

NBER WORKING PAPER SERIES

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Working Paper 35505
<http://www.nber.org/papers/w35505>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
July 2026

We gratefully acknowledge financial support from the Research Council of Norway under grants number 341289, 352151, and 353670. The activities of CEBI are financed by the Danish National Research Foundation, Grant DNR134. Declarations of interest: none. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 35505
July 2026
JEL No. H26, H87, K42

ABSTRACT

This paper uses administrative data to analyze wealth flows from Norway to offshore tax havens before and after a major improvement of global financial transparency: automatic exchange of bank account information between tax authorities. We present three results suggesting that the policy is a significant deterrent of offshore tax evasion: First, taxpayers who become wealthy are much less likely to shift wealth to offshore banks. Second, when wealth does flow to offshore banks, it is much less likely to reduce domestic tax payments. Third, there is no increase in the use of complex ownership structures for offshore wealth flows.

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1 Introduction

Holding assets in offshore tax havens has long been a common tax evasion strategy for the wealthy. Banks in tax havens manage trillions of dollars of private wealth (Zucman, 2013; Johannesen et al., 2024) and studies suggest that, at least until recently, much of this offshore wealth was tax non-compliant (Alstadsæter et al., 2019). Strict banking secrecy made offshore income and wealth nearly invisible to the tax authorities (Guyton et al., 2021), implying that the detection risk associated with offshore tax evasion was very low.

In response to this challenge, governments have made significant efforts to improve global financial transparency through international cooperation. An early G20 initiative enabled tax authorities to pierce the veils of secrecy in specific tax evasion cases by allowing them to request information from tax havens (Johannesen and Zucman, 2014). Far more ambitiously, the G20 in 2013 committed to a new mode of cooperation, under which banks are required to identify *all* financial accounts beneficially owned by foreigners and share detailed account information with the account owners' home governments. This automatic information exchange effectively extends third-party reporting, which is known to be a powerful tax enforcement instrument in the domestic domain (Kleven et al., 2011), to foreign financial income.

A nascent literature investigates how the rise of financial transparency shapes tax compliance. This literature generally focuses on *existing owners* of offshore wealth, documenting how they repatriate assets from offshore bank accounts (Alstadsæter et al., 2024; Boas et al., 2024), disclose offshore wealth under tax amnesties (Baselgia, 2026; Londoño-Vélez and Tortarolo, 2025) or simply start self-reporting offshore financial income (Boas et al., 2024; Johannesen et al., 2026) in response to the adoption of automatic information exchange.

In this paper, we examine the rise of a financial transparency from a novel perspective by studying how it shapes *new wealth flows* from the domestic economy to offshore accounts. Ultimately, our goal is to understand whether financial transparency deters individuals who are becoming wealthy from adopting offshore tax evasion strategies. Analytically, we break that question into two parts by studying, first, whether wealth accumulation at home is less likely to be associated with wealth flows to tax havens when financial transparency is high and, then, whether such wealth flows when they happen are less likely to be associated with a decrease in tax payments at home. In practice, we take the G20's commitment to automatic information exchange in 2013, implemented by more than 100 countries in the following years, to mark the transition from low to high financial transparency.

Conceptually, the focus on new wealth flows is important for two reasons. First, the stock of offshore wealth mechanically depends not just on how much wealth leaves but

also on how much enters the offshore domain. If financial transparency induces existing owners of offshore wealth to repatriate without deterring the formation of new offshore fortunes, the long-run effect may be limited. Second, new flows to offshore accounts is a broad diagnostic that is likely to encompass flows into all kinds of offshore asset ownership whether covered by automatic information exchange (e.g. bank deposits, securities) or not (e.g. real estate, crypto). This implies that our analysis is more robust to policy-induced shifts between asset classes—e.g. a smaller share of financial assets in Zurich and a larger share of real estate in London (Bomare and Le Guern Herry, 2022)—than studies using narrower measures of financial income or wealth in offshore tax havens.

We conduct our study in Norway, which offers a uniquely suited data environment. We combine administrative transaction-level data on cross-border bank transfers; annual individual-level data from tax returns on income, wealth, and tax payments; and a comprehensive register of shareholder links between individuals and corporations. The bank transfers identify wealth flows to offshore tax havens, which is the key data innovation of our study. The tax return data helps us measure an important driver of transfers to offshore tax havens – wealth accumulation – as well as the potential consequences of such transfers – lower tax payments. Our dataset spans the years 2004–2020, which is long enough that we can study the chain from wealth accumulation to offshore wealth transfers to domestic tax payments separately before and after the commitment to automatic information exchange.

Our first set of results points to an important role of financial transparency in deterring wealth flows to offshore tax havens. Our empirical design uses all the within-individual variation in reported wealth to estimate non-parametrically how moves up and down the wealth distribution affects the propensity to make large wealth transfers to offshore accounts. In the period with low financial transparency, we find large effects at the top: a move from just below the top-1% to the top-0.1% increased the propensity to transfer wealth to offshore accounts by around 10 times. This finding is consistent with earlier descriptive work documenting that the existing stock of offshore wealth is concentrated at the very top of the wealth distribution (Alstadsæter et al., 2019). In the period with high financial transparency, the effect of wealth accumulation on offshore wealth flows is much more muted, consistent with a strong deterrence effect of automatic information exchange.

Our next set of results suggests that financial transparency has largely eliminated wealth flows to tax havens motivated by tax evasion. We employ an event-study design to estimate how tax liabilities change around large wealth transfers to offshore accounts. In the period with low financial transparency, we find a sharp drop in tax payments of around 7% when taxpayers shift wealth offshore. The drop reflects a large decrease in reported financial wealth and is not driven by changes in real capital, wage income or

migration status. In the period with high financial transparency, the drop in tax payments and reported financial wealth after large wealth transfers to tax havens are both less than 1% and statistically indistinguishable from zero.

One may be concerned that these results merely reflect that offshore tax evasion has become more sophisticated in response to the improved financial transparency: tax evaders who used to transfer wealth to tax havens directly from their personal accounts may have set up more elaborate holding structures to conceal these flows. In principle, holding structures should not shield taxpayers from scrutiny as banks are always required to look through to the beneficial owners, but in practice, it is possible that the account information is collected or employed less efficiently in such cases (Bomare and Collin, 2025). The final set of results investigate this hypothesis, using the shareholder register to link individual taxpayers to their holding companies and analyzing the cross-border money transfers carried out through these companies. The evidence is mixed. On the one hand, the propensity of taxpayers to set up holding companies when they become wealthier is *more* pronounced in the period with high financial transparency, which is consistent with more sophisticated tax planning. On the other hand, the propensity to transfer wealth to tax havens through holding companies is *less* pronounced in the period with high financial transparency, suggesting that the tax planning may be more about legal tax avoidance than about illegal tax evasion through offshore banks.

