Citizenship and taxes:
Evaluating the effects of the U.S. tax system on individuals' citizenship decisions

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Abstract: The U.S. tax system applies to its citizens' worldwide incomes and estates, whether those citizens live in the U.S. or abroad. Fully escaping the U.S. tax system requires renouncing or relinquishing U.S. citizenship, and in recent years a growing number of individuals have done so. I use administrative tax microdata to answer three questions: Who is renouncing their citizenship? Why are they renouncing? What are the policy consequences? I show that the recent increase in renunciations is mainly driven by those who have for many years lived abroad, rather than by individuals leaving the U.S., and that these renunciations are primarily a response to increased compliance costs, not tax liabilities. I also present evidence that some individuals responded to tax law changes affecting the costs of renunciation. I conclude by discussing how recent renunciations relate to U.S. tax policy, including the revenue impacts, policy spillovers, and the implied value of U.S. citizenship.

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1. Introduction and motivation

Renunciation of U.S. citizenship has risen sharply in the last decade, from roughly 500 a year in the early 2000s to more than 4,000 each year from 2013-2018. What factors drove this recent increase, and does it warrant a policy response? To answer these questions, I use administrative tax microdata to explore who is renouncing and how that has changed over time. I show that features of the tax system, in particular additional compliance costs brought on by increased enforcement of offshore financial activity, explain a substantial part of the renunciations seen over the last decade. I also show that most recent renunciations are likely to impose only a small cost on the United States; any substantial impacts can be attributed to just a handful of wealthy and high-income renouncers.

The U.S. is one of a handful of countries which tax their citizens' worldwide income and estates.[1] As a result, policymakers have frequently raised concerns about U.S. citizens dropping citizenship to avoid taxes. The first legislation intended to discourage tax-motivated expatriation was passed in the 1960s. Several high-profile departures in the 1990s prompted new laws requiring public disclosure of citizenship renunciation–since 1998 the names of those dropping U.S. citizenship have been published in the Federal Register–as well as further substantial changes to the expatriation tax system[2] in 2004 and 2008. Since 2008 the relevant changes have been in tax enforcement, starting with legal actions targeting Switzerland, and leading to a broader increase in offshore financial enforcement under the Foreign Account Tax Compliance Act (FATCA). Despite, or perhaps because of, these efforts, citizenship renunciations have continued, with annual counts rising markedly in recent years. Between 2005 and 2018 more than 35,000 individuals with at least $48 billion of combined reported net worth renounced their U.S. citizenship.

[1] Only two other countries, Eritrea and Myanmar, similarly tax their citizens regardless of residence. Eritrea levies a flat income tax of 2% on its citizens living abroad; Myanmar applies the same rates to its citizens' income, whether derived at home or abroad.

[2] I use the term "expatriation tax system" to refer to the laws and tax regulations which govern expatriation and citizenship renunciation; these include filing and reporting requirements, and tax liabilities incurred at and after renunciation. Following previous literature and the terminology of related legislation, I use the term "expatriation" to mean giving up U.S. citizenship, rather than merely moving abroad.

Who exactly is renouncing U.S. citizenship? Prior studies of this topic have been limited to publicly available information, which in practice has meant only the quarterly counts compiled from the names of renouncers published in the Federal Register. Using administrative tax microdata, I provide more detailed information about the population of individuals dropping U.S. citizenship from 1998-2018. The recent increase in renunciations has come mainly from those who have long filed U.S. taxes from abroad (and thus likely lived abroad), rather than from individuals who lived in the U.S. choosing to move abroad. Those renouncing citizenship are on average higher-income and wealthier than the U.S. population: more than one-third of those renouncing and reporting net worth are millionaires, compared with estimates of 5-10% for all U.S. individuals. Renunciation is concentrated in relatively few destination jurisdictions, with the top five (Canada, Switzerland, the United Kingdom, Germany, and Hong Kong) accounting for more than half of the total.

