Journal of Public Economics 217 (2023) 104785

Contents lists available at ScienceDirect

Journal of Public Economics

journal homepage: www.elsevier.com/locate/jpube

Offshore tax evasion and wealth inequality: Evidence from a tax amnesty in the Netherlands $^{\bigstar}$

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ARTICLE INFO

Article history: Received 5 July 2021 Revised 4 November 2022 Accepted 10 November 2022

JEL codes: H26 H87 E21

Keywords: Inequality Wealth Tax evasion Netherlands

ABSTRACT

Exploiting unique datasets covering over 29,000 tax evaders in the Netherlands, we investigate the distribution of tax evasion and its implications for the measurement of wealth inequality. Tax evasion is concentrated at the top of the wealth distribution with over 10% of the wealthiest 0.01% of households – the "super rich" – evading taxes. At the top, households evade around 8% of their true tax liability. The "merely rich" (P90-P99.9) own 67% of hidden wealth, while the "super rich" account for only 7%. Consequently, the correction for offshore wealth has a modest effect on top wealth shares. We describe a number of explanations for the distribution of tax evasion by Dutch households: low-cost tax evasion opportunities in neighbouring countries for the "merely rich", sophisticated forms of tax evasion for, low effective tax rates on and migration to low tax jurisdictions by the "super rich". Taken together, these explanations suggest that the distribution of tax evasion strongly depends on a country's geographical and institutional settings.

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1. Introduction

As long as there have been taxes, people have tried to avoid and evade them. Interest in these phenomena has been fuelled by their effects on public revenues, as well as on the distribution of wealth and income. One prominent example of tax evasion is hiding wealth and income in tax havens.¹ According to estimates by Zucman (2013), 8% of global financial wealth, or \$5.9 trillion, is held in tax havens. As hidden wealth is not evenly distributed in the population, it not only affects public revenues, but also wealth and income inequality and its measurement. Research on inequality increasingly relies on administrative tax data and statistics on inequality will be distorted if these data fail to capture wealth hidden abroad (Atkinson et al., 2011; Zucman, 2019). In recent years, leaks containing confidential information from financial institutions as well as academic research investigating leaks and tax amnesties have confirmed the popular narrative that tax evasion is concentrated among the wealthiest in society (Alstadsæter et al., 2019; Londoño-Vélez and Ávila-Mahecha, 2021b). This paper were unex unique microdata to study tax evasion and its

This paper uses unique microdata to study tax evasion and its distribution in the Netherlands. We have data on over 27,000 participants to the Dutch tax amnesty program between 2002 and 2018. In addition, we have data on almost 2,000 tax-evading households who were found through a number of different projects undertaken by the tax administration. We link these data to administrative data on income, wealth, and demographics covering the universe of the Dutch population.

The taxation of wealth in the Netherlands differs for different types of wealth. When a household owns financial wealth such as bank deposits, bonds or shares, the stock of wealth is typically taxed at a flat rate of $1.2\%^2$ with no additional tax on the income







^{*} We thank Statistics Netherlands and the Tax and Customs Administration for access to the microdata (Project 8366) and discussions, Annette Alstadsæter, Arun Advani, Nicole Bosch, Arjan Bruil, Lucas Chancel, Malka Guillot, Nathan Hendren, Niels Johannesen, Egbert Jongen, Frans van Krieken, Jan van Koningsveld, Maximiliano Lauletta, Isabel Martínez, Gabriella Massenz, Daniel Reck, Emmanuel Saez, Karl Schulz, Francis Weyzig, Owen Zidar and Gabriel Zucman for helpful comments and suggestions.

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¹ For general histories of offshore tax havens, see Palan et al. (2009) and Ogle (2017).

² This rate was made progressive in 2017.

from this wealth. The exception is when a household owns at least 5% of a corporation's shares, which is referred to as "substantial ownership", a type of wealth particularly prevalent at the top of the wealth distribution. In this case, there is no tax on the stock of wealth, but instead there is a tax on dividends and realised capital gains. This tax system results in a low tax burden on capital compared to other European countries (European Commission, 2020).

We provide two sets of results. First, we document the distributional patterns of tax evasion in the Netherlands. Our main results are based on the tax amnesty, but these results are broadly robust to using alternative sets of tax evaders. We find that tax evasion is concentrated at the top of the wealth distribution, but to a smaller extent than previously found in the literature. The top 0.01%, whom we call the "super rich", owns 7% of wealth declared through the Dutch amnesty, compared to around 50% in Alstadsæter et al. (2019) and Londoño-Vélez and Ávila-Mahecha (2021b). In the Netherlands, top 0.01% evade around 8% of their true tax liability, less than the 25% found in Scandinavia (Alstadsæter et al., 2019). Instead, we find substantial evasion among the "merely rich" (P90-P99.9), who own around 67% of amnesty wealth. This pattern is consistent across a number of different projects that the tax administration has undertaken to combat offshore tax evasion. We discuss the importance of accurately measuring wealth held by households, in particular in relation to difficult-to-value assets such as unlisted shares. We provide a new estimate of wealth inequality in the Netherlands by correcting for wealth hidden offshore, relying on an estimate of the stock of Dutch households' offshore wealth by Alstadsæter et al. (2018). As evasion is not very concentrated at the top, the correction for hidden offshore wealth is correspondingly small.

The second set of results describes the mechanisms explaining the peculiar distributional patterns of tax evasion in the Netherlands. We are cautious about making causal claims and we take no strong stance on the relative importance of these mechanisms given the descriptive nature of this part of the analysis. We first show that a substantial amount of the tax evasion undertaken by the "merely rich" can be attributed to cross-border evasion opportunities in Germany and Belgium. We then explore three explanations for the relatively small share of offshore wealth held by the "super rich": (i) the wealthiest households may engage in a more sophisticated form of tax evasion that escapes both the amnesty and other tax administration efforts, (ii) the incentive to evade might be small because of a low effective tax rate at the top of the wealth distribution in the Netherlands, (iii) wealthy households who particularly dislike paying taxes may have migrated to low-tax countries in the past.

This paper's first contribution is to the literature on the measurement of inequality. While this measurement has improved substantially by using administrative data instead of surveys, an obvious drawback has always been the failure to capture wealth and income hidden from tax administrations. This issue has been recognised (e.g. by Atkinson et al. (2011)) and even tentatively addressed (e.g. by Roine and Waldenström (2008, 2009)), but the data necessary to properly account for tax evasion was unavailable until recently. Alstadsæter et al. (2019) and Londoño-Vélez and Ávila-Mahecha (2021b) document the distribution of hidden wealth by linking individuals found in the *Panama Papers* and the *Swiss Leaks*, as well as tax amnesty participants to population-wide administrative records.

The results in this paper represent a test of the methodology used in Alstadsæter et al. (2019) to assign hidden wealth to different households across the wealth distribution. We paint a less optimistic picture of the suitability of tax amnesties to gauge the entire distribution of wealth still hidden offshore. Even when a data source captures tax evasion by the "merely rich" well, it may paint an incomplete picture of evasion by the "super rich". Moreover, the distribution of tax evasion depends on a country's geographical and institutional setting. When this setting changes, for example through the automatic exchange of information between countries, the characteristics of amnesty participants, who evaded taxes in the past, may be different from those households that still engage in tax evasion today.

Our second contribution is to the research on the determinants of tax evasion. The seminal model of tax evasion is that by Allingham and Sandmo (1972) and we relate our results to this model as well as to recent theoretical contributions by Kleven et al. (2011), Alstadsæter et al. (2019) and Guyton et al. (2021). The empirical literature has been reviewed extensively by Slemrod and Yitzhaki (2002) and Slemrod (2007, 2019). Although mostly descriptive, this paper provides several important insights in what may drive tax evasion. First, we observe a strong response to the changes in the amnesty program's penalty rate. This confirms that the policy environment can have a strong impact on compliance behaviour, as shown by Johannesen et al. (2020) for the US, Alstadsæter et al. (2022) for Norway, and Londoño-Vélez and Ávila-Mahecha (2021b) for Colombia.

Second, we demonstrate that the availability of relatively cheap evasion opportunities in neighbouring countries enables the spread of offshore evasion beyond the "super rich". Wealth offshored to countries bordering the Netherlands (Belgium, Germany) is held almost entirely by households hailing from the "merely rich" who live close to those borders. In contrast, there is no "border effect" for wealth offshored to Switzerland, which is predominantly held by households in the more affluent municipalities of the Netherlands. As emphasised by Alstadsæter et al. (2019), it is important to also consider the supply of tax evasion services. When third-party reporting requirements were introduced for domestic banks, a number of these banks opened subsidiaries in Luxembourg. At the same time, banks in Belgium and Germany advertised in Dutch newspapers, listing branches close to the Dutch border and highlighting their Dutch-speaking staff as well as the absence of a withholding tax.

Third, we explore different explanations for the relatively small role that the "super rich" appear to play in tax evasion in the Netherlands. Guyton et al. (2021) develop a model in which high-income individuals adopt more sophisticated evasion techniques. Our analysis confirms this prediction by showing that the wealthiest Dutch households are considerably more likely to evade taxes through complex webs of family trusts and private foundations than less wealthy households. We further show that the effective tax rate on wealth at the top may not be high enough to induce households to evade taxes, which relates to the work by Londoño-Vélez and Ávila-Mahecha (2021a) who show that offshore tax evasion increases in response to wealth tax hikes. Finally, we suggest that migration towards low-tax jurisdictions can be a substitute to evasion, in line with recent papers studying migration behaviour in response to wealth taxes (Agrawal et al., 2022; Jakobsen et al., 2021). We investigate to what extent a potential undervaluation of unlisted shares affects our results. The distribution of offshore wealth is found to be robust for inflating the value of all these shares by as much as 1000%. Still, the exact patterns of undervaluation can be more complex and this issue will remain a crucial aspect of future inequality studies.