Our paper contributes to the broad literature on offshore tax evasion and the policies designed to reign it in. An early set of papers suggests that weaker policy instruments introduced in the period with low financial transparency, such as information exchange on request (Hanlon et al., 2015; Johannesen and Zucman, 2014), voluntary disclosure programs (Langenmayr, 2017; Johannesen et al., 2020) and withholding taxes in tax havens (Zucman, 2013; Johannesen, 2014; Martínez-Toledano and Roussille, 2023), had a limited impact on offshore tax evasion. Another set of papers shows that the introduction of automatic information exchange induced some tax evaders to move financial assets away from offshore tax havens (Menkhoff and Miethe, 2019; Cusi et al., 2020), sometimes by investing in entirely different asset classes such as real estate and artwork (De Simone et al., 2020; Bomare and Le Guern Herry, 2022). Finally, the most recent set of papers provides direct evidence of increasing tax compliance in the form of repatriation or voluntary disclosures among existing owners of offshore in response to automatic information exchange (Alstadsæter et al., 2024; Boas et al., 2024; Baselgia, 2026; Londoño-Vélez and Tortarolo, 2025; Davoine et al., 2026; Johannesen et al., 2026).

Conceptually, our main innovation is to study new wealth flows to tax havens, a key determinant of future exposure to offshore tax evasion, rather than existing owners of tax haven wealth. This is challenging to implement empirically given the scarcity of data sources that provide measures of cross-border wealth flows. Our implementation exploits that the Norwegian setting offers a unique combination of micro-data on wealth

and cross-border wealth flows.¹

The paper proceeds in the following way. Section 2 provide background for the study. Section 3 describes the data and the estimation sample. Section 4 reports the results. Section 5 concludes.

2 Background

Offshore tax evasion. Financial secrecy in tax havens creates opportunities for tax evasion elsewhere. Historically, financial secrecy has taken various institutional forms: banking secrecy making it illegal for banks to provide customer information to any third parties, including the local tax authorities, or the absence of a legal basis for sharing such information with foreign tax authorities. In either case, it was almost impossible to detect when taxpayers failed to self-report their offshore financial income and wealth.

Three robust facts documented by the empirical literature on tax havens suggest that offshore tax evasion is an important challenge for tax policy. First, households hold trillions of dollars of financial wealth in offshore tax havens (Zucman, 2013). Recent country-level evidence suggests that offshore wealth continues to rise (Boas et al., 2024; Johannesen et al., 2024, 2026). Second, offshore wealth is highly concentrated in the hands of the wealthiest households. In the Scandinavian context, it is estimated that around half of the offshore wealth belongs to the top 0.01% of the wealth distribution (Alstadsæter et al., 2019). Third, at least until recently, a significant share of offshore assets and income were tax non-compliant. Before the recent improvements in financial transparency, the share of offshore accounts disclosed for tax purposes may have been as low as 10% (Alstadsæter et al., 2019). Taken together, these three facts suggest that governments lose significant revenue from high-wealth taxpayers when tax enforcement in the offshore domain is weak.

Early policy interventions. The first policy initiatives targeting offshore tax evasion in the 2000s were largely unsuccessful. Rather than piercing offshore banking secrecy, the EU Savings Directive compelled a number of tax havens to apply a withholding tax to the interest income of EU residents; however, the evidence suggests the tax was widely circumvented (Zucman, 2013; Johannesen and Zucman, 2014; Martínez-Toledano and Roussille, 2023). Next, under a G20 initiative, tax havens committed to sharing information upon request in cases of suspected tax evasion, but the effect on tax compliance was limited (Johannesen and Zucman, 2014; Hanlon et al., 2015). Finally, many countries attempted to improve tax compliance by offering favorable conditions for taxpayers

¹A small number of papers using administrative data on cross-border transactions, primarily to study repatriation by existing owners of offshore wealth (Brounstein, 2025; Alstadsæter et al., 2022, 2024; Boas et al., 2024).

who voluntarily disclosed offshore assets with limited success (Langenmayr, 2017; Johannesen et al., 2020; Alstadsæter et al., 2022).

Automatic information exchange. A more ambitious approach to combating offshore tax evasion was introduced by the United States through the Foreign Account Tax Compliance Act (FATCA) and subsequently adopted by more than 100 jurisdictions under the Common Reporting Standard (CRS). Under this framework, banks and other financial institutions are required to identify accounts beneficially owned by foreign residents and report information on account balances and income flows to the tax authorities in the beneficial owners' home countries. The reporting requirements apply to accounts held by individuals, either directly or indirectly through holding companies, while accounts owned by listed companies and financial institutions are explicitly exempt.²

3 Data and sample

Data sources. The analysis draws on a range of de-identified administrative data sets delivered by Statistics Norway for the entire population in Norway and over time. First, we use family and address information from the population register to link individuals belonging to the same *household*. This allows us to conduct the entire analysis at the household level. Second, we use granular information about *income*, *wealth*, and *tax payments* from personal tax returns and assessments. Norway has a net wealth tax and the tax administration thus collects detailed portfolio information for all individuals for the wealth tax assessment. Most of this information is reported by third parties such as employers and financial institutions and can therefore be considered accurate; however, foreign income and assets are self-reported, which is precisely what creates the opportunity for offshore tax evasion. Third, we use transaction-level data on *cross-border bank transfers* from the Norwegian currency register. The dataset covers all transfers between Norwegian and foreign bank accounts and includes information about the account owners, the amount transferred, and the location of the foreign bank. Fourth, we use *ownership links* between firms and their individual owners from the shareholder register to identify firm owners, and information from the corporate income statements to define personal *holding companies*.

Variables. We draw on these data sources to construct the variables we need in the empirical analysis. First, we use the assessment value of each asset and liability on the tax return to determine each household's position in the distribution of reported net wealth

²For accounts held indirectly through holding companies, account information is reported both to the jurisdiction where the holding company is resident and to the jurisdiction of the beneficial owner. By contrast, when an account is held by an active company, financial institutions are not required to identify the beneficial owners, and account information is reported only to the jurisdiction where the company is resident. The same applies when no beneficial owner can be identified because ownership is sufficiently dispersed.

in each year. This is our key variable for measuring wealth accumulation and thus the potential gains from offshore tax evasion. It explicitly excludes *unreported* wealth and, by implication, our first empirical exercise asks whether accumulation of *reported* wealth induces taxpayers to shift some of it into the offshore domain where there is scope for misreporting. Second, we use the data on cross-border money transfers to capture wealth flows to offshore tax havens.³ Our main variable is an indicator for transfers to tax havens above NOK 100,000 in a given year. We use this variable both as an outcome—when we estimate how wealth accumulation affects wealth flows to tax havens—and as an event—when we estimate how tax payments evolve around wealth flows to tax havens. We construct alternative indicators with thresholds of NOK 50,000 and NOK 500,000 and also use the continuous amount of bank transfers as an outcome. Third, we measure outcomes such as tax payments, financial wealth, real capital, and salary income directly based on income from the tax return. Fourth, based on the shareholder register and the company register, we define an indicator for owning a holding company and, further adding information from the currency register, an indicator for funneling bank transfers to tax havens through holding companies.