Why are individuals renouncing U.S. citizenship, and lately in greater numbers? I study the citizenship decision within an option value framework, arguing that maintaining U.S. citizenship is akin to holding an option to return to live or work in the U.S. This framework motivates a regression analysis to identify the characteristics associated with the decision to renounce citizenship. One key finding is the significant positive effect of age on renunciation, as predicted by the option value framework; as individuals age, the time value of their option decreases, making renunciation relatively more favorable. Using jurisdiction-level analysis I also find relationships consistent with the option value framework; U.S. taxpayers filing from jurisdictions designated as tax havens, and with higher governance scores (measured using the World Bank's Rule of Law governance index), have relatively higher renunciation rates. I then use a difference-in-difference analysis to test the effect of the Foreign Account Tax Compliance Act (FATCA) and related offshore enforcement efforts which increased compliance costs for certain U.S. citizens abroad. I find evidence supporting the claim that increased compliance costs caused an increase in citizenship renunciations by U.S. citizens living abroad. I also discuss the connection between recent expatriation tax law changes and the trends in renunciation. The data patterns suggest that some very high-wealth and high-income individuals may have chosen to leave the U.S. and renounce citizenship during the 2004-2008 period, in anticipation of the introduction of a mark-

to-market exit tax. The data also reveal a strong behavioral response to the notched design of a net worth threshold embedded in the expatriation tax system.

What are the policy consequences of recent renunciations? I first use data on pre-renunciation tax liabilities to consider the potential revenue impacts of recent expatriations. I find that for most renunciations the revenue impact is probably negligible because individuals had no or little tax liability in the years prior to expatriation. The distribution of liabilities is heavily skewed, however, such that a handful of individuals' renunciations have an outsize impact on revenues. Considering the broader revenue impacts of the connection between citizenship and taxes, I argue that if the effects of the tax system on renunciation decisions apply similarly to the much larger group of individuals considering migration to the U.S., or naturalization once in the U.S., the corresponding revenue impacts could be significant. I then discuss the spillover effects of FATCA and other enforcement actions on citizenship renunciation and the importance of timing for the 2004 and 2008 expatriation tax law changes. I conclude by putting renunciations in a broader context, considering the non-renunciation of most U.S. citizens and the in-migration of newly naturalized citizens, and what these things imply about the value of U.S. citizenship.

The paper proceeds as follows: Section 2 sets up a conceptual framework for the costs and benefits of renunciation and briefly describes expatriation-related tax law, offshore financial enforcement, and related academic literature. Section 3 describes the data underlying the subsequent analyses. Section 4 provides a description of who is renouncing citizenship. Section 5 explores what can explain the recent increases in renunciations. Section 6 discusses the policy consequences, and Section 7 concludes.

2. Background and literature review

In this section I describe (1) the potential costs and benefits of citizenship renunciation, (2) tax law related to expatriation and how that has changed over time, and (3) tax enforcement related to offshore financial activity and how that has changed over time. Throughout the section I highlight related academic literature. For additional details on the specific steps required for citizenship renunciation, see Appendix B.

2.1. Costs and benefits of citizenship renunciation

The specific costs and benefits of citizenship renunciation for any given taxpayer depend on a variety of taxpayer characteristics[3], but can generally be grouped into the categories shown in Table 1: administrative costs and benefits (e.g., renunciation fee vs. removal of U.S. tax filing obligation) and income- or wealth-dependent tax consequences (e.g., expatriation tax consequences vs. lower future income or estate tax liabilities). This high-level framework allows a consideration of how the net benefits of renunciation would change as any of the component costs or benefits change. For example, consider one change which occurred in 2014, when the State Department raised the fee for citizenship renunciation from $450 to $2,350. This change uniformly lowered the net benefits of citizenship renunciation for all individuals considering it by $1,900.

Table 1: Costs and benefits of tax-informed citizenship renunciation

Type	Costs	Benefits
General	Administrative costs of act of expatriation (e.g., time, renunciation fee) Loss of benefits of U.S. citizenship (e.g., visa-free travel to many countries)	Reduction of ongoing administrative burden (e.g., banks wary of U.S. citizens) Reduction of yearly administrative burden (e.g., U.S. tax filing)
Income-dependent	Expatriation tax consequences	Lower future income tax liabilities
Wealth-dependent	Expatriation tax consequences	Lower future estate and gift tax liabilities

Some of these costs and benefits are simple to value (the renunciation fee is known and is exactly $2,350) while others are longer-term and more uncertain (e.g., comparing expected U.S. income tax liability vs. foreign income tax liability on the next 10 years of income). However, even when exact values are unavailable, as long as one can characterize the sign of the change, it is possible to elicit a prediction about the effect of a policy change on the incentive to expatriate. In later sections I will discuss several changes to expatriation tax law or offshore financial

[3] For example, whether a taxpayer already lives or holds citizenship abroad; the amount and type of income a taxpayer receives currently and expected to receive in the future; the amount and type of assets a taxpayer holds currently and expects to bequeath in the future; the tax system of the anticipated destination country; and whether a taxpayer is currently compliant on their U.S. taxes.

enforcement and consider how these policy changes would be expected to affect incentives for certain types of taxpayers considering citizenship renunciation.