Taken together, these results show that the geographical context in combination with the institutional setting – in the Dutch case: the free movement of capital and labour, (lack of) fiscal coordination, tax rates and rules – plays an important role in shaping the distributional pattern of tax evasion.

The remainder of this paper is organised as follows. In Section 2, we give an overview of the institutional context and describe the data we use in Section 3. Section 4 presents distributional patterns of tax evasion and how this affects the wealth distribution when off-shore wealth is accounted for. We provide tentative explanations for these results in Section 5. Section 6 concludes.

2. Institutional background

2.1. Taxation of income and wealth

The taxation of personal income and wealth in the Netherlands is governed by the 2001 Income Tax Law, which divides income into three separate "boxes" (See Table 1). Each box taxes a different type of income according to different tax rules. Box 1 taxes labour income, self-employment income, pension benefits, transfer income and imputed rental income from owner-occupied housing at progressive rates varying from 33% to 52%. Mortgage interest payments related to the owner-occupied house can be deducted from taxable income in Box 1. Box 2 taxes profits distributed to and capital gains realised by taxpayers who own at least 5% of a corporation, which we call a "substantial ownership" throughout this paper, at a 25% rate.³ As long as no dividends are paid out and capital gains are not realised, no income tax is due. Box 3 covers all wealth with the exception of owner-occupied housing, substantial ownership and pension wealth. Among other types of wealth, the Box 3 tax base thus includes bank deposits, bonds, nonsubstantial ownership of shares, and second homes. When a household owns at most 4.9% of a corporation's stock, this is included in the tax base of *Box* 3, while an ownership of 5% and over is covered by Box 2. Effectively, the taxation in Box 3 corresponds to a 1.2% wealth tax, which was made progressive in 2017 with rates ranging from 0.8% to 1.6%. Neither pension wealth nor its return are taxed before disbursement to retirees. Pension contributions are exempt from the income tax and are taxed at reduced rates in Box 1 when paid out during retirement.⁴ Compared to other EU countries, this system of boxes results in a low tax burden on capital and an average burden on labour (European Commission, 2020).

When a household's ownership share in a company exceeds 5%, the investment is excluded from *Box 3* and is instead covered by *Box 2* which only taxes the dividends and realised capital gains associated with this investment. Incorporation of household wealth can therefore be an avoidance strategy for households who intend to accumulate wealth without distributing profits. Furthermore, until 2015 it was possible to distribute incorporated wealth tax-free by migrating abroad for at least 10 years.⁵ In addition, this strategy offers large benefits when the wealth is bequeathed, as described below.

Inheritances are taxed at progressive rates depending on the relationship to the deceased person. Since 2010, the tax rates for inheritances received by partners and children are between 10% and 20%.⁶ Inheritances received by others are taxed at rates between 30% and 40%. Wealth can be transferred tax free from parents to children, for any purpose (\pounds 25,000 a year) or for housing related expenditure (up to \pounds 50,000 before 2012, \pounds 100,000 from November 2013). The transfer of business wealth is largely untaxed: the first \pounds 1,071,987 is entirely exempt and 83% of the remainder is also exempt.⁷

2.2. Efforts to combat tax evasion

During the global financial crisis of the late 2000s, the G20 countries vowed to tackle offshore tax evasion and proclaimed the end of the "era of banking secrecy". This determination resulted in hundreds of new tax information exchange agreements, America's Foreign Account Tax Compliance Act, the OECD's Common Reporting Standard, and voluntary disclosure programs, or tax amnesties. In this section we review the different programs implemented by the tax administration in the Netherlands.

Tax amnesty program At least since the Income Tax Act of 1914, tax payers have been able to avoid criminal prosecution by voluntarily declaring previously evaded taxes (Feenstra and Perdaems, 2017). Today, the tax administration can claim back taxes over a period of 12 years. Between 1998 and 2009, the penalty rate was 0% of evaded taxes in the case of voluntary disclosure of tax evasion (see Table 2). In July 2009, the government announced an increase of the penalty rate to 15% of the evaded tax liability as of January 1st, 2010, while also raising the maximum penalty rate on involuntarily disclosed tax evasion from 100% to 300%. At all times tax inspectors consider personal circumstances that may justify a penalty reduction (e.g. if the taxpayer is functionally illiterate or suffers from dementia). In February 2010, the government decided to further increase the rate applied in the amnesty to 30% in July 2010. In September 2013 the penalty was temporarily set to zero in order to attract more amnesty participants. At the same moment, penalty rates of 30% in 2014, and 60% in 2015 were announced. In 2016 the penalty rate was raised to 120%, before the amnesty program was abolished altogether on January 1st, 2018.⁸ As of this date, voluntary disclosure does no longer guarantee lower penalty rates and the avoidance of criminal prosecution.

Information exchange and tax treaties The changes in the amnesty rules reflect the changing international environment. Until the beginning of the 2000s, the detection probability for off-shore wealth was essentially zero as offshore centres did not exchange information with tax authorities.⁹ While a number of off-shore centres ultimately conceded to provide financial information upon request, strict requirements for such requests seriously limited their effectiveness. In 2013, the Dutch tax authority requested information from Switzerland 554 times and received such information only 11 times (Ministerie van Financiën, 2014).¹⁰ Most of the few cases of detected offshore evasion occurred after data leaks at financial institutions, such as those at the Luxembourg bank *KB Lux* in 2000 or the more famous HSBC case known as *Swiss Leaks*.

In July 2005, the member states of the European Union (EU) implemented the Savings Directive to support the taxation of foreign-held savings and associated interest payments. Under the Savings Directive, which covered all EU member states and a number of offshore centres, countries could comply by either 1) automatically exchanging information on foreign households with the home country, or 2) levying a withholding tax on foreign households, which is then remitted to tax authorities without revealing households' identities. The Savings Directive suffered from important limitations in the sense that it could easily be circumvented by

³ Manager directors are required to pay themselves a "competitive" salary which is taxed in *Box 1*.

⁴ A substantial part of taxes in *Box 1* consist of social security contributions. Individuals above the statutory retirement age do not pay social security contributions and therefore face lower rates.

⁵ Upon emigration, a provisional tax claim was imposed on undistributed profits. If the emigrant remained abroad for at least 10 years, the tax claim would be cancelled and profits could be distributed without having to pay taxes. This loophole was closed in 2015.

 $^{^6}$ The size of the exemptions also depends on the relationship with the deceased and can amount to about $\rm 6600,000$ for spouses.

⁷ For this, certain conditions have to be met. The company must engage in business activities that exceed the mere management of wealth. In addition, the business must have been owned by the previous owner for at least one year. The new owners should remain owners for at least five years.

⁸ It remains possible to make use of the amnesty program when disclosing wealth and income on pre-2018 tax returns.

⁹ Before 1987, even domestic banks did not exchange information with the Dutch tax authority, unless explicitly requested on a case-by-case basis. Kazemier (1990) finds that between 1977 and 1981 households concealed almost half of their interest income. When banks were required to report interest income automatically in 1987, the secular growth in savings deposits came to a halt as households withdrew their deposits in cash and shifted deposits abroad (Swank, 1988).

¹⁰ This already represented a large increase over the number of information requests sent out in 2011 and 2012: 5 and 31 respectively (Ministerie van Financiën, 2013).

Box	Base	Tax rate (%)					
Box 1	Labour income and owner-occupied housing	33-52 ^a					
	Wages, salaries Transfer income Imputed rent						
	Pension benefits Self-employment income Mortgage interest (-)						
Box 2	Substantial ownership	25 ^b					
	Dividends from substantial ownership						
	Realised capital gains from substantial ownership						
Box 3	Household wealth 1.						
	All assets other than 1) owner-occupied housing, 2) substantial ownership,						
	3) pension wealth, minus all liabilities other than mortgages						

Table 1		
Taxation of income and	wealth in the Netherlands	between 2001 and 2018

Note: The rates shown here are for 2010. Tax brackets and rates vary slightly over the years, but these numbers are representative for the years that we study. This table is based on Cnossen and Bovenberg (2001). ^a Individuals above the retirement age face lower marginal tax rates in the first two brackets (out of a total of four).

^b This rate was temporarily reduced to 22% for income below 6250,000 in 2007 and 2014. ^c As of 2017, an individual's marginal tax rate depends on their net wealth and ranges from 0.8 to 1.6% in 2017 and

0.6 to 1.6% in 2018.

1) moving assets to countries not covered by the Directive, 2) transferring the ownership of the assets to an intermediate corporation or trust, and 3) converting the savings account into an asset type not covered by the Directive (Johannesen, 2014).

The Savings Directive was repealed in 2015 as it had become obsolete due to the adoption of a directive on the mandatory automatic exchange of information between tax administrations.¹¹ Under the new directive, EU member states are required to implement the OECD's Common Reporting Standard (CRS), which covers a larger number of countries and assets than the Savings Directive. The most relevant dates for the Netherlands are 2010, when Belgium switched from levying a withholding tax on interest payments to exchanging information; 2015, when Luxembourg did the same; and 2016 when both countries committed to the CRS. Switzerland started exchanging information under the CRS for the first time in 2018.

During 2015–2018, the Dutch tax administration requested information from 4 Swiss banks, based on the Dutch-Swiss tax treaty. After an unsuccessful legal appeal by a UBS client in Switzerland, information about direct account holders with a residence in the Netherlands was transmitted to the Dutch tax administration. Offshore tax evasion appears to have become more risky for tax evaders. This may have been partially offset by evaders setting up even more opaque structures involving countries not yet committed to the exchange of information (Johannesen, 2014; Johannesen and Zucman, 2014).

Tax unit for offshore evasion The Dutch tax administrations recent efforts to tackle offshore tax evasion can be traced back to the moment when the Belgian government shared information on account holders at *Kredietbank Luxembourg* in 2001. From then onward, all efforts related to offshore tax evasion were grouped under one unit named "Concealed Wealth" (*Verhuld Vermogen*). This unit has grown considerably over time, in terms of budget, number of employees and variety of information sources. These sources range from foreign governments to financial institutions and whistleblowers. As of 2020, the unit has raised over ϵ 4 billion in revenues from around 60.000 taxpayers.¹² We discuss the projects that we study in more detail in Section 3.2.