Aggregate trends. The aggregate bank transfer data serves to provide the first descriptive evidence. As shown in Figure 1, aggregate wealth flows by households to tax havens decreased significantly over the period where financial transparency improved and appear to have stabilized at a relatively low level. While this suggests that Norwegian households are shifting much less wealth to their offshore accounts than they used to, it is not clear from the aggregate trends alone whether this reflects a drop in offshore tax evasion by the wealthy. The rest of the paper uses microdata to investigate this question.

Summary statistics. Table 1 reports summary statistics at the household-level about cross-border bank transfers. Around 175,000 Norwegian households make cross-border bank transfers in an average year (Column 2). Of them, around 9,000 make bank transfers to a tax haven (Column 3) and around 800 transfer more than NOK 100,000 within the year (Column 4). Consistent with earlier work documenting that offshore activity is heavily concentrated at the top of the wealth distribution, households making transfers to havens, and in particular those making large transfers exceeding NOK 100,000 are much wealthier than the average household (Column 1).

³Following Johannesen and Zucman (2014), we classify jurisdictions as tax havens based on the absence of effective information exchange around the first G20 crackdown on bank secrecy in 2009 (list in the footnote of Table 1)

4 Results

4.1 Wealth accumulation and offshore wealth transfers

In this section, we estimate to which extent households transfer wealth to offshore accounts as they become wealthier. We distinguish the periods before and after the commitment to automatic information exchange, i.e. the low-transparency period (2006–2012) and the high-transparency period (2013–2019).

Empirical design. Denoting households by i , wealth groups by g and years by t , we estimate the following empirical model:

$$Y_{i,t} = \sum \beta_g \cdot \mathbf{1}[Q_{i,t-1} = g] + \alpha_i + \delta_t + \varepsilon_{i,t} \quad (1)$$

where $Y_{i,t}$ is an outcome capturing wealth transfers; α_i and δ_t denote household and year fixed effects respectively; and $\mathbf{1}[Q_{i,t-1} = g]$ indicates that household i belonged to wealth group g at the end of the previous year. We include 23 wealth groups defined with reference to the position in the population-wide distribution of net wealth.⁴ We refer to the lagged rather than the contemporaneous wealth distribution so that a household's position in the wealth groups is not mechanically related to the year's wealth transfers to offshore accounts. The omitted category is the wealth group just below the median (p45–p50). Standard errors are clustered at the household level.

The model includes individual fixed effects, which implies that the β parameters are identified by households moving up and down the wealth distribution rather than cross-sectional comparisons of households in different wealth groups. The key advantage of this empirical approach is that the estimates are not confounded by time-invariant characteristics—such as preferences, skills, and ability—that may correlate with the position in the wealth distribution.

We estimate a parameter β_g for each wealth group, which expresses the expected change in Y associated with a move from the median level of wealth to wealth group g . Note that all moves across wealth groups contribute to the identification of all the parameters. For instance, not only households making the unusual move from the median to the top 0.1% in a single year contribute to the β parameter for the top wealth group, but also, for instance, households moving from the median level of wealth to the 75th percentile combined with others moving from the 75th percentile to the top wealth group.

Main results. Figure 2a shows the results from a model in which the outcome is an indicator for making a bank transfer to a tax haven above NOK 100,000 in a given year. As

⁴The 23 wealth groups are vingtiles up to p95, then p95–p99, p99–p99.5, p99.5–p99.9 and the top 0.1%.

shown by the red line, there is a steep wealth gradient at the top in the low-transparency period: moving from the median level of wealth to the top-0.1% increases the probability of making a large transfer to a tax haven in a given year by almost 0.4 percentage points—approximately a 30-fold increase relative to the baseline at the median. Most of the overall gradient comes from households climbing through the top 1% of the wealth distribution. As shown by the blue line, the wealth gradient is much less steep in the high-transparency period: moving from the median level of wealth to the top-0.1% increases the probability of making a large transfer to a tax haven in a given year by only around 0.05 percentage points—approximately a 3-fold increase relative to the baseline at the median. Taken together, these results suggest a marked decrease in the propensity to shift newly created wealth to offshore tax havens after the commitment to information exchange.

Figure 2b shows analogous results where the outcome indicates a bank transfer above NOK 100,000 to a non-haven. When we analyze non-havens, we exclude the following financial centers that are often associated : United States, United Kingdom, United Arab Emirates and the Netherlands. Such transfers are much more common than transfers to tax havens—around 30-40 times more common at the median wealth level—which is not surprising given that they are much more likely to reflect normal cross-border economy activity than tax evasion. Just like for bank transfers to tax havens, there is a clear wealth gradient, with households' propensity to make transfers to non-havens increasing starkly as they become wealthier. However, unlike for tax havens, the wealth gradient is essentially unchanged between the periods with low and high financial transparency. This suggests that the result for tax havens is not driven by a broad contraction in cross-border financial transfers.

Inference and robustness. Appendix Table A.1 shows a range of different estimates of the increase in wealth transfers to tax havens (Panel A) and non-havens (Panel B) associated with a move from the median wealth level to the top of the wealth distribution in each of the two transparency regimes. We use four different outcomes for bank transfers—indicators for bank transfers above NOK 50,000, NOK 100,000, and NOK 500,000 and a continuous measure—and three different delineations of the top wealth group—the top 0.05%, the top 0.1% and the top 1%. Across the 12 specifications, we consistently find a larger effect on wealth transfers to tax havens in the low-transparency period than in the high-transparency period. In most of the specifications, the former effect is statistically significant while the latter is not. By contrast, when we consider the effect on wealth transfers to non-havens, the estimates are generally very similar in the two periods.

4.2 Offshore wealth transfers and domestic tax payments.

In this section, we analyze the dynamic effects of wealth transfers to tax havens on tax liabilities. We distinguish periods with low vs high transparency and also investigate the underlying behavioral mechanisms.

Empirical design. We employ a dynamic stacked difference-in-differences design (Baker et al., 2025). For each cohort $c \in 2006\text{-}2019$, we create a cohort dataset covering the time window $c - 5$ to $c + 5$. It includes *treated households* who made a large wealth transfer (more than NOK 100,000) to a tax haven in the cohort year c^5 and *control households* randomly drawn from the sample of untreated households who made cross-border bank transfers in the time window.⁶ Finally, we stack the cohort datasets to obtain the estimation dataset and estimate the following empirical model:

$$Y_{i,c,t} = \alpha_{i,c} + \sum_{k \neq -1} \beta_k \cdot \mathbf{1}[\tau = k] + \Gamma X_{i,c}^{pre} \times \delta_t + \varepsilon_{i,c,t} \quad (2)$$

where $Y_{i,t}$ is an outcome capturing tax payments or a balance sheet component, $\alpha_{i,c}$ denotes household-cohort fixed effects, τ denotes event time, i.e. years relative to the time of the large wealth transfer, $X_{i,c}^{pre}$ denotes a vector of non-parametric controls evaluated one year before the cohort year, and δ_t denotes year fixed effects. Standard errors are clustered at the household $\times$ cohort level.