2.2. Citizenship and U.S. tax law

The U.S. tax system has attempted to discourage tax-motivated expatriation for several decades. The Foreign Investors Tax Act of 1966 introduced §877 of the Internal Revenue Code (IRC), requiring taxation of former citizens for ten years following expatriation if tax avoidance was a "principal purpose of the expatriation" (Craig 2012). Thirty years later, a formal test for tax-motivated expatriation was introduced, as part of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). Under the new objective standards, expatriating individuals were deemed "covered expatriates" if either past-five-years average net income tax liability exceeded a certain threshold, or if net worth exceeded a different threshold.[4] Taxpayers also had to certify that they were compliant on all federal tax obligations for the five tax years preceding expatriation. As before, designation as a covered expatriate meant a taxpayer was liable for U.S. taxes on U.S.-source income and on income effectively connected with a trade or business in the U.S., at the same progressive rates faced by U.S. citizens, for the ten years following expatriation. In practice, even if a taxpayer was deemed a covered expatriate under the objective tests, one could appeal this designation and most who did so were successful.[5] Also of note, in an attempt to further discourage tax-motivated expatriation, HIPAA required the names of expatriating individuals to be published in the Federal Register (Internal Revenue Code, §6039G).

The American Jobs Creation Act (AJCA) of 2004 brought additional changes: (1) the removal of expatriates' ability to challenge their designation as tax-motivated, (2) an increase in the net

[4] The thresholds during 2019 were $168K (average past-five-years income tax liability) and $2M (net worth). Figure 26 in the Appendix shows how these have changed over time. Note that the income tax liability threshold is applied to *tax liabilities*, not *incomes*; to have an income tax liability of $168K in 2019 would have required income of more than $500K. This distinction is sometimes missed in discussion of the expatriation tax system, with some suggesting that the threshold applies to income itself (and thus implying that many more individuals would be treated as covered expatriates according to this threshold than is truly the case).

[5] Between 1997 and July 2002, 270 applications for private letter rulings overturning the presumption of tax-motivated expatriation were made to the IRS. Of these about half received favorable responses, and all but 11 of the remainder received neutral responses. Favorable and neutral responses meant that applicants could proceed without fear of further IRS enforcement under the expatriation tax regime. This suggests that roughly 96% of appeals were successful (259/270 = 0.959) (Kwong 2009, 421).

worth threshold from $622K to $2M; and (3) requiring the filing of Form 8854 to complete expatriation for tax purposes.[6] The next changes were introduced in the 2008 Heroes Earnings Assistance and Relief Tax (HEART) Act, which created IRC §877A and changed the consequences for covered expatriate designation to now include a mark-to-market exit tax, rather than the taxation of next-ten-years' U.S.-source income. Under the new regime, gains on all of a covered expatriate's assets (with a few minor exceptions[7]) are deemed realized as of the day prior to the expatriation date, and taxes owed on deemed gains above a certain exempted amount.[8] The 2008 bill also removed the requirement that Form 8854 be filed to complete expatriation for tax purposes.[9] Selected aspects and changes to the expatriation tax system are shown in Table 2.

Table 2: Selected aspects of and changes to the U.S. expatriation tax system

Expatriation date	Test for tax-motivation	Tax consequences	Other consequences
On or before June 3, 2004	Net worth > $622K (2004); Avg. inc. tax liability > $124K (2004); Presumption only, can challenge	For 10 years: taxed on U.S.-source income; estate and gifts subject to U.S. taxation	180-day limit on U.S. visits
June 4, 2004 to June 16, 2008	NW > $2M; AITL > $139K (2008); Conclusive test, cannot challenge	Same as above	Annual filings with $10K penalty for non-filing; 30-day limit on U.S. visits
On or after June 17, 2008	NW > $2M; AITL > $168K (2019)	Exit tax: mark-to-market capital gains tax (deemed realization) with $725K exemption (2019)	Annual filings until exit tax obligations are met

Notes: The column "Test for tax-motivation" indicates the tests which are applied to an individual who expatriates during the given time period; if an individual is deemed to be a "covered expatriate" under the tests, then the corresponding consequences (tax and other) apply.