3. Data

3.1. Administrative registers

We use administrative data on income, wealth, residency and demographic variables maintained by Statistics Netherlands. These data are available for the entire population of the Netherlands and can be linked with other datasets through unique anonymised identifiers at the individual or household level. Appendix E describes the various datasets we use in more detail.

The wealth data are recorded at the household level and make use of a wide variety of sources. These sources include the income tax (which includes a tax on household wealth, see Table 1), the corporate tax (which records wealth held in corporations)¹³, the Dutch cadastre (for real estate), and data collected by financial institutions (required to provide this information to the Dutch tax administration). The wealth data do not cover all wealth in the national accounts. In particular, it leaves out most pension wealth, which amounts to 40% of all assets in the Netherlands. Although concerns remain regarding the potential undervaluation of closely-held assets by relying mostly on book values in the absence of market values, the measurement of these assets has improved considerably in recent years.

An important issue in all studies of wealth inequality, including this paper, concerns the valuation of shares in unlisted businesses.¹⁴ These shares are not traded publicly and therefore not priced on the market. Quite often these shares are booked at a historical cost price. To circumvent this problem, some papers multiply business profits by some capitalisation factor to obtain a more adequate valuation for unlisted shares (see e.g. Saez and Zucman (2016) and Alstadsæter et al. (2019)). Statistics Netherlands has recently improved its methodology to value shares in unlisted businesses. Instead of solely relying on book-value, closely-held businesses are valued at market prices or prices that are supposed to reflect market prices.

¹¹ Council Directive 2014/107/EU

¹² These numbers are taken from a number of online publications by the Dutch tax administration: (1) "Belastingopbrengst verhuld vermogen opgelopen tot boven de 4 miljard", (2) "Internationale gegevens bij 620.000 personen vooraf ingevuld", (3) "190 miljoen aan verhuld vermogen in 2020", all accessed on 28 June 2021.

¹³ A corporation's commercial profit can be established by comparing its opening and closing balance sheets. Commercial profit corresponds to the increase in a corporation's equity, after accounting for dividends and capital investments. Commercial profits are used to determine taxable profits. For this reason, the Dutch tax administration has records on corporate wealth.

¹⁴ This issue lies behind some of the discrepancies between recent estimates of wealth inequality in the United States (Saez and Zucman, 2016; Smith et al., 2020; Saez and Zucman, 2020; Smith et al., 2021; Smith et al., Forthcoming; Saez and Zucman, 2022).

Table 2

Amnesty penalty rates.

_				
	From	Until	Announcement	Amnesty penalty rate
	January 1st, 1998	December 31st, 2009		0%
	January 1st, 2010	June 30th, 2010	July 2nd, 2009	15%
	July 1st, 2010	September 1st, 2013	February 16th, 2010	30%
	September 2nd, 2013	June 30th, 2014	September 2nd, 2013	0%
	July 1st, 2014	June 30th, 2015	September 2nd, 2013	30%
	July 1st, 2015	June 30th, 2016	September 2nd, 2013	60%
	July 1st, 2016	December 31st, 2017	April 2nd, 2016	120%
	January 1st, 2018		September 19th, 2017	300%

Note: This table shows the penalty rates in the amnesty program. The information is taken from Feenstra and Perdaems (2017) and official government sources.

However, this improved methodology does not address all potential issues with the valuation of unlisted businesses, in particular those related to the valuation of intellectual property and other intangible assets. We test to what extent our main results are distorted by the potential undervaluation of unlisted shares in Appendix B. We inflate the value of closely-held assets by as much as 1000% and find that the distribution of offshore wealth appears reasonably robust to this exercise. Still, the exact patterns of undervaluation can be more complex than the one simulated in Appendix B. Since unlisted shares are mostly held by top wealth groups, studying their valuation will remain a crucial aspect of future inequality studies.

3.2. Data on tax evaders

Amnesty data We have access to unique data on the Dutch tax amnesty program. It covers all the participants to the program between 2002 and 2018. We observe the following variables: date of participation to the amnesty program, the amount of previously undeclared wealth (self-declared) and the amount of revenue that is recovered through taxes, interest and fines. The amount of hidden wealth is measured imprecisely: the self-declared amount is not always reported and missing for all participants before 2011. In practice, the self-declared amount does not carry any legal meaning: during the amnesty process the tax authority will calculate an individual's tax liability based on the documentation provided by and requested from the amnesty participant as well as any additional information the tax authority possesses. We use an alternative approach to verify the amount of hidden wealth that relies on the amount of tax recovered through the amnesty. By applying the tax code in reverse and making some assumptions regarding the duration of tax evasion, we are able to approximate the amount of hidden wealth. In particular, we assume that individuals had hidden their wealth for at least 12 years, which corresponds to the period over which the tax authority can recover evaded taxes. In the case of the Swiss information request (discussed below) we observe both the account balances of individuals with Swiss bank accounts and the amount of taxes they had evaded. This allows us to verify the accuracy of our imputation procedure (see Appendix A).

We restrict the initial sample of participants in the analysis from Section 4 onwards. First, we consider only participants from year 2008 onward, as we want at least one year with pre-amnesty wealth and we cannot observe wealth before 2007. Second, we consider only amnesty participants who have in fact evaded taxes.¹⁵ Panel A of Table 3 presents descriptive statistics on the amnesty data. We observe a total of 27,680 amnesty participants over the years 2002–2018. Particants are predominantly male (68%) and are 65 years old on average. The average amount of hidden wealth is €438,000, while the median is only €144,000. There are no major differences across years, except for 2012 when the mean hidden wealth holdings. In panel B, we differentiate between amnesty participants who declare "APV" ("*Afgezonderd Particulier Vermogen*") and those who do not. APV is a category of wealth that is entrusted to a separate legal entity and includes family trusts, private foundations, *Stiftungen* and *Anstalten*. Participants who declare APV wealth through the amnesty report considerably higher concealed wealth holdings: on average almost €1.9 million, compared to just over €400,000 for participants without concealed APV wealth.

The number of participants varies a lot from year to year. This is illustrated in Fig. 1, showing the timing of participation to the amnesty program. Before 2011, we do not observe the precise date when participants first register for the amnesty. Instead, we observe the date when the tax administration starts the amnesty process. When we observe both, the average difference between the registry date and the process start date is less than 2 months (mean: 56 days, median: 24 days). On average, the entire process lasts 230 days (median: 178 days). Interestingly, the number of participants by date exhibits large spikes just before the increases in the penalty rate. This behavioural response to the change in penalty rates is particularly pronounced in 2009 and 2014, just before the end of amnesty periods with 0% penalty rates. In Fig. 2, we decompose wealth declared through the amnesty program into different countries of origin. In all years, Switzerland accounts for the bulk of amnesty wealth, with Belgium and Luxembourg accounting for most of the remainder.

An important feature of the amnesty is that the declaration of hidden wealth is voluntary. This may affect the type of evaders that are found through this program. We have also received access to data on a number of different projects undertaken by the offshore unit at the tax administration where the hidden wealth was uncovered involuntarily from the perspective of the evader. In Section 4.3, we explore the extent to which the distributional patterns of tax evasion in the projects that we describe below differ from that found in the tax amnesty.

Swiss information request Between 2015 and 2018, the Dutch tax administration requested information on households with a Dutch residency from four Swiss banks (UBS, Credit Suisse, Julius Bär and BNP Paribas) on the basis of the bilateral tax treaty between the Netherlands and Switzerland. Households covered by the information requests had previously been sent a letter by their Swiss bank asking for a confirmation that their wealth had been declared to the relevant tax authorities. The data consist of the account balance on February 1, 2013, December 31, 2013, December 31, 2014, December 31, 2015 and December 31, 2016, taxes, fines and interest payments recovered. These data differ crucially from the amnesty data in that tax evasion was uncovered involuntarily. As such, it may be more representative of undeclared wealth that has not yet been detected by the Dutch tax administration. On the other hand, the information request covers only direct owners of Swiss bank accounts, a relatively unsophisticated type of tax evasion.

Table 4 presents descriptive statistics on the Swiss information request. We observe 616 individual accounts, which corresponds to a very small share of Swiss accounts held by Dutch citizens.¹⁶ The average amount hidden is significantly lower than in the amnesty data (€144,000). There appear to be fewer very large wealth

¹⁵ A number of individuals participated in the amnesty program but did not have to pay any additional taxes. This may be due to the fact that their wealth was already reported (through third-party reporting) or was not subject to taxation (through a bilateral tax treaty).

¹⁶ Around 15,000 Swiss accounts are declared to the tax authority each year.

Table 3

Descriptive statistics on tax amnesty.