It is important to note that wealth transfers to tax havens and tax payments are joint decisions, which implies that our estimates should not be interpreted as the causal effect of one on the other. Rather, in the absence of confounding shocks, the estimates for the post-period express the change in tax payments that accompany the average offshore wealth transfer. Following existing papers that employ event-study techniques to investigate the correlates of migration decisions (Jakobsen et al., 2024), retirement decisions (Kolsrud et al., 2024) and fertility decisions (Kleven et al., 2025), we inspect differential trends in the pre-event period and study alternative outcomes such as salary income to assess the risk of confounding shocks.

We estimate the model separately for the low-transparency period ($c \leq 2012$) and the high-transparency period ($c \geq 2013$). To address potential confounders related to international mobility, we focus on a low-mobility sample with no observable links to foreign countries.⁷ We also estimate a static version of Eq. (2) that effectively compares the pre-

⁵We exclude households who made large wealth transfers to tax havens in multiple years, so that treated households are cleanly associated with a single cohort.

⁶Specifically, we randomly flag – in each year – 1% of the population of taxpayers who made at least one cross-border bank transfer. The control group consists of all untreated households flagged at least once over the full period.

⁷Specifically, we include taxpayers between 25 and 59 years old who are born in Norway, have never emigrated, are not students, do not have substantial salary income from foreign employers, and do not report any foreign property.

event period (years: -3, -2, -1) to the post-event period (year: 1,2,3) and summarizes the treatment effect in a single difference-in-difference estimate.⁸

Main results. Figure 3 illustrates the results. In the low-transparency period, wealth transfers to tax havens are associated with a sharp and persistent drop in tax payments (DiD-estimate: -7%), as shown in Panel (a). This reflects a larger and equally sharp drop in the financial wealth reported for tax purposes (DiD-estimate: -19%), as shown in Panel (c) while the changes in real capital (DiD-estimates: -1%) and salary income (DiD-estimate: -0%) are small and statistically insignificant, as shown in shown in Panel (e) and (g).

These results are consistent with simple tax evasion: the shifting of financial wealth to undisclosed offshore accounts reducing taxes on capital income and wealth. They are more difficult to reconcile with simple portfolio reallocations: Norway taxes households on their global capital income and wealth, implying that tax-compliant transfers to offshore accounts do not reduce reported financial wealth or tax liabilities. The sample restrictions along with the estimated dynamics for wage and real capital make it unlikely that the drop in tax payments is driven by confounding events such as retirement and relocation.

By contrast, in the high-transparency period, tax payments do not change significantly around wealth transfers to tax havens (DiD-estimate: -1%), as shown in Panel (b). Consistent with this finding, financial wealth reported for tax purposes also remain constant through this event (DiD-estimate: -1%) as shown in Panel (d). We also find relatively small and statistically insignificant changes in real capital (DiD-estimate: 6%) and salary income (DiD-estimate: 1%), as shown in shown in Panel (f) and (h).

These results suggest that wealth transfers to tax havens, to the extent that they still occur in the high-transparency period, no longer serve to evade taxes. Seemingly, such transfers have no impact on reported financial wealth nor on tax liabilities, suggesting that they are conducted in a tax-compliant manner.

Robustness and additional outcomes. Appendix Table A.1 shows analogous results for large bank transfers to non-havens. We find a decrease in taxes and financial wealth around these transfers, but much smaller than for transfers to tax havens and almost identical across the periods with low and high transparency. The small coefficients and the uniformity across periods suggest that such transfers rarely play a role in tax planning. Appendix Table A.2, Panel A, shows that the results are quantitatively robust to changes in the set of controls and qualitatively robust to a higher threshold level of bank transfers defining the events. Panel B reports results for additional outcome variables. Mirroring the findings for gross financial wealth, in the low-transparency environment

⁸The static model is identical to Eq. (2) except that the vector δ_t is replaced with a post-indicator and the sample is restricted to years [-3, -1] and [1, 3].

wealth transfers to tax havens are associated with a significant decrease in capital income, driven primarily by a drop in interest and, less precisely estimated, dividend income. As before, this effect disappears in the high-transparency environment. For debt, no clear pattern emerges in either transparency regime.

4.3 Wealth accumulation and holding companies.

In this section, we investigate how frequently households open holding companies when they become wealthier and to what extent these holding companies play a role in shifting wealth to offshore tax havens.

Empirical design. We employ the same empirical design as in Section (4.1: the estimates are identified by households moving up and down the wealth distribution so as to avoid the potential confounders associated with cross-sectional comparisons. Formally, we estimate Eq. (1) while letting Y be, first, an indicator for owning a holding company and, second, an indicator for making a bank transfer of at least NOK 100,000 to a tax haven through a holding company.

Results. Figure 4a illustrates the results for holding company ownership. As shown by the red line, there is a clear wealth gradient in the low-transparency period: moving from the median level of wealth to the top-0.1% increases the probability of owning a holding company by around 2 percentage points—approximately a 20-fold increase relative to the baseline at the median. More than half of the wealth gradient comes from households moving from p99.5-99.9 to the top 0.1% of the wealth distribution. As shown by the blue line, the wealth gradient is even more pronounced in the high-transparency period: moving from the median level of wealth to the top-0.1% increases the probability of owning a holding company by around 5 percentage points—approximately a 30-fold increase relative to the baseline at the median. Moreover, the formation of holding companies becomes non-negligible

These results suggest it has become significantly more common for taxpayers to form holding companies as they become wealthier after the commitment to information exchange. In principle, this is consistent with several behavioral mechanisms. It may reflect that taxpayers respond to the enhanced financial transparency by adopting more sophisticated evasion strategies: they may be setting up holding companies to shift wealth to tax havens in ways that are more difficult to detect. Alternatively, it may reflect substitution from illegal tax evasion to legal tax avoidance strategies, including the tax deferral offered by holding companies (Alstadsæter et al., 2022).

Figure 4b illustrates the results for offshore wealth transfers through holding companies. In either transparency regime, this is an extremely rare event at the all wealth levels except the very top. The wealth gradient is somewhat less pronounced after the commitment to automatic information exchange: moving from the median level of wealth to

the top-0.1% increases the probability of making a large wealth transfer to a tax haven through a holding company in a given year by around 0.25 percentage point in the period with low transparency and by around 0.1 percentage point in the period with high transparency.

Inference and robustness. Appendix Table A.1 probes the robustness of these findings (Panel C). Across the three alternative delineations of the top wealth group, we consistently find that the effect of wealth accumulation on the propensity to own a holding company is larger in the high-transparency period—and this effect is consistently statistically significant except for the narrowest choice of top wealth group. The effect of wealth accumulation on offshore wealth transfers through holding companies is consistently small and estimated with sufficient precision to exclude a sizable increase in response to the commitment to automatic information exchange.

5 Conclusion

In a coordinated effort to rein in offshore tax evasion, more than 100 governments now engage in automatic exchange of information about personal bank accounts. By allowing tax authorities to systematically assess taxpayers' financial income and wealth in foreign banks, this represents a significant improvement in global financial transparency.