Academic research on expatriation has mainly appeared in law journals, and generally focuses on detailed components of related legislation or proposed changes to the expatriation tax system

[6] Arsenault (2009) provides further information on the first two changes. For the Form 8854 filing requirement, see the amendment history of IRC §7701(n); the 2004 AJCA added §7701(n), stating that an expatriating individual is still treated as a citizen or resident of the U.S. until that individual "provides a statement in accordance with Section 6039G."

[7] Exceptions include deferred compensation items, specified tax deferred accounts, and interest in non-grantor trusts.

[8] For expatriations during 2019 the first $725K of gains are exempt. Figure 26 Figure 26in the Appendix shows how the exempted amount has changed over time.

[9] Expatriating individuals are still required to file Form 8854 under IRC §6039G, but after the 2008 HEART Act's removal of IRC §7701(n), failure to file Form 8854 no longer carries the consequence that an individual is treated as a U.S. citizen or resident for tax purposes until the form is filed. This change lowered the cost of non-filing and may help explain the large share of expatriating individuals in recent years without Form 8854 filings.

(Arsenault 2009, Kwong 2009, Manolakas and Dentino 2012, Craig 2012). Westin (2000) provides a comprehensive overview of the expatriation tax system prior to the reforms of the 2000s. More recently, Ahn (2015) studies the HEART Act and notes an increase in expatriations following the introduction of the deemed realization tax that can be seen in public data from the Federal Register.

Mason (2016) provides a thorough evaluation of various arguments for and against citizenship-based taxation. In response to Mason, Kim (2017) argues in favor of citizenship taxation and discusses how citizenship renunciation rates for the U.S. compare to other high-income countries. Noting the difficulty of defining a denominator when calculating the renunciation rates, Kim provides several plausible estimates based on 2010 and 2013 foreign diaspora data and relying on aggregate counts of renunciations, and concludes that the U.S. is not a serious outlier.[10] Kim also notes that "we lack empirical studies on the specific motivation of renunciation," a concern also raised by Kudrle (2015). This is precisely the gap that this paper aims to fill. More recently, De Simone, Lester, and Markle (2020) study how U.S. individuals responded to FATCA. Although their paper focuses on portfolio investments based in foreign tax havens, the authors also make use of the public Federal Register data to plot the annual counts and suggest that the recent rise in U.S. expatriations could be related to FATCA.

This paper is the first to study in detail and quantitatively the connection between citizenship renunciation and citizenship-based taxation. There is a related literature in economics which studies the connection between taxes and migration, generally studying residence-based taxation (Mirrlees 1982, Kleven, Landais and Saez 2013, Akcigit, Baslandze and Stantcheva 2016, Kleven, Landais and Muñoz, et al. 2020). The distinction between residence-based and citizenship-based taxation is important because changing one's residence is more reversible than changing one's citizenship (and may carry different costs as well). By using IRS data including Form 8854 filings, which allow for a more detailed study of the population of those renouncing

[10] Kim's estimates of renunciation rates show that the highest rates were in jurisdictions with military draft systems, with the top three rates observed for South Korea, Singapore, and Taiwan. While the relative comparison of rates across jurisdictions is certainly of interest, the many factors influencing citizenship decisions make it difficult to draw conclusions from these cross-jurisdiction comparisons. By focusing on the decisions of individuals specifically with respect to U.S. citizenship, observing trends over time, and using individual microdata, much can be learned about the motivation for citizenship renunciation and its connection to the tax system.

citizenship, this paper makes an important contribution to measuring and understanding the incentives to maintain or renounce citizenship under a citizen-based taxation system.

2.3. Tax enforcement and foreign financial activity

In the last decade, major changes have been made in the enforcement environment affecting financial activity by U.S. citizens living or holding financial accounts abroad. Johannesen et al. (2020) describe the introduction since 2008 of "a range of enforcement initiatives targeting owners of offshore accounts": *ad hoc* legal action and information exchanges; bilateral treaties; and FATCA.