Year	Observations	Demo	graphics	_	Hidden wealth		Reported wealth				
		Mean age	Women (%)	Median	Q1	Median	Q3	Median	Q1	Median	Q3
A. Amne	sty program										
All	27,680	65	32	437,550	48,995	144,108	406,554	1,577,161	326,933	654,684	1,376,409
2002	20	65	5	286,017	75,197	166,420	364,720	-	-	-	-
2003	709	63	25	222,401	21,000	62,741	207,075	-	-	-	-
2004	823	62	29	271,145	19,995	68,325	215,870	-	-	-	-
2005	469	65	29	412,796	41,775	117,666	358,758	-	-	-	-
2006	233	66	34	533,161	46,941	121,966	451,558	915,409	208,951	517,680	978,525
2007	243	67	26	575,773	65,750	168,133	453,408	1,000,720	293,987	607,677	1,099,452
2008	396	66	28	556,549	62,104	188,862	500,054	1,298,707	307,970	630,090	1,256,807
2009	6,322	64	32	493,886	58,852	170,575	469,316	1,145,367	297,602	578,874	1,115,710
2010	1,813	64	31	547,804	45,425	149,450	434,750	1,640,681	351,676	672,165	1,345,470
2011	348	65	39	450,267	43,387	142,841	420,387	1,199,177	268,170	613,557	1,423,765
2012	255	67	37	1,477,926	68,854	244,725	658,537	2,827,555	400,982	789,533	2,027,432
2013	1,570	66	31	647,881	95,614	281,287	674,810	2,087,199	456,883	943,041	2,149,332
2014	10,711	65	33	415,323	57,158	157,258	412,195	1,790,882	346,503	703,711	1,514,993
2015	1,611	65	37	300,115	40,212	105,700	264,400	1,550,792	279,211	590,267	1,320,930
2016	916	64	33	231,851	33,204	89,112	212,870	1,474,668	290,646	596,716	1,209,804
2017	878	63	36	194,866	20,039	53,220	161,756	1,277,900	281,080	545,058	1,153,374
2018	363	63	35	178,981	20,366	50,950	143,433	1,948,411	332,916	669,654	1,336,290
B. Amnesty program, APV											
APV	554	65	37	1,869,566	328,197	867,562	1,838,366	4,323,943	674,161	1,730,159	3,926,209
No APV	27,126	65	32	408,304	47,968	140,050	390,106	1,517,727	322,872	645,839	1,341,041

Note: The amnesty dataset contains all the participants to the amnesty program. Hidden wealth is imputed on the basis of the amount of tax recovered by the tax administration (see Appendix A). Panel B distinguishes amnesty participants with and without "APV" ("Afgezonderd Particulier Vermogen", such as family trusts, private foundations, Stiftungen and Anstalten).



Fig. 1. Amnesty participation by month. This figure shows the number of declarations of offshore wealth for each month between January 2003 and December 2018. This number is identical to the number of annesty participants, except for a small number of participants who enter the program multiple times. Due to output restrictions, we cannot disclose the precise number of declarations for months when this number lies below 10. The penalty rates are denoted in red (see Table 2).

holdings, which could be because banks may not have sent letters to account holders with more sophisticated tax evasion structures, involving offshore companies or trusts.

Foreign banks The tax administration has received information on Dutch citizens with bank accounts in Belgium, Luxembourg, Austria and Switzerland from a number of foreign tax administrations, covering the years 2003–2015. In total, this concerns 842 individuals who evaded taxes with an average concealed wealth of just over €100,000. As shown in Table 4, the average is considerably higher for wealth held in Austria (€166,000) and Switzerland (€197,000) than in Belgium (€42,000) and Luxembourg (€101,000).

Debit-Creditcards The tax administration has received data on all transactions conducted with foreign payment cards in the Netherlands between 2009 and 2011. These transactions were used to identify Dutch citizens who use foreign payment cards to







(b) Share of total

Fig. 2. Origin of amnesty wealth by year. This figure shows the amount of wealth declared through the amnesty program, by origin country. Before 2011, the category "Missing" includes cases with multiple origin countries.

Table 4	4
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Descriptive statistics on tax authority projects.

Project	Country	Observations	Demographics			Hidder	n wealth	
			Mean age	Share women	Mean	Q1	Median	Q3
Swiss information request	Switzerland	616	65	40	143,561	40,968	84,716	190,012
Foreign banks	All	842	68	29	101,745	18,010	36,858	90,952
Foreign banks	Belgium	157	65	38	41,653	16,533	28,933	49,625
Foreign banks	Luxembourg	564	69	28	100,665	17,272	36,370	93,697
Foreign banks	Austria	47	65	21	166,211	35,962	72,800	129,237
Foreign banks	Switzerland	74	69	25	196,525	25,770	62,966	181,750
Debit-Creditcards		192	65	25	745,073	65,183	164,850	534,817
HSBC	Switzerland	34	64	26	365,788	71,725	298,404	415,822

Note: Hidden wealth is imputed on the basis of the amount of tax recovered by the tax administration (see Appendix A), except for the HSBC project for which precise account balances are available.

consume out of their wealth hidden abroad. On average, the 192 individuals identified in this way hid over €745,000 (see Table 4).

HSBC In September 2010, the tax administration started "Project Paris" after receiving the so-called "Lagarde List". This list contains information on account holders at HSBC's Geneva branch. Our sample includes only direct account holders, in contrast to Alstadsæter et al. (2019) whose sample also includes corporate accounts with beneficiary owners in Scandinavia. Dutch individuals with HSBC accounts who were found to have evaded taxes had hidden over €365,000 on average (see Table 4).

4. Wealth inequality and tax evasion

4.1. Who evades taxes?

We first describe the characteristics of tax evaders based on the participation to the amnesty program. We consider the universe of Dutch households in 2007, and identify households as evaders if at least one household member participated in the amnesty between 2007 and 2017. In order to rank households in terms of their wealth, we obtain the total of reported wealth, wealth declared through the amnesty, and wealth found by the tax administration through the projects described in Section 3.2. In all rankings, we consider household wealth at the start of 2007. In Appendix C we show that these results are robust to changing the year of analysis.

In Fig. 3, we report the likelihood of participating in the amnesty by wealth group. This likelihood increases strongly with wealth, from essentially 0 for the bottom 90% to over 10% for the highest wealth groups. Interestingly, the likelihood drops slightly for the highest wealth group. Among amnesty participants in the top wealth groups, wealth declared through the amnesty makes up around 30% of their total wealth. This share falls to just over 21% for the highest wealth group, as reported in Fig. 3b.

These results differ in some respects from the earlier literature on Colombian and Scandinavian tax amnesties (Alstadsæter et al., 2019; Londoño-Vélez and Ávila-Mahecha, 2021b). While offshore tax evasion is concentrated at the top in all countries, its prevalence is considerably higher among the Dutch "merely rich" compared to Colombia and Scandinavia. Furthermore, wealth declared through the amnesty falls as a share of total wealth to a level far below that in the other countries.

Ultimately, we are interested in the distribution of hidden wealth. Fig. 4 reports the share of reported wealth and the share of amnesty wealth owned by each wealth group. Amnesty wealth is markedly more concentrated than reported wealth, with the top 10% accounting for the bulk of amnesty wealth and the top 0.01%, the "super rich", owning 7%. However, offshore tax evasion appears to be much more of a "merely rich" phenomenon in the Netherlands, as they own 67% of amnesty wealth, whereas most amnesty wealth is held by the "super rich" in Colombia and Scandinavia.



(a) Probability to participate in amnesty



(b) Amnesty wealth as a share of total wealth

Fig. 3. Amnesty program: intensive versus extensive margin. Panel A shows the fraction of households in each wealth group who participated in the tax amnesty over the period 2008 to 2018 (extensive margin). Wealth groups are defined in terms of 2007 wealth. For Scandinavia, the data are taken from Alstadsæter et al. (2019), Appendix G, Table 2. The Colombian data are taken from Londoño-Vélez and Ávila-Mahecha (2021b), Table A.1. Panel B shows wealth declared through the amnesty participation (intensive margin). For Scandinavia, the data are taken from Alstadsæter et al. (2019), Appendix G, Table 4. The Colombian data are taken from Alstadsæter et al. (2019), Appendix G, Table 4. The Colombian data are taken from Londoño-Vélez and Ávila-Mahecha (2021b), Table A.1.

4.2. Evasion-adjusted wealth distribution

Statistics Netherlands has published consistent series of wealth inequality for the universe of Dutch households for the period 2011–2017 (Den Brakel and Pouwels-Urlings, 2019). According to



(a) Share of reported wealth and amnesty wealth



(b) Share of amnesty wealth

Fig. 4. Distribution of wealth and amnesty wealth. Panel A of this figure shows the share of reported wealth and amnesty wealth held by each of the wealth groups. Panel B shows the share of amnesty wealth held by each of the wealth groups for the Netherlands, Colombia and Scandinavia. The data for Scandinavia are taken from Alstadsæter et al. (2019), Appendix J, Table 1. The Colombian data are taken from Londoño-Vélez and Ávila-Mahecha (2021b), Table A.1.

these estimates, the top 10% accounts for 64% of wealth in 2017. However, pension assets are not included in this definition of wealth. In more recent work, Statistics Netherlands has estimated wealth inequality in a manner consistent with the national accounts for the years 2015 and 2016 (Bruil, 2019). By including pension assets, the top 10% wealth share falls to the mid-40s. As such, wealth inequality appears to be relatively low in international comparison; the top 10% share is equal to 73% in the US and 55.3% in France (data from 2014, wid.world).

An important shortcoming of traditional wealth inequality estimates is that they ignore offshore wealth, as it is observed in neither survey nor administrative data. This issue has been addressed first by Roine and Waldenström (2008, 2009) for the case of Sweden and most recently by Alstadsæter et al. (2018, 2019) for a larger number of countries. The exercise typically starts by taking an estimate of total offshore wealth that belongs to a country and assigning this amount to different wealth groups.

Zucman (2013) estimates that 8% of global financial wealth or \$5.6 trillion is held in tax havens, most of it undeclared to tax authorities. Alstadsæter et al. (2018) assign this total to individual countries using statistics collected by the Bank for International Settlements regarding the owners of deposits held in tax havens. According to this method, the Netherlands' offshore wealth is equal to 6% of GDP in 2007, less than the international average of 9.8%. This could be related to the fact that almost 80% of Dutch assets are real estate or pension assets, neither of which can be off-shored easily.

The effect of offshore tax evasion on inequality statistics depends on (i) the amount of offshore wealth and (ii) the concentration of offshore wealth. Alstadsæter et al. (2019) and Londoño-Vélez and Ávila-Mahecha (2021b) find that offshore tax evasion in Norway and Colombia is almost entirely concentrated among the top 0.1%. In Norway, the share in total wealth owned by the top 0.1% increases from 8.4% to 9.8%. The impact in Colombia is even higher: the top 0.1% wealth share increases from 15.9% to 19.1% when unreported offshore wealth is taken into account.