In this paper, we use a unique combination of administrative data from Norway to investigate whether financial transparency deters households who become wealthy from adopting offshore tax evasion strategies. Comparing taxpayer behavior before and after the commitment to automatic information exchange, we obtain three main findings that are all consistent with such a deterrence effect: First, wealth accumulation is less likely to be associated with wealth flows to tax havens. Second, wealth flows to tax havens are less likely to be associated with a decrease in reported financial wealth and tax payments. Third, wealth accumulation is more likely to be associated with the formation of holding companies, but not with wealth flows to tax havens conducted through holding companies.

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Figure 1. Wealth flows to tax havens. The figure shows the evolution of aggregate household cross-border bank transfers to tax havens between 2006 and 2020. Each dot represents the total amount sent in a given semester as a share of GDP (3-period moving average). The two vertical dotted lines mark two transparency shocks: the first in April 2009, when G20 countries pressured tax havens to sign bilateral information exchange agreements; the second in September 2013, when the G20 endorsed the Automatic Exchange of Information as the new global standard for cross-border reporting on financial accounts, leading to the adoption of the Common Reporting Standard. We exclude observations in which a household sends more than NOK 1 billion abroad in a given year.

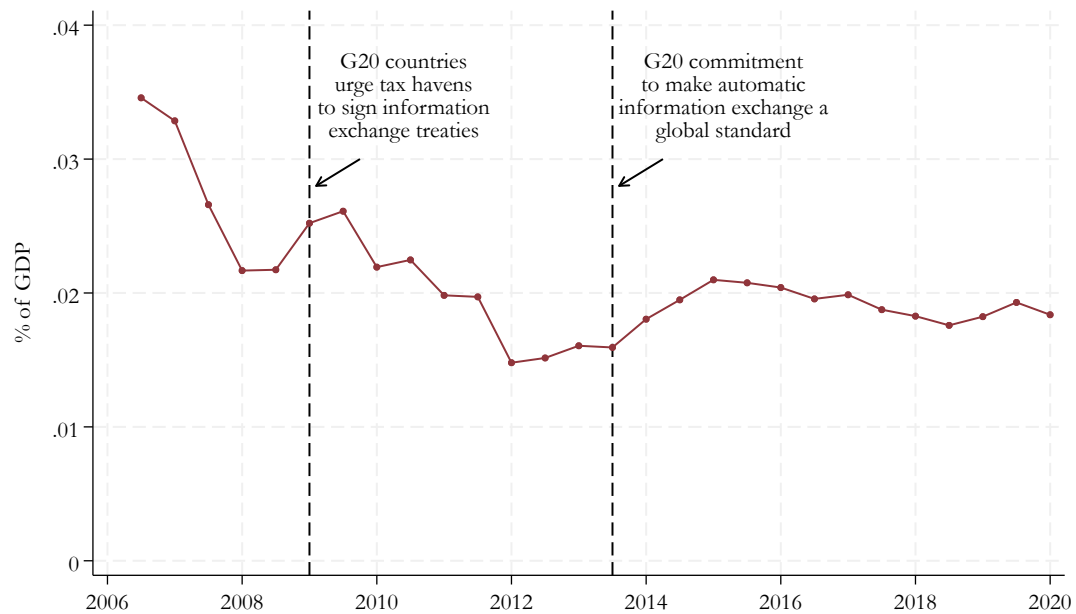
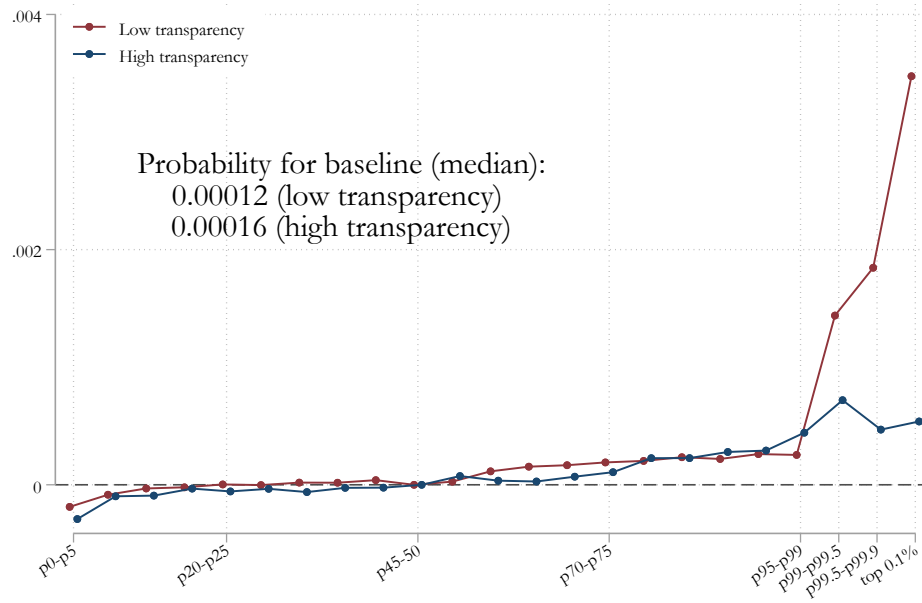


Figure 2. Wealth accumulation and cross-border wealth flows The figure illustrates how cross-border wealth flows to tax havens (Panel a) and non-havens (Panel b) respond to the accumulation of wealth in the period with low transparency (red line) and high transparency (blue line). The reported coefficient for a given wealth group w indicates how the probability of making cross-border bank transfers above NOK 100.000 in a given year changes for a household moving from the median wealth level to wealth group w .

(a) Wealth flows to Tax Havens



(b) Wealth flows to Non-Havens

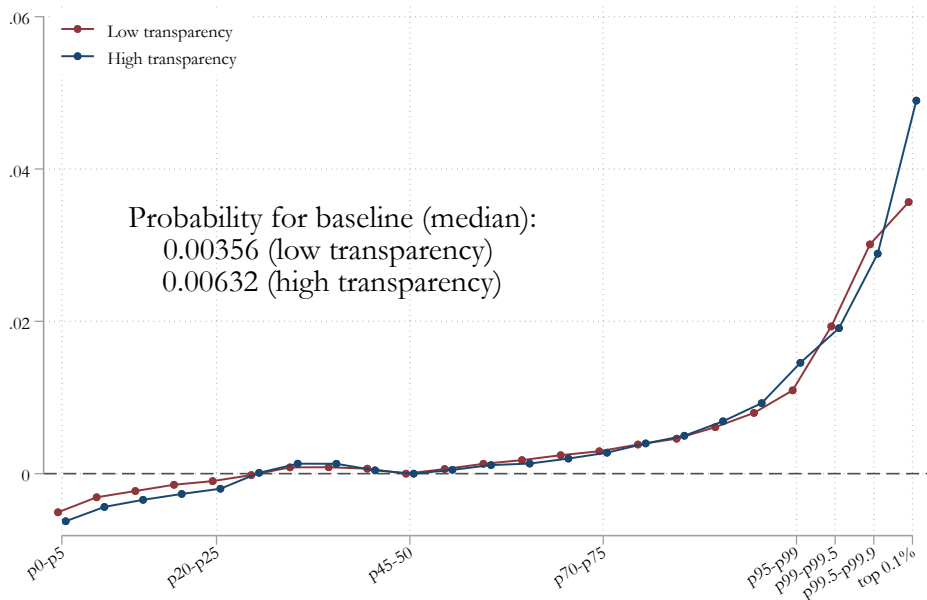


Figure 3. Wealth flows to tax havens and domestic tax payments. The figure illustrates the dynamics in tax payments (Panels a-b), reported financial wealth (Panels c-d), reported real capital (Panels e-f) and wage income (Panels g-h) around large wealth flows to tax havens (above NOK 100,000). The left panels concern the low-transparency period (red lines) while the right panels concern the high-transparency period (blue lines). The estimates plotted in the figure are dynamic DiD estimates obtained from Eq. (2) with 95% confidence bands based on standard errors clustered at the household level. Analogous static DiD estimates — comparing the pre-period $[-3, -1]$ to the post-period $[1, 3]$ — are printed on the figures.