Ad hoc legal action against Swiss banks included so-called "John Doe summonses", which allowed the IRS to request information from foreign banks about their U.S. citizen customers without identifying the specific customers in advance.[11] The IRS was authorized to use these summonses beginning in July 2008 against UBS, and subsequently against other large banks including HSBC and Credit Suisse. In addition to the *ad hoc* legal steps, the U.S. government signed bilateral information exchange agreements with several countries deemed to be tax havens.[12] These agreements allowed the IRS to request foreign bank account information for specific taxpayers in tax evasion cases. As Johannesen et al. note, citing Sheppard (2009), these agreements are relatively restrictive, requiring specification of taxpayer identities in advance and evidence to justify the request, and thus may not be effective deterrents of offshore tax evasion.

Finally, a new reporting regime requiring systematic information exchange on U.S. citizen account holders between foreign financial institutions (FFIs) or foreign tax authorities and the IRS was introduced in 2010, as part of FATCA. This may have affected U.S. citizens living abroad in two main ways. First, the IRS would now have better access to third-party reporting on income and assets for these individuals. Second, these individuals now faced increased costs (either financial costs or compliance costs) in their dealings with FFIs, as those FFIs themselves faced increased costs in complying with FATCA. Dharmapala (2016) studies how a unilateral

[11] If required to specify customers in advance, the IRS would not have been able to meaningfully pursue the relevant information. U.S. taxpayers hiding assets did not notify the IRS of their holdings, and thus could not be identified *ex ante* and specified in requests for information.
[12] Between 2008 and 2010, the U.S. signed such agreements with six jurisdictions: Liechtenstein, Luxembourg, Malta, Monaco, Panama, and Switzerland.

reporting regime (like FATCA) affects the cost to FFIs of providing financial services and how this in turn affects incentives for tax-compliant behavior by foreign residents. Belnap, Thornock, and Williams (2019) study foreign countries' and FFIs' participation in automatic information sharing with the IRS and show that FFI participation was near-universal (97% of FFIs participated in automatic information sharing) and costly.

These enforcement changes are relevant to the study of citizenship renunciation because each change either made it more difficult, or less attractive, to be a U.S. citizen living and maintaining financial accounts abroad. This paper is the first to study carefully the potentially unintended consequence of these changes in tax enforcement – increased U.S. citizenship renunciation by U.S. citizens living abroad.

3. Data

The main source of data for this study is an IRS database of former U.S. citizens who have renounced their citizenship since 1998. Individuals who expatriate are required to meet with a consular official, resulting in a Certificate of Loss of Nationality (CLN), and to file a form with the IRS (Form 8854, the Initial and Annual Expatriation Statement, intended to be filed along with the income tax filing for the year of expatriation). The State Department notifies the IRS of each CLN, which the IRS then matches with the Form 8854 filings they receive from taxpayers. In practice, some individuals have only one of the two forms, and the IRS database represents the union of renouncing individuals based on CLNs, Form 8854s, or both. In this paper I study only those renunciations occurring between 1998 and 2018, to allow for a lag in 8854 filing and ensure a more complete picture of the renunciations occurring in each year. The database also includes information about some of the individuals relinquishing long-term residency status (rather than U.S. citizenship). Because this information is not entirely complete—not all such individuals are included in the database—I restrict my focus in this paper to former citizens.

For all individuals in the database, I observe the date of renunciation and the destination country or jurisdiction. For individuals with Form 8854 filings I observe reported net worth as of the date of expatriation. Other fields of interest on Form 8854 that are not available for study at this time include more details on how foreign citizenship was acquired, as well as a breakdown

of assets by asset category. For those with Social Security Numbers (SSN) or Taxpayer Identification Numbers (TIN), I link to other relevant tax filings.[13] About 70% of those renouncing have these identifiers. I include all individuals in each analysis where possible, although at times this is not feasible (e.g., when studying pre- renunciation income, which requires linking to income tax filings).

In addition to data on those renouncing citizenship, I also rely on information about the population of U.S. tax filers who are filing from abroad.[14] This allows me to observe the base of individuals residing abroad who could potentially renounce their U.S. citizenship.