Performing this exercise for the Netherlands results in a small adjustment of top wealth shares as can be seen in Fig. 5: the top 0.1% increases from 8.7% to 9.3%, less than half the adjustment for Norway and below a fifth of that in Colombia. Mechanically, the difference can be explained by the fact that wealth declared through amnesties is substantially less concentrated in the Netherlands.

Table 5 displays the distribution of wealth for different wealth concepts. On average, the top 0.01% report wealth holdings equal to over €53 million. This amount rises to €54 million when we include wealth declared through the amnesty or otherwise found by the tax administration. By assigning the aggregate stock of off-shore wealth, the average amount further increases to over €57 million for the highest wealth group.

After assigning the total of offshore wealth to different wealth groups, we can calculate the amount of taxes evaded and compare this to the amount of taxes paid by each wealth group. In almost all cases, offshore wealth should have been taxed in *Box 3*, which in 2017 had a top marginal tax rate equal to 1.62% of net wealth. For 2017, we also observe the amount paid in personal income tax (*Box 1, 2* and 3) by each household. Assuming that all hidden wealth would have been taxed at 1.62%, we find that the top 0.01% wealthiest households evade around 8% of their true tax liability (i.e. evaded plus paid taxes). This percentage is substantially lower than the 25% found for the Scandinavian "super rich" (Alstadsæter et al., 2019) and reflects that wealth hidden by Scandinavian households is more concentrated among the "super rich".

4.3. Representativeness of the amnesty

A key assumption for assigning offshore wealth to wealth groups is that the distribution of amnesty wealth is representative



Fig. 5. Evasion-adjusted wealth distribution. This figure shows the share of wealth that is held by each wealth group, before and after assigning offshore wealth using the amount of offshore wealth held by Dutch households reported by Alstadsæter et al. (2018) and the distribution of wealth declared through .the tax amnesty.

Table 5	i.
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Distribution of wealth.

Group	Observations	Minimum reported, discovered	Average reported wealth	Average reported and discovered wealth	Average reported, discovered
DO 50	2 621 206	and assigned weater	1 514	1 519	1 521
10-30	5,051,250	-	1,514	1,510	1,551
P50-60	726,277	37,000	61,508	61,553	61,688
P60-70	726,261	91,000	125,883	125,983	126,292
P70-80	726,263	162,000	203,511	203,665	204,146
P80-90	726,263	250,000	318,752	319,138	320,360
P90-95	363,132	412,000	496,853	498,219	502,570
P95-99	290,505	619,000	890,625	898,982	925,967
P99-99.5	36,313	1,567,000	1,858,018	1,900,245	2,038,482
P99.5-99.9	29,051	2,381,000	3,448,759	3,558,272	3,915,155
P99.9-99.95	3,631	6,295,000	7,332,806	7,614,567	8,539,992
P99.95-99.99	2,905	9,627,000	13,750,672	14,263,566	15,959,620
P99.99-100	727	25,073,000	53,036,517	54,050,505	57,423,045

Note: This table reports the minimum and average wealth amounts for different wealth concepts: 1) Wealth reported to the tax administration, 2) Wealth reported to the tax administration plus wealth found by the tax administration through the tax amnesty or otherwise, 3) Reported wealth, plus wealth found by the tax administration, plus offshore wealth that has not yet been found. For the stock of offshore wealth, we use the estimate reported by Alstadsæter et al. (2018).

of the distribution of hidden wealth. Testing this assumption is complicated by the fact that hidden wealth is, in fact, hidden. Still, we investigate how the distributional patterns found in the amnesty compare to other tax evaders discovered by the tax administration through a number of different projects. These projects are the 1) Swiss information request, 2) Debit-creditcard project, 3) information on foreign banks, and the 4) HSBC leak. In all of these projects and in contrast to the tax amnesty, the discovery of tax evasion was involuntary from the perspective of the evaders. However, the discovery cannot be considered random as it is the result of a specific enforcement action and legal context, e.g. the Dutch-Swiss bilateral tax treaty.

As can be seen in Table 3 and 4, the number of households involved in these projects is substantially lower than the number of amnesty participants and so we caution for drawing strong conclusions on the basis of single data points in the figures below. Still, Fig. 6 shows that the distributional patterns of tax evasion are strikingly similar for all of the different projects. In all cases, the bulk of hidden wealth is accounted for by the "merely rich" rather than the "super rich". This could signal that tax evasion is simply not very prevalent among the Dutch "super rich" or, perhaps more plausibly, that they find alternative ways to reduce their tax liability, either through legal means or through sophisticated structures that are difficult to detect. This hypothesis is discussed in more detail in Section 5.2.

5. Explaining tax evasion

As shown in Fig. 3, our results differ from the earlier literature in two important ways: 1) evasion is more prevalent among the "merely rich", and 2) it is less prevalent among the "super rich". In this section, we combine insights from models of tax evasion (e.g. Allingham and Sandmo (1972), Kleven et al. (2011), Alstadsæter et al. (2019), Guyton et al. (2021)) and descriptive evidence to help explain these differences. We are cautious about making causal claims given the descriptive nature of these analyses.

Allingham and Sandmo (1972) provided the canonical model that explains tax evasion in terms of the tax rate, the audit probability, and the penalty rate. While a higher audit probability and penalty rate deter tax evasion, the effect of tax rates is theoretically ambiguous. This model has been extended by Kleven et al. (2011) to incorporate the effect of third-party reporting on the probability that evasion is detected conditional on being audited. Alstadsæter et al. (2019) emphasise the importance of suppliers of tax evasion in shaping the ultimate distribution of tax evasion. Most recently, Guyton et al. (2021) model tax evasion by allowing individuals to



(b) Share of hidden wealth

Fig. 6. Distributional patterns of tax evasion. Panel A of this figure shows likelihood of being found to have evaded taxes through the different projects. To compare the projects, which differ in size, we have normalised the likelihood to that for the wealth group P90-P99. Thus the top wealth group is more than 10 times as likely to appear in the Swiss information request as is the P90-P99 wealth group. Panel B shows the share in hidden wealth for each project by wealth group.

invest in a costly technology that better conceals their wealth and thus reduces the associated detection probability.

5.1. High evasion among the "merely rich"

In the 1980s, when politicians debated the desirability of thirdparty reporting by domestic banks, some of these banks created subsidiaries in Luxembourg. Furthermore, foreign banks (mostly Belgian and German, but also Austrian, and Luxembourgish banks) started advertising in Dutch national and regional newspapers. In these advertisements, some of which we have included in Appendix D, banks listed branches close to the Dutch borders, while highlighting the presence of Dutch-speaking staff and the absence of a withholding tax. This highlights the importance of suppliers of tax evasion, as emphasised by Alstadsæter et al. (2019). Until the late 2000s, there was little information sharing among European tax administrations. The Savings Directive was implemented in 2005 and Belgium did not exchange information on savings deposits until 2010, Luxembourg only started doing so in 2015. This lack of coordination implied that Dutch households could hide their wealth abroad with limited fear of being detected by domestic tax authorities.

The geographical distribution of amnesty wealth suggests that proximity does indeed matter. In Fig. 7 we show the number of amnesty participants who hid wealth in Belgium, Germany and Switzerland as a share of each municipality's population. Tax evasion through Belgium is concentrated almost entirely along the Dutch-Belgian border and we find a similar pattern along the Dutch-German border for German amnesty wealth. Such border effects are absent for Swiss amnesty wealth, which simply mirrors the distribution of overall wealth across Dutch municipalities.

Fig. 8 shows the distribution of amnesty wealth concealed in Belgium, Germany and Switzerland over different wealth groups. The concentration of amnesty wealth increases with distance: most Belgian and German amnesty wealth is held by the bottom 99%, while the reverse is true for amnesty wealth hidden in Switzerland. This result can be rationalised by modifying the model in Guyton et al. (2021) only slightly: instead of a concealment technology with fixed cost, the cost depends on the physical distance between the household and the bank. By not sharing information with Dutch authorities, Belgium and Germany enabled the "merely rich" near the border to evade income and wealth taxes in a rather uncomplicated manner. Tax havens can thus undermine the fiscal capacity of countries in its proximity. This is particularly pressing if such countries have collectively agreed to guarantee the free movement of capital and people, which makes it possible to set up bank accounts abroad and conduct international transactions with relative ease.

5.2. Low evasion among the "super rich"

5.2.1. Sophisticated tax evasion

In the model by Guyton et al. (2021), wealthier households engage in more sophisticated forms of tax evasion. In our analysis of tax evasion, we rely on tax evaders found by the tax administration, either through the tax amnesty or through other projects. To the extent that wealthier taxpayers rely on more sophisticated concealment technologies, we may underestimate evasion at the top of the wealth distribution. While the Netherlands is often used as a conduit country for profit shifting by multinational corporations (Lejour et al., 2022; Tørsløv et al., 2020), it is unclear whether wealthy Dutch households can access the same resources.¹⁷ The evidence presented in Fig. 8 is consistent with the Guyton et al. (2021)'s prediction as it shows that top wealth groups are more likely to channel their wealth through Switzerland, which at least since 2010 can be considered as more secretive than Belgium. This same pattern can be found in the tax administration's projects in Table 4: the average amount hidden through Swiss banks (€144,000, €197,000 and €366,000 respectively) is substantially higher than the average amount hidden through Belgian banks (€42,000).

A final piece of evidence that supports this notion is the distribution of "APV" wealth declared through the amnesty. APV refers to wealth that is entrusted to a separate legal entity such as a family trust, private foundation, Anstalt or a Stiftung. As such, evasion through APV is a far more sophisticated type of evasion than the use of a simple bank account. Table 3 shows that on average amnesty participants who declared APV structures declare over 4 times as much as amnesty participants who declared non-APV wealth (€1,870,000 vs. €408,000). Furthermore, Fig. 9 shows that APV amnesty wealth is by far the most concentrated form of hidden wealth: the top 1% accounts for over 90% of APV amnesty wealth. Thus, complex tax evasion is concentrated at the top of the Dutch wealth distribution. To the extent that such complex cases are underrepresented in our samples of tax evaders, this could help explain the relatively small share of the "super rich" in tax evasion.