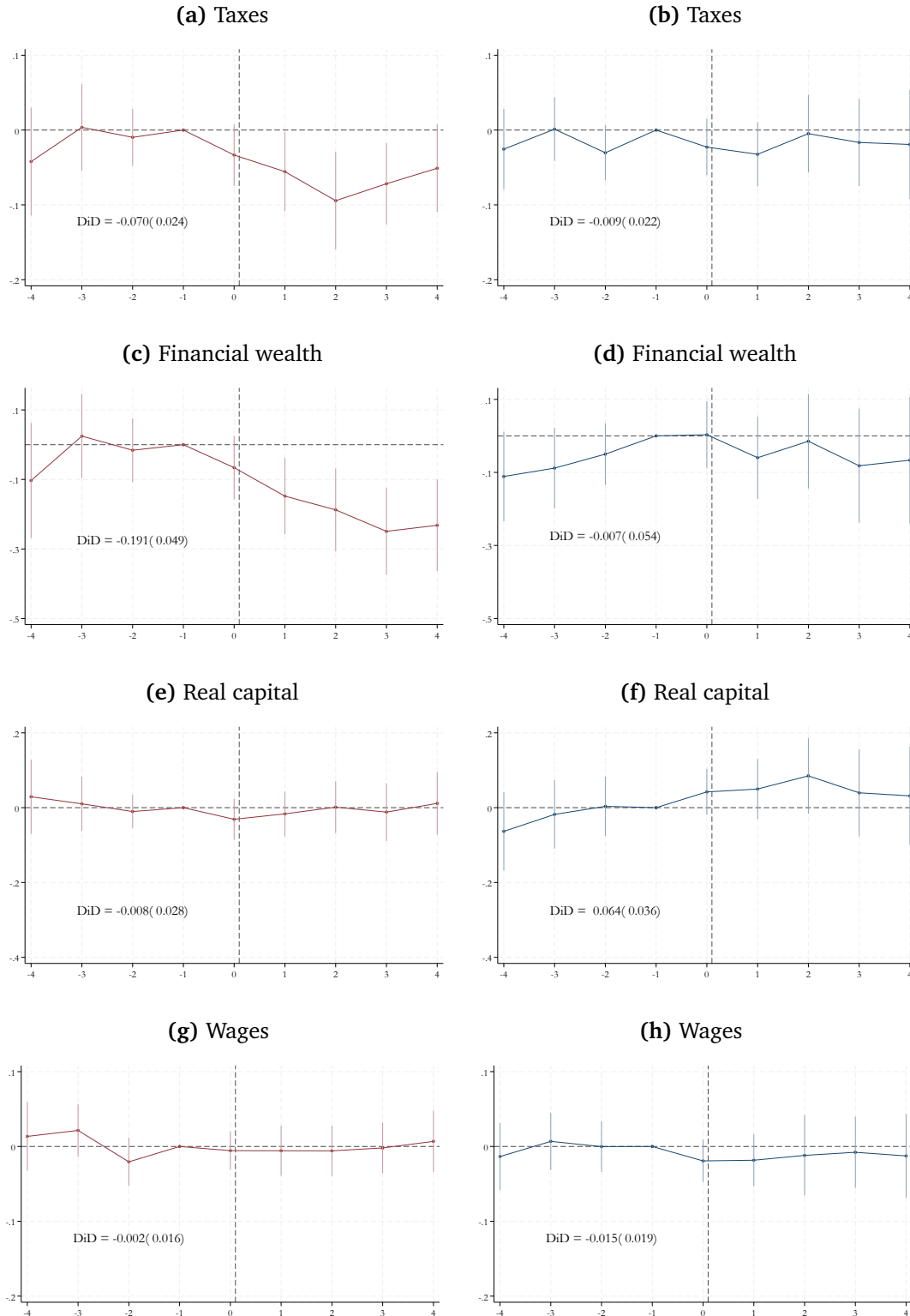
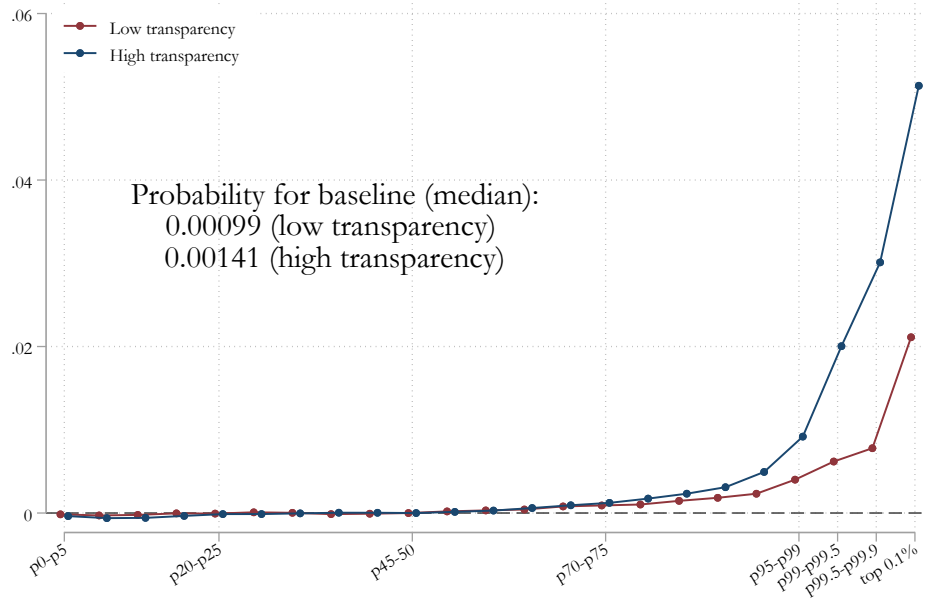


Figure 4. Wealth accumulation and holding companies. The figure illustrates how ownership of holding companies (Panel a) and wealth flows to tax havens through holding companies (Panel b) respond to the accumulation of wealth in the period with low transparency (red line) and high transparency (blue line). The reported coefficient for a given wealth group w indicates how the probability of owning a holding company (Panel a) and the probability of making cross-border bank transfers above NOK 100.000 from a holding company to a tax haven account in a given year (Panel b) changes for a household moving from the median wealth level to wealth group w .