4. Description of renouncers

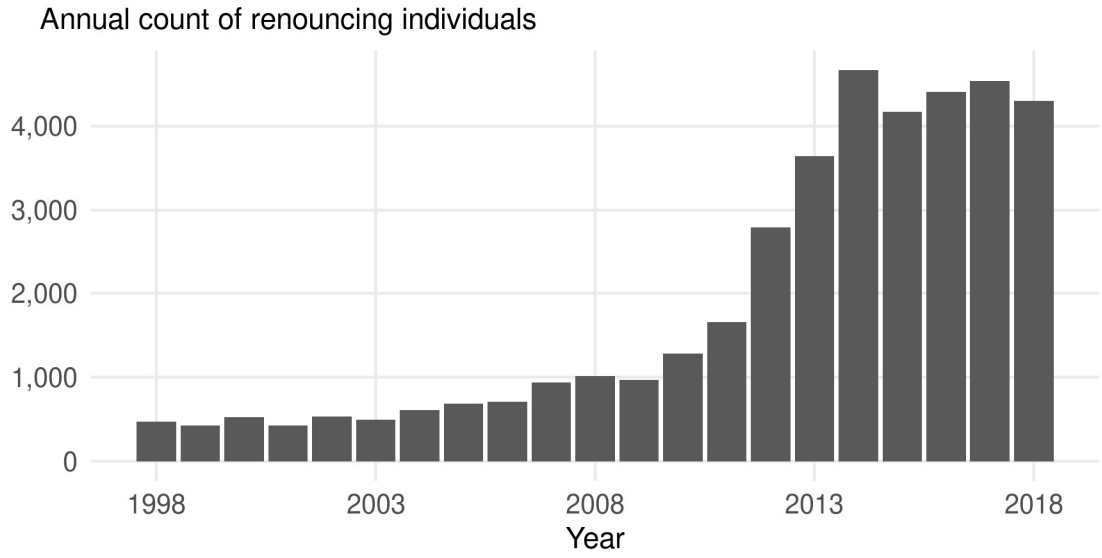
This section answers the first of my three research questions: Who is renouncing? Previous studies have had to rely exclusively on publicly available information, which in practice has meant only the names of individuals expatriating each quarter as reported in the Federal Register. I provide more detailed information on these individuals, including their prior U.S. tax filing behavior (and the resulting inferred location, i.e., in the U.S. or abroad), self-reported net worth and income, and destination jurisdictions.

4.1. Overall counts

Figure 1 shows the annual count of all former citizens who have renounced citizenship, as identified in the IRS database, from 1998 to 2018. There is a gradual increase in annual counts during the 2000s, followed by a more marked increase since 2011. This is the pattern of renunciations that was available for study prior to this paper, using only publicly available information about those expatriating.[15]

[13] These include Form 1040 (Income Tax), Form 1116 (Foreign Tax Credit), Form 2555 (Foreign Earned Income Exclusion), and Form 709 (Gift Taxes).
[14] I am especially grateful to Tom Hertz at the IRS for developing these data.
[15] Figure 27 in Appendix B shows the annual count using publicly available information, with counts for 1962-1994 from the Joint Committee on Taxation (1995) and counts for 1998-2020 from the Federal Register.

Figure 1: Annual count of U.S. citizenship renunciations



Notes: This figure plots the count of former citizens who renounced citizenship each year, as identified in the IRS database for years 1998-2018.