5.2.2. Effective tax rate at the top of the wealth distribution

While the effect of the tax rate on tax evasion is theoretically ambiguous (Allingham and Sandmo, 1972), empirical evidence suggests that tax evasion is higher when tax rates are higher (Kleven et al., 2011; Londoño-Vélez and Ávila-Mahecha, 2021a). It is therefore possible that low evasion at the top is the result of low effective tax rates on the highest wealth groups. As explained in Section 2.1, capital income is only lightly taxed in the Netherlands. Furthermore, as we show in Fig. 10, the wealth composition of different wealth groups differs considerably, which affects the tax treatment of each wealth group's income. In particular, the share of real estate in wealth falls with wealth, while substantial ownership accounts for the bulk of wealth at the top. To obtain a comprehensive picture, we compute each household's tax liability, excluding taxes paid over labour income, using a wide array of economic and demographic variables from administrative datasets. In Fig. 11, we divide the capital tax liability by net wealth for each wealth group for 2011. Box 1 refers to the net subsidy on owneroccupied housing wealth. Box 2 is a flat tax on dividends and realised capital gains from substantial ownership (defined as cases where a person owns at least 5% of a company's shares). A business owner can avoid taxes by simply not paying out dividends and not realising capital gains. Box 3 is a tax on the stock of household wealth (excluding owner-occupied housing, pension assets and substantial ownership in companies). The effective tax rate on capital income is low and progressive until the top 0.01%, in most part because housing accounts for a decreasing share of overall wealth at the top of the wealth distribution. This confirms statistics compiled by European Commission (2020) that show that the Netherlands has a low tax burden on capital compared to other EU countries.¹⁸ Interestingly, the effective tax rate (expressed as a % of net wealth) falls for the highest wealth group to less than half a percent of net wealth, which reflects the fact that most wealth at the very top is held in the form of substantial ownership of firms. This could help explain why evasion at the top appears to be so low.

¹⁷ Anecdotally, there does seem to be some overlap. The Netherlands's 2nd richest family Van Der Vorm, who made their fortune after the sale of the cruise line *Holland America Line*, based their holding company HAL Holding N.V. in Çuracao, one of the former Netherlands Antilles. The corporate structure also includes an office in Monaco and a Bermuda trust. In 2016, a number of Van Der Vorm family members appeared in the Panama Papers with undeclared Bermuda trusts.

¹⁸ Bruil et al. (2022) compute the effective tax rate for different income groups and find that the effective tax rate falls with income.



Fig. 7. Amnesty participation (% of municipal population) by offshore country. These maps show the number of amnesty participants as a share of each municipality's population. In panel A, amnesty participants with hidden wealth in Belgium are shown; Panel B shows those with hidden wealth in Germany; Panel C, Switzerland; Panel D, countries other than Belgium, Germany and Switzerland. Due to output restrictions, we cannot disclose the precise number of amnesty participants in municipalities when this number lies below 10. For this reason, we show the share of amnesty participants by commuting zone (COROP) for the Germany map. Note that the scale for Germany differs from that used in other maps.



Fig. 8. Share of amnesty wealth with different origin countries by wealth group. This figure shows the share of amnesty wealth originating from Belgium, Germany, and Switzerland held by each of the wealth groups.



(b) Share of hidden wealth

Fig. 9. Distributional patterns of tax evasion. Panel A of this figure shows likelihood of being found to have evaded taxes through the different projects. To compare the different group of amnesty participants, which differ in size, we have normalised the likelihood of participation to that for the wealth group P90-P99. Thus the top wealth group is more than 60 times as likely to participate in the amnesty with APV wealth as is the P90-P99 wealth group. Panel B shows the share in amnesty wealth held by wealth group for amnesty wealth and amnesty wealth that is qualified as APV.



Fig. 10. Composition of wealth (% of assets). This figure shows the composition of wealth for different wealth groups, ranked by 2007 wealth. Each wealth component is expressed as a share of total assets for that wealth group.



Fig. 11. Capital taxes as a share of net wealth (%). This figure shows the effective tax rate in 2011, expressed as a percentage of net wealth, by wealth group. Box 1 refers to the net subsidy on owner-occupied housing. Box 2 refers to taxes paid over dividends from substantial ownerships. Box 3 refers to taxes paid over household wealth (excluding owner-occupied housing, pension wealth and substantial ownerships).

5.2.3. Migration

A radical alternative to tax evasion that is not yet incorporated in most models of tax evasion is migration. Rather than breaking the law, households can escape the law entirely by moving one's residence. Kleven et al. (2020) reviews a growing body of research that studies the interaction of taxation and migration and points to an increasing number of favourable tax schemes for wealthy foreigners. Agrawal et al. (2022) and Jakobsen et al. (2021) study migration behaviour in response to wealth taxes. As explained in Section 2.1, emigration makes it possible, under some circumstances, to distribute profits without having to pay taxes. Geographical and cultural proximity to countries such as Belgium, the United Kingdom and Switzerland make it less costly for the wealthiest Dutch households to emigrate. An individual who emigrates has to deregister from their municipality in the Netherlands, but does not lose their Dutch citizenship. While the exact tax consequences depend on the bilateral tax treaty between the Netherlands and the emigration destination, income or wealth outside of the Netherlands will not be taxed by the Netherlands. As an illustration of this potential channel, panel A of Fig. 12 presents overall



Fig. 12. Emigration rate (%) by wealth group and destination country. Panel A shows the overall probability to emigrate between 2007 and 2021 by wealth group, defined by wealth in 2007. Panel B shows the probability to emigrate between 2007 and 2021 to specific countries, by wealth group defined by wealth in 2007.

emigration rates, defined as the probability of a household member to emigrate at least once between 2007 and 2021, for different wealth groups (defined by 2007 wealth). The overall emigration gradient is U-shaped, but this masks substantial heterogeneity by destination country which we show in panel B. We present gradients for the most common emigration destinations in addition to Switzerland which is particularly popular at the top of the distribution.¹⁹ The wealth gradient of migration depends on the destination country: it is U-shaped for Belgium, the United Kingdom, and Netherlands Antilles, mostly decreasing for Germany, and increasing for Spain and the United States. The gradient is most pronounced for Switzerland, with a rate increasing from virtually 0 to a fairly high level of 1% for the top 0.05%. To the extent that migration can be an alternative to tax evasion, this could partly explain the result we observe. If we do not observe a lot of very rich evaders today, it may be because they may have legally migrated in the past.²⁰

6. Conclusion

While tax administrations have made considerable progress in fighting it, tax evasion remains a seemingly inextricable part of our world. The measurement of inequality has to account for this fact and this paper attempts to do so for the Netherlands. We apply the same methodology as Alstadsæter et al. (2019), which leads to only a small adjustment of top wealth shares. More so than in other countries, tax evasion in the Netherlands appears to be an activity for the "merely rich", at least in part enabled by ample evasion opportunities in neighbouring countries.

Our finding emphasises the importance of the assumed distribution of hidden wealth. As we have shown in this paper, the distribution of specific types of tax evasion depends on the geographical and institutional setting, in particular as it pertains to taxation and information sharing, at home as well as abroad. In essence, distributional patterns of tax evasion are contextdependent. Current developments in fiscal coordination across the globe will in turn reshape the distribution of tax evasion as households and industries adapt to new rules as well as their enhanced enforcement.

Tax amnesties can structurally raise taxes paid by amnesty participants. For a comprehensive evaluation of tax amnesties, however, it would be necessary to compare this revenue gain to a potential loss of revenue as tax amnesties may induce households to start evading taxes (Langenmayr, 2017).

In any case, our results suggest that current compliance actions, which are ultimately the source of our data, leave the Netherlands' wealthiest households relatively unaffected. Our analysis does not allow us to conclusively distinguish between explanations that rely on tax incentives, the sophistication of tax evasion or a higher desire to comply with tax laws among the very rich. Future research could explore these competing explanations, which in turn could inform the compliance actions undertaken by tax administrations. By expanding the study of amnesties, leaks and information exchange to more countries and cases, we can reach a better understanding of the different types of tax evasion and their distinct distributional patterns.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Construction of the hidden wealth variable

This appendix describes the construction of the hidden wealth variable in the amnesty data presented in Section 3. The dataset contains information on tax evaders who voluntarily entered the program. They would then declare the wealth they had hidden from the tax administration, and pay taxes plus an additional penalty. The penalty rate is applied to the amount of taxes evaded and depends on the date of participation to the program (the schedule is presented in Table 2).

We have the following information regarding wealth hidden abroad. First, we have the amount of hidden wealth that is reported by the amnesty participant when they first register for the amnesty program. Second, we have the different components of the amount that is ultimately claimed by the tax administration, i.e. taxes, interest on those taxes, and a penalty. We can use the tax code to approximate the amount of hidden wealth using the tax component.

The first measure may not be entirely accurate as it is selfreported and there is no explicit verification of this amount.

¹⁹ Since we use administrative data from Statistics Netherlands, we can only show data points that represent at least 10 observations. This is why the smallest wealth group is P99.95-P100 instead of P99.99-P100 as this would leave us with too few observations when focusing on specific countries.

²⁰ Migration among the highest wealth groups was sufficiently common for the Dutch rich list *Quote 500* to introduce a separate ranking for wealthy Dutch individuals living abroad in 2014. In earlier years, the Belgian town Brasschaat with a population of less than 40,000 and located fewer than 10 kilometres from the Dutch border accounted for 18 of the list's 500 members.