(a) Ownership of holding company



(b) Wealth flows to tax havens through holding

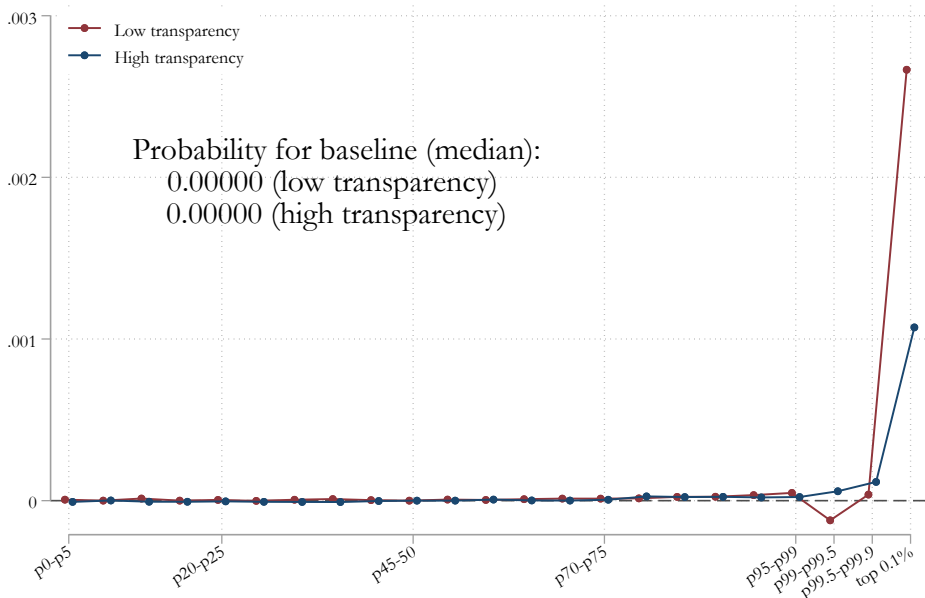


Table 1. Summary statistics. This table reports sample means for the full population in Norway (Column 1), households making cross-border bank transfers (Column 2), households making bank transfers to tax havens (Column 3) and households making large bank transfers (above NOK 100,000) to tax havens (Column 4). We classify the following jurisdictions as tax havens: Andorra, Anguilla, Antigua and Barbuda, Aruba, Austria, Bahamas, Bahrain, Barbados, Belgium, Belize, Bermuda, Cayman Islands, Chile, Cook Islands, Costa Rica, Curaçao, Cyprus, Dominica, Gibraltar, Grenada, Guernsey, Hong Kong SAR, Isle of Man, Jersey, Liberia, Liechtenstein, Luxembourg, Macao SAR, Malaysia, Malta, Marshall Islands, Monaco, Montserrat, Nauru, Netherlands Antilles, Niue, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, San Marino, Seychelles, Singapore, Sint Maarten, Switzerland, Trinidad and Tobago, Turks and Caicos Islands, Uruguay, Vanuatu, British Virgin Islands, U.S. Virgin Islands.

	Full pop.	Pop. making transfers		
Taxes, wealth, income (thousand NOK)		All	Havens all	Havens big
Tax payments	195	343	469	863
Gross financial wealth	1,007	2,266	5,161	19,595
Gross real capital	876	1,421	1,895	4,208
Wages	517	840	984	1,118
Taxable income	793	1,215	1,531	2,731
Location on the wealth distribution				
Top 1%	1%	3.1%	5.5%	14.8%
Top 0.1%	.1%	.46%	1.27%	5.12%
Top 0.01%	.01%	.052%	.223%	1.259%
Sample size				
Number of households per year		175,639	8,873	823

Online Appendix

Global financial transparency and offshore wealth accumulation

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Gabriel Zucman

Figure A.1. Wealth flows to non-havens. The figure illustrates the dynamics in tax payments (Panels a-b), reported financial wealth (Panels c-d), reported real capital (Panels e-f) and wage income (Panels g-h) around large wealth flows to non-havens (above NOK 100,000). The left panels concern the low-transparency period (red lines) while the right panels concern the high-transparency period (blue lines). The estimates plotted in the figure are dynamic DiD estimates obtained from Eq. (2) with 95% confidence bands based on standard errors clustered at the household level.

