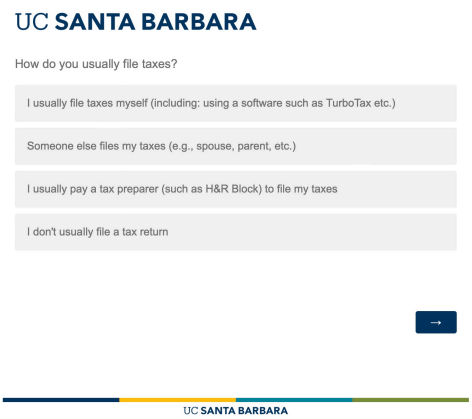
A Additional figures and tables

Figure A.1: Survey Visual Examples

(a) Open-ended Questions



(b) Multiple Choice



(c) Slider

Notes: These figures show some visual examples of the survey as experienced by the survey participants.