Instead, the tax authority requests extensive documentation from the amnesty participant, which is used to establish their tax liability. We observe a large number of missing or unrealistically low amounts, suggesting that participants may not report their hidden wealth accurately - possibly because they may not know the exact amount when they first enter the amnesty. The second measure is based on the amount of evaded taxes ultimately established by the tax administration. To convert this amount into the stock of hidden wealth, we need to make assumptions on the number of years covered by the taxes. In most cases, taxes can be recovered up to 12 years before the participation to the amnesty. Households can legally amend their tax returns up to two years after filing, which means that taxes would cover at most 10 years.²¹ We then impute hidden wealth by dividing the amount of taxes recovered by 10 and then by 1.2%, the tax rate relevant for most cases of hidden wealth. In a small number of cases, people enter the amnesty when receiving hidden wealth as part of an inheritance. In those cases, no wealth tax is due, but we can use the inheritance tax to approximate the amount of hidden wealth. The highest tax rate on inheritances received by children is 20% and so we approximate hidden wealth by multiplying inheritance taxes paid by a factor of 5.

All the results of the paper are computed based on this imputed amount of hidden wealth. This choice is driven by two main reasons. First, we consider the imputed amount as more reliable as it based on taxes actually paid as opposed to a self-reported amount. Second, the declared wealth variable is only available from 2011 onwards, while we can use the imputation method for all years.

We can test our imputation method using our data from the Swiss information request. These data contain both individuals' tax liability, which is the key input for our imputation procedure, as well as their Swiss bank account balances. In Fig. A.1 we compare individuals' account balances to imputed values. Due to output restrictions, we are required to average variables across groups of 10 individuals. Overall, our imputed values lie close to the true account balances. If anything, our imputed values are slightly higher than the corresponding account balances. This can be explained by the fact that some individuals may own offshore accounts at banks not covered by the information request or in countries other than Switzerland. In these cases, their offshore wealth is higher than their Swiss bank account balance and we would expect the imputed value to reflect this.

As a further robustness test, Figs. A.2 and A.3 present sensitivity analyses for the two possible measures of hidden wealth: declared amnesty wealth and amnesty wealth imputed on the basis of evaded taxes. As these measures are subject to very different sources of measurement error, consistency between the two variables is somehow reassuring, as it shows that the measurement errors do not induce major systematic biases.

Panel A of Fig. A.2 presents the imputed wealth as a function of the declared wealth, averaged across wealth bins, along with the 45 degree line and a simple OLS estimation of imputed wealth over declared wealth. The relationship between the two variables is strong (coefficient of 0.84 for the regression). The imputed value is higher for higher level of declared wealth. This may be due to the fact that large hidden wealth portfolios are typically more complex, which makes it harder to report their value accurately.

Panel B of Fig. A.2 presents the distribution of imputed and declared amnesty wealth. Both distributions are very similar, except at the bottom of the distribution where there are more observations for the imputed variable.



Fig. A.1. Comparison of imputed wealth and Swiss bank account balances. This figure compares bank account balances from the Swiss information request with imputed wealth based on taxes paid. The red dotted line denotes the 45 degree line.



Fig. A.2. Comparison of declared and imputed amnesty wealth. Panel (a) presents imputed amnesty wealth as a function of the average declared amnesty wealth for different wealth bins. The black dotted line presents the 45 degree line and the red line present the results (constant and slope) of a linear regression of imputed amnesty wealth on declared amnesty wealth. Panel (b) presents the distribution of imputed amnesty wealth and declared amnesty wealth.

²¹ Based on discussions with the tax administration, the actual average number of years lies slightly, but not much below 10. For this reason, our imputed value can be interpreted as a lower-bound.



Fig. A.3. Distribution of self-reported and imputed amnesty wealth. This figure compute the wealth shares of hidden wealth by wealth group (see Section 4 for details) for the imputed and declared amount of hidden wealth.

Finally, Fig. A.3 presents the distribution of imputed and declared amnesty wealth across wealth groups. Reassuringly, hidden wealth shares are very similar for the two definitions.

Appendix B. Sensitivity to undervaluation of listed shares

The patterns in offshore tax evasion that we have documented depend crucially on the accurate measurement of wealth. A particular concern lies in the valuation of unlisted shares since, by their very nature, they lack market prices. We rely on wealth estimates by Statistics Netherlands. These estimates have been improved recently and do not solely rely on book values. Instead, real estate and shares in other businesses are valued at market prices or prices that are supposed to reflects market prices. If for whatever reason, unlisted shares were still undervalued, we would mistakenly rank owners of unlisted shares below their true rank in the wealth distribution. Tax evading owners of unlisted shares would in our terminology be classified as "merely rich" rather than "super rich".

We should note that offshore wealth is included in the measure of wealth used to rank households. Therefore, if a household belongs to the 95th percentile of the wealth distribution, their offshore wealth cannot be much larger than a few hundred thousand



Fig. B.1. Share of amnesty wealth for different valuation of unlisted shares. This figure shows the share of amnesty wealth held by each of the wealth groups, for different scenarios for the valuation of unlisted shares. The value of this wealth category is inflated by different values (form 100% to 1000% increase).

euros or else they would have ranked higher on the basis of their offshore wealth alone.

Still, we investigate how our results are affected if we assume that unlisted shares are generally undervalued. We inflate the value of unlisted shares by a range of different percentages in Fig. B.1 and find that the distribution of offshore wealth is reasonably robust to this. In all scenarios the bulk of offshore wealth is held by the "merely rich". This suggests that, if anything, owners of unlisted shares are less likely to engage in offshore tax evasion and so when we move them up the wealth distribution, the share of offshore wealth accounted for by the super rich falls.

Appendix C. Results for 2007 and 2017

In our baseline analysis, we rank households according to their reported wealth in 2007 to which we add the discounted value of hidden wealth they declare in later years. Here, we show how the basic patterns of evasion change when instead we use households' reported wealth in 2017. Hidden wealth disclosed before 2017



Fig. C.1. Probability to participate in amnesty by 2007 and 2017 wealth groups. This figure shows the fraction of households in each wealth group who participated in the tax amnesty over the period 2008 to 2018 (extensive margin). Wealth groups are defined in terms of 2007 and 2017 wealth.



Fig. C.2. Amnesty wealth as a share of total wealth by 2007 and 2017 wealth groups. This figure shows wealth declared through the amnesty as a share of total wealth, including amnesty wealth, conditional on amnesty participation (intensive margin). Wealth groups are defined in terms of 2007 and 2017 wealth.



Fig. C.3. Share of amnesty wealth by 2007 and 2017 wealth groups. This figure shows the share of amnesty wealth held by each of the wealth groups. Wealth groups are defined in terms of 2007 and 2017 wealth.

should be part of reported wealth in 2017, though the value may have changed since it was uncovered. Furthermore, previously evading households may have transferred some of their wealth to others like their children. Some of these households may have died or emigrated since disclosing their hidden wealth so that we are not able to link them to data on reported wealth in 2017. All of this may explain why evading households look slightly less wealthy when ranking according to their 2017 wealth compared to the 2007 ranking. In any case, the finding that most evasion is done by the "merely rich" instead of the "super rich" appears robust to changing the base year (see Figs. C.1, C.2, C.3).

Appendix D. Advertisements by foreign banks

In the 1980s and 1990s, it was not uncommon for foreign banks to advertise in Dutch national and regional newspapers.²² These advertisements can be found today through the Dutch newspaper archive www.delpher.nl. To take one bank, *Deutsche Bank*, and one regional newspaper, *Limburgsch Dagblad*, as an example: the first advertisement appears on 29 May 1982 and is aimed at crossborder workers. In the subsequent decade, *Deutsche Bank* placed 72 advertisements in this one regional newspaper, emphasising the bank's close proximity to the Netherlands and assuring that their employees speak Dutch. From 1988 onwards, the advertisements explicitly state that investments at the bank are exempt from withholding taxes. (see Fig. D.1).

²² The idea of including this section was inspired by Ogle (2020).



(d) Limburgsch Dagblad, 18 April 1992

Fig. D.1. A sample of advertisements by Deutsche Bank in the newspaper Limburgsch Dagblad.

Appendix E. Data appendix

The administrative datasets that are used in this paper are maintained by Statistics Netherlands (CBS). Different datasets can be linked through a unique anonymized identifier. Each dataset is accompanied by extensive documentation in Dutch available at https://www.cbs.nl/nl-nl/onze-diensten/maatwerk-en-microdata/ microdata-zelf-onderzoek-doen/catalogus-microdata. The key administrative datasets that we rely on are VEHTAB (for wealth), INPATAB (for income), GBAADRESOBJECTBUS (for residence), and GBAMIGRATIEBUS (for migration). This appendix provides detailed information on the variables contained in and sources used for these datasets.

VEHTAB This dataset contains information on wealth for all households present in the Netherlands on January 1st of each year. Wealth is observed on January 1st of each year between 2006 and 2020. Wealth consists of financial assets, real estate, business assets, substantial ownerships and other assets minus liabilities. Most data are supplied by the Dutch tax administration. Real estate (including owner-occupied housing) is registered in the national cadaster. Municipalities are tasked with (re-) valuing all real estate annually. These valuations are used for both municipal (property tax) and national taxes (income tax, corporate tax, inheritance tax). Most financial wealth held by households is taxed in Box 3 (see Section 2.1 for a detailed exposition of taxation of income and wealth in the Netherlands). Financial institutions are required to report account balances of bank accounts, equity portfolios, mortgages and other financial instruments to the tax administration. Increasingly, the Dutch tax administration receives information about financial wealth held abroad through the automatic exchange of information. For the self-employed and individuals with substantial ownerships, information on wealth in their businesses is taken from corporate balance sheets constructed for the purposes of the corporate tax (see footNote 13 for an explanation as to why corporate balance sheets are constructed for this purpose). These balance sheets are adjusted by valuing real estate according to the municipal valuation (which is supposed to mirror market prices). Importantly, pension entitlements (funded and unfunded) are not included in this dataset.²³

INPATAB This dataset contains information on income, taxes and transfers for all households present in the Netherlands on January 1st of each year. These variables are observed for the years 2011–2020. Most data are supplied by the Dutch tax administration. For this paper, we use the variables taxable income, dividends, imputed rent and mortgage interest to compute each household's tax liability on capital income.²⁴