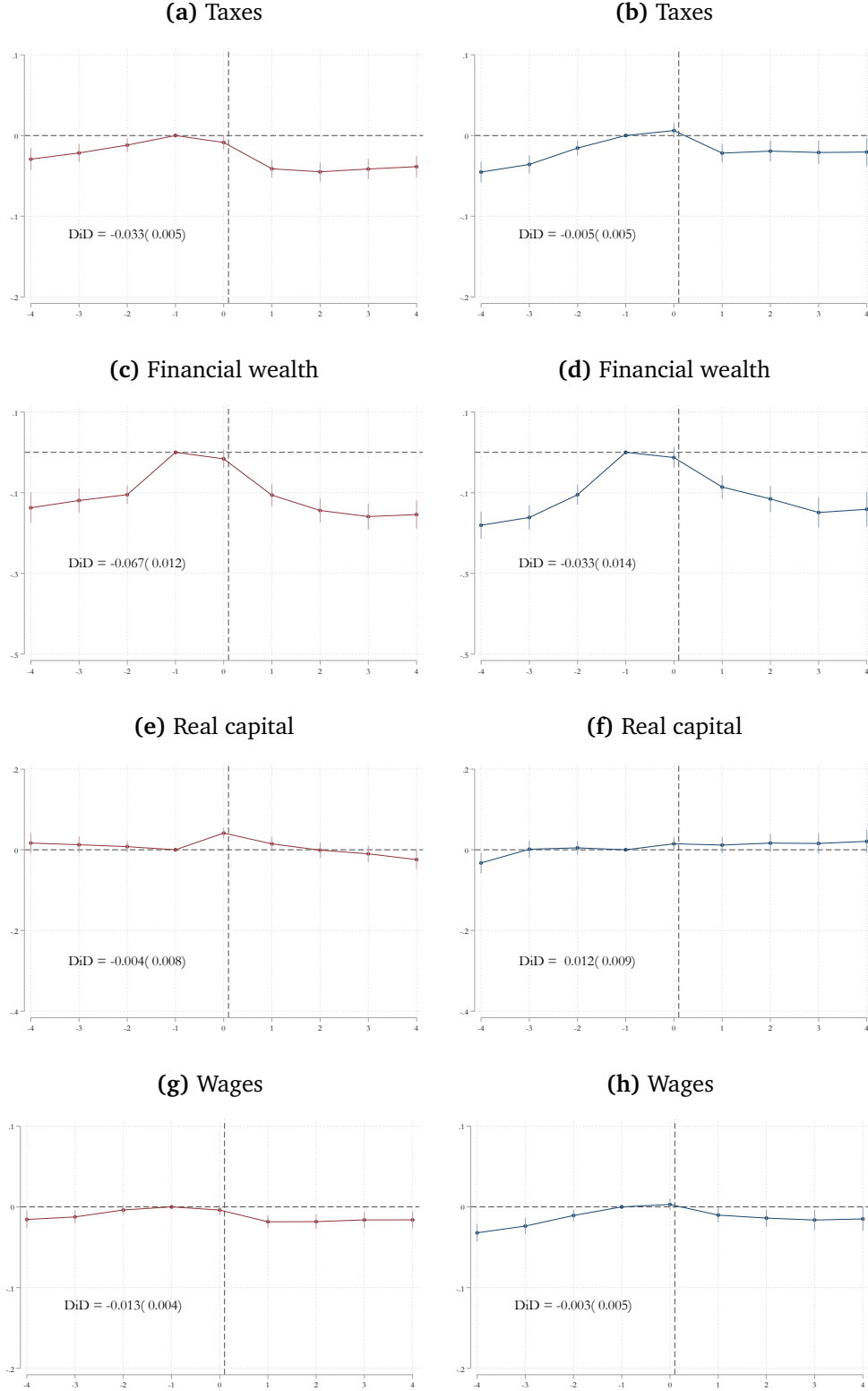


Table A.1. Robustness. The table shows a range of robustness tests of the results in Figures 2 and 4. For each outcome, it shows how the estimated coefficient on the top wealth group as the delineation of this group varies (across columns). Further, for the outcomes capturing bank transfers, it shows how the estimated coefficient on the top wealth group varies with the definition of the outcome: indicators for transfers above a threshold or the simple amount of the transfer. Standard errors are clustered at the household level.

	Top 0.05%		Top 0.1%		Top 1%	
	Transparency:		Transparency:		Transparency:	
	Low	High	Low	High	Low	High
Panel A: Direct transfers to havens						
Transfer > 50K	0.013*** (0.004)	0.007 (0.006)	0.007** (0.003)	0.002 (0.004)	0.002*** (0.001)	0.001** (0.001)
Transfer > 100K	0.011*** (0.004)	0.004 (0.005)	0.003 (0.002)	0.001 (0.003)	0.002*** (0.000)	0.001 (0.001)
Transfer > 500K	0.007** (0.003)	0.003 (0.003)	0.001 (0.002)	0.000 (0.002)	0.001** (0.000)	0.001** (0.000)
Amount in NOK	2353*** (772)	1485 (930)	898* (475)	504 (622)	379*** (95)	230** (100)
Panel B: Direct transfers to non-havens						
Transfer > 50K	0.062*** (0.011)	0.066*** (0.011)	0.047*** (0.007)	0.054*** (0.008)	0.024*** (0.002)	0.021*** (0.002)
Transfer > 100K	0.050*** (0.010)	0.064*** (0.011)	0.036*** (0.007)	0.049*** (0.007)	0.022*** (0.002)	0.022*** (0.002)
Transfer > 500K	0.035*** (0.008)	0.044*** (0.008)	0.019*** (0.005)	0.035*** (0.005)	0.014*** (0.001)	0.017*** (0.001)
Amount in NOK	12537*** (2087)	13579*** (2072)	9180*** (1338)	10886*** (1410)	5193*** (331)	5122*** (366)
Panel C: Ownership of a holding company						
Holding Company	0.018 (0.012)	0.054*** (0.012)	0.021*** (0.008)	0.051*** (0.008)	0.007*** (0.002)	0.023*** (0.002)
Panel D: Transfers to tax havens through a holding company						
Transfer > 50K	0.0020 (0.0031)	0.0014 (0.0027)	0.0031* (0.0017)	0.0012 (0.0016)	0.0000 (0.0002)	0.0002 (0.0002)
Transfer > 100K	0.0006 (0.0029)	0.0012 (0.0026)	0.0027 (0.0016)	0.0011 (0.0015)	-0.0000 (0.0002)	0.0001 (0.0002)
Transfer > 500K	0.0013 (0.0025)	0.0002 (0.0023)	0.0034** (0.0014)	0.0005 (0.0013)	0.0000 (0.0001)	0.0000 (0.0002)
Amount in NOK	-3770 (13323)	-3495 (10496)	1216 (5878)	2977 (5349)	-288 (447)	-457 (912)
N households	2,116,452	2,172,944	2,116,452	2,172,944	2,116,452	2,172,944

Table A.2. Robustness. The table shows a range of robustness tests of the results in Figures 3 (Panel A) as well as results for a range of additional outcomes (Panel B). The reported coefficient is always the static DiD estimate comparing years t-3, t-2, and t-1 to years t+1, t+2, and t+3. Columns (1)-(2) are a specification without controls, Columns (2)-(3) are the baseline specification, Columns (5)-(6) uses a higher threshold of bank transfers to tax havens of NOK 500,000 to define events, Columns (7)-(8) define events as large bank transfers to non-havens. Standard errors are clustered at the household level.

	No controls		Baseline		Transfers > 500K		Non-Havens	
	Transparency: Low	High	Transparency: Low	High	Transparency: Low	High	Transparency: Low	High
Panel A: Robustness								
Tax payments	-0.078*** (0.024)	-0.003 (0.021)	-0.070*** (0.024)	-0.009 (0.022)	-0.121*** (0.044)	-0.014 (0.047)	-0.033*** (0.005)	-0.005 (0.005)
Gross financial wealth	-0.191*** (0.048)	-0.012 (0.051)	-0.191*** (0.049)	-0.007 (0.054)	-0.195*** (0.070)	-0.134 (0.135)	-0.067*** (0.012)	-0.033** (0.014)
Gross real capital	-0.014 (0.028)	0.067** (0.034)	-0.008 (0.028)	0.064* (0.036)	-0.076* (0.041)	-0.033 (0.058)	-0.004 (0.008)	0.012 (0.009)
Wages	-0.015 (0.016)	-0.015 (0.018)	-0.002 (0.016)	-0.015 (0.019)	-0.013 (0.023)	0.000 (0.028)	-0.013*** (0.004)	-0.003 (0.005)
Panel B: Additional outcomes								
Capital income	-0.388*** (0.087)	0.151 (0.096)	-0.337*** (0.087)	0.144 (0.101)	-0.510*** (0.151)	0.149 (0.196)	-0.071*** (0.021)	0.073*** (0.025)
Interest income	-0.242*** (0.063)	-0.073 (0.077)	-0.230*** (0.063)	-0.064 (0.082)	-0.382*** (0.098)	-0.113 (0.181)	-0.078*** (0.017)	-0.089*** (0.022)
Dividends	-0.201 (0.181)	0.212 (0.159)	-0.224 (0.181)	0.145 (0.165)	-0.244 (0.313)	0.438 (0.389)	-0.053 (0.047)	0.086 (0.054)
Debts	-0.020 (0.047)	0.086 (0.054)	0.041 (0.047)	0.122** (0.059)	-0.025 (0.074)	0.247 (0.179)	0.048*** (0.013)	0.114*** (0.013)
N treated	586	568	586	568	212	120	9,180	8,180
N control	190,480	192,365	190,480	192,365	190,861	192,717	184,340	184,472