GBAADRESOBJECTBUS This dataset contains the addresses associated with all individuals registered as residents in the Netherlands between 1995 and 2021. The main data sources are the population registry (Basisregistratie Personen) and the address registry (Basisregistraties Adressen en Gebouwen). Each observation corresponds to an individual's address with start and end date. An individual appears multiple times if they moved within the Netherlands between 1995 and 2021.²⁵

GBAMIGRATIEBUS This dataset contains all migratory movements into and out of the Netherlands between 1995 and 2021 as measured by registration in and deregistration from the population register. When immigrating into the Netherlands it is compulsory to register at a municipality and an equivalent deregistration requirement exists in cases of emigration. Each observation corresponds to an individual's migration spell with start and end date, as well as the country of origin or destination. When a new migratory movement takes place, an end date is added to an observation and a new observation is created.²⁶

References

- Agrawal, David, Foremny, Dirk, Martínez-Toledano, Clara 2022. "Wealth Tax Mobility and Tax Coordination." Available at SSRN: https://ssrn.com/ abstract=3676031.
- Allingham, Michael, Sandmo, Agnar, 1972. Income tax evasion: a theoretical analysis. J. Public Econ. 1 (3–4), 323–338.
- Alstadsæter, Annette, Johannesen, Niels, Zucman, Gabriel, 2018. Who Owns the Wealth in Tax Havens? Macro Evidence and Implications for Global Inequality. J. Public Econ. 162, 89–100.
- Alstadsæter, Annette, Johannesen, Niels, Zucman, Gabriel, 2019. Tax Evasion and Inequality. Am. Econ. Rev. 109 (6), 2073–2103.
- Alstadsæter, Annette, Johannesen, Niels, Le Guern Herry, Ségal, Zucman, Gabriel, 2022. Tax evasion and tax avoidance. J. Public Econ. 206, 104587.
- Atkinson, Anthony, Piketty, Thomas, Saez, Emmanuel, 2011. Top incomes in the long run of history. J. Econ. Literat. 49 (1), 3–71.
- Bruil, Arjan, 2019. "A Complete Measure of Wealth and Wealth Inequality." Unpublished.
- Bruil, Arjan, Van Essen, Céline, Leenders, Wouter, Lejour, Arjan, Möhlmann, Jan, Rabaté, Simon, 2022. "Inequality and Redistribution in the Netherlands." CPB Discussion Paper.
- Cnossen, Sijbren, Bovenberg, Lans, 2001. Fundamental Tax Reform in the Netherlands. Int. Tax Public Finance 8 (4), 471–484.
- European Commission, 2020. Taxation Trends in the European Union, 2020 edition. Publications Office of the European Union.
- Feenstra, Anke, Perdaems, Angelique, 2017. De Jacht op Buitenlands Vermogen. Wolters Kluwer.
- Guyton, John, Patrick Langetieg, Daniel Reck, Max Risch, and Gabriel Zucman. 2021. "Tax Evasion at the Top of the Income Distribution: Theory and Evidence." NBER Working Paper 28542.
- Jakobsen, Katrine, Henrik Kleven, Jonas Kolsrud, and Camille Landais. 2021. "Do the Rich Flee Wealth Taxes? Evidence from Scandinavia." Unpublished.
- Johannesen, Niels, 2014. Tax Evasion and Swiss Bank Deposits. Journal of Public Economics 111, 46–62.
- Johannesen, Niels, Zucman, Gabriel, 2014. The End of Bank Secrecy? An Evaluation of the G20 Tax Haven Crackdown. Am. Econ. J.: Econ. Policy 6 (1), 65–91.
- Johannesen, Niels, Langetieg, Patrick, Reck, Daniel, Risch, Max, Slemrod, Joel, 2020. Taxing Hidden Wealth: The Consequences of U.S. Enforcement Initiatives on Evasive Foreign Accounts. Am. Econ. J.: Econ. Policy 12 (3), 312–346.
- Kazemier, Brugt, 1990. Concealed Interest Income of Households in the Netherlands; 1977, 1979 and 1981. Central Bureau of Statistics: National Accounts Occasional Papers 39, 1–19.
- Kleven, Henrik, Landais, Camille, Muñoz, Mathile, Stantcheva, Stefanie, 2020. Taxation and Migration: Evidence and Policy Implications. Journal of Economic Perspectives 34 (2), 119–142.
- Kleven, Henrik, Knudsen, Martin, Thustrup, Claus, Kreiner, Søren, Saez, Emmanuel, 2011. Unwilling or Unable to Cheat? Evidence from a Tax Audit Experiment in Denmark. Econometrica 79 (3), 651–692.
- Langenmayr, Dominika, 2017. Voluntary Disclosure of Evaded Taxes Increasing Revenue, or Increasing Incentives to Evade? Journal of Public Economics 151, 110–125.
- Lejour, Arjan, Möhlmann, Jan, van't Riet, Maarten, 2022. The Immeasurable Tax Gains by Dutch Shell Companies. International Tax and Public Finance 29, 316– 357.
- Londoño-Vélez, Juliana, and Javier Ávila-Mahecha. 2021a. "Behavioral Responses to Wealth Taxation: Evidence from Colombia." Unpublished.
- Londoño-Vélez, Juliana, Ávila-Mahecha, Javier, 2021b. Enforcing Wealth Taxes in the Developing World: Quasi-Experimental Evidence from Colombia. American Economic Review: Insights 3 (2), 131–148.
- Ministerie van Financiën, 2013. 11e Halfjaarsrapportage Belastingdienst. DG Belastingdienst.
- Ministerie van Financiën, 2014. 13e Halfjaarsrapportage Belastingdienst. DG Belastingdienst.
- Ogle, Vanessa, 2017. Archipelago Capitalism: Tax Havens, Offshore Money, and the State, 1950s–1970s. American Historical Review 122 (5), 1431–1458.
- Ogle, Vanessa, 2020. "Funk Money": The End of Empires, the Expansion of Tax Havens and Decolonization as an Economic and Financial Event. Past & Present 249 (1), 213–249.
- Palan, Ronen, Murphy, Richard, Chavagneux, Christian, 2009. Tax Havens: How Globalization Really Works. Cornell University Press.
- Roine, Jesper, Waldenström, Daniel, 2008. The Evolution of Top Incomes in an Egalitarian Society: Sweden, 1903–2004. Journal of Public Economics 92 (1–2), 366–387.

²³ Further documentation is available in Dutch at https://www.cbs.nl/-/media/cbsop-maat/microdatabestanden/documents/2021/51/vehtab.pdf

 ²⁴ Further documentation is available in Dutch at https://www.cbs.nl/-/media/cbs-op-maat/microdatabestanden/documents/2022/17/inpatab.pdf
²⁵ Further documentation is available in Dutch at https://www.cbs.nl/-/media/cbs-

²⁵ Further documentation is available in Dutch at https://www.cbs.nl/-/media/cbsop-maat/microdatabestanden/documents/2022/14/gbaadresobjectbus.pdf

²⁶ Further documentation is available in Dutch at https://www.cbs.nl/-/media/cbsop-maat/microdatabestanden/documents/2022/14/gbamigratiebus.pdf

W. Leenders, A. Lejour, S. Rabaté et al.

Journal of Public Economics 217 (2023) 104785

- Roine, Jesper, Waldenström, Daniel, 2009. Wealth Concentration over the Path of Development: Sweden, 1873-2006. Scandinavian Journal of Economics 111 (1), 151-187.
- Saez, Emmanuel, Zucman, Gabriel, 2016. Wealth Inequality in the United States since 1913: Evidence from Capitalized Income Tax Data. Quart. J. Econ. 131 (2). 591-578
- Saez, Emmanuel, and Gabriel Zucman. 2020. "Trends in US Income and Wealth Inequality: Revising after the Revisionists." NBER Working Paper 27921.
- Saez, Emmanuel, and Gabriel Zucman. 2022. "Top Wealth in America: A Reexamination." NBER Working Paper 30396.
- Slemrod, Joel, 2007. Cheating Ourselves: The Economics of Tax Evasion. Journal of Economic Perspectives 21 (1), 25-48.
- Slemrod, Joel, 2019. Tax Compliance and Enforcement. Journal of Economic Literature 57 (4), 904-954.
- Slemrod, Joel, Yitzhaki, Shlomo, 2002. Tax Avoidance, Evasion, and Administration. In: Auerbach, Alan, Feldstein, Martin (Eds.), Handbook of Public Economics, Chapter 22. Elsevier Science B.V, pp. 1423-1470.

- Smith, Matthew, Owen Zidar, and Eric Zwick. 2020. "Top Wealth in the United States: New Estimates and Implications for Taxing the Rich." Griswold Center for Economic Policy Studies Working Paper No. 264, April 2020.
- Smith, Matthew, Zidar, Owen, Zwick, Eric, 2021. "Top Wealth in America: New Estimates and Implications for Taxing the Rich." NBER Working Paper 29374.
- Smith, Matthew, Zidar, Owen, Zwick, Eric, Forthcoming. "Top Wealth in America: New Estimates Under Heterogeneous Returns." Quarterly Journal of Economics. Swank, Job. 1988. Fiscale Inlichtingenplicht, Spaargeld en Kapitaalvlucht. Economisch Statistische Berichten 73 (3653), 396–400.
- Tørsløv, Thomas, Ludvig Wier, and Gabriel Zucman. 2020. "The Missing Profits of
- Nations." NBER Working Paper 24701. Marion, Van Den Brakel, Pouwels-Urlings, Noortje, 2019. Ongelijkheid in Inkomen
- en Vermogen. Statistische Trends. Zucman, Gabriel, 2013. The Missing Wealth of Nations: Are Europe and the U.S. Net
- Debtors or Net Creditors? Quart. J. Econ. 128 (3), 1321-1364. Zucman, Gabriel, 2019. Global Wealth Inequality. Annu. Rev. Econ. 11, 109–138.