4.2. Prior presence in the U.S.

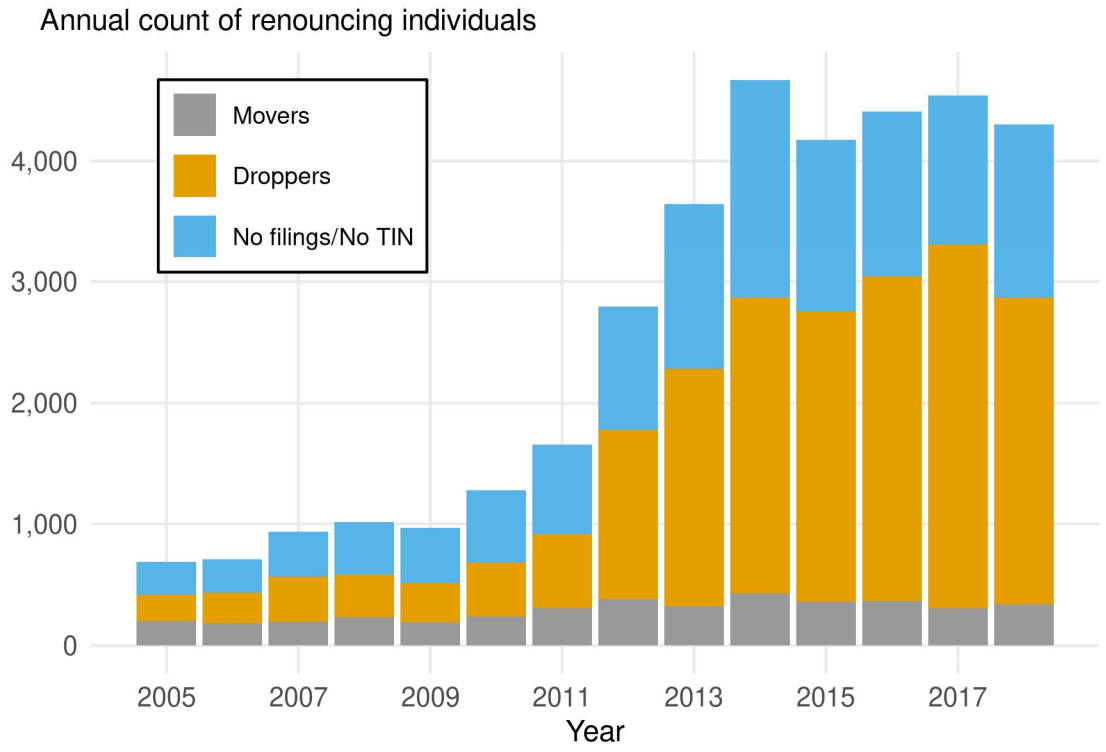
Presented with the overall increase, a policy-relevant question is, are these individuals "leaving the U.S.", or instead individuals who already were living abroad and chose to drop U.S. citizenship? To answer this I link individuals to their pre-renunciation income tax filings and infer their locations from the addresses reported on those filings. Most individuals are required to file Form 1040 each year, even those living abroad. I categorize each individual into one of a few buckets: those that filed at least once from a U.S. address before renouncing ("Movers"); those that filed income tax returns but never from a U.S. address ("Droppers"); and those for whom we cannot observe pre-renunciation locations (either because they have no filings or have no TIN).[16] Because this method relies on data for tax filings available in the years prior to renunciation, I

[16] This is an imperfect proxy that in general would bias towards classification as a Mover, as some individuals may maintain addresses in the U.S. even while living abroad, or may use a U.S.-based tax preparer's address on their filings. Note that because not all renouncing individuals are primary filers, I search for tax filings associated with their TIN as either primary or secondary filers, to ensure I gather as much pre-renunciation location information about each individual as possible.

limit this classification to those renouncing in 2005 or later[17]; I then use five years of pre-renunciation tax returns to classify each individual as Movers or Droppers.

Figure 2 shows the count of renouncing individuals each year, split by this classification. The gray bars represent the Movers – those who can be thought of as "leaving the U.S.". The orange bars represent the Droppers, those who were filing returns but always from a foreign address. In blue are those with a TIN but no filings, or without TINs or SSNs to match to tax returns (this latter group is likely comprised mainly of Droppers, i.e., those who were not present in the U.S. prior to expatriation, which would explain why they have no filings or no TINs). While the annual count of Movers has increased slightly, most of the of the recent increase is by Droppers. In later sections I will study further what can explain this increase in Droppers, arguing that it is primarily an unintended consequence of the increased compliance costs resulting from FATCA and other offshore financial enforcement.

Figure 2: Annual count of renunciations, split by pre-renunciation tax filing locations



[17] The IRS database of income tax returns starts in earnest with returns for tax year 1998.

Notes: This figure plots the count of individuals renouncing each year, split by their classification based on Form 1040 filing behavior in the five years prior to renunciation. Movers are those who filed at least once from the U.S. during those five years; Droppers are those who filed always from abroad. Renunciations prior to 2005 are excluded to ensure sufficient pre-renunciation data are available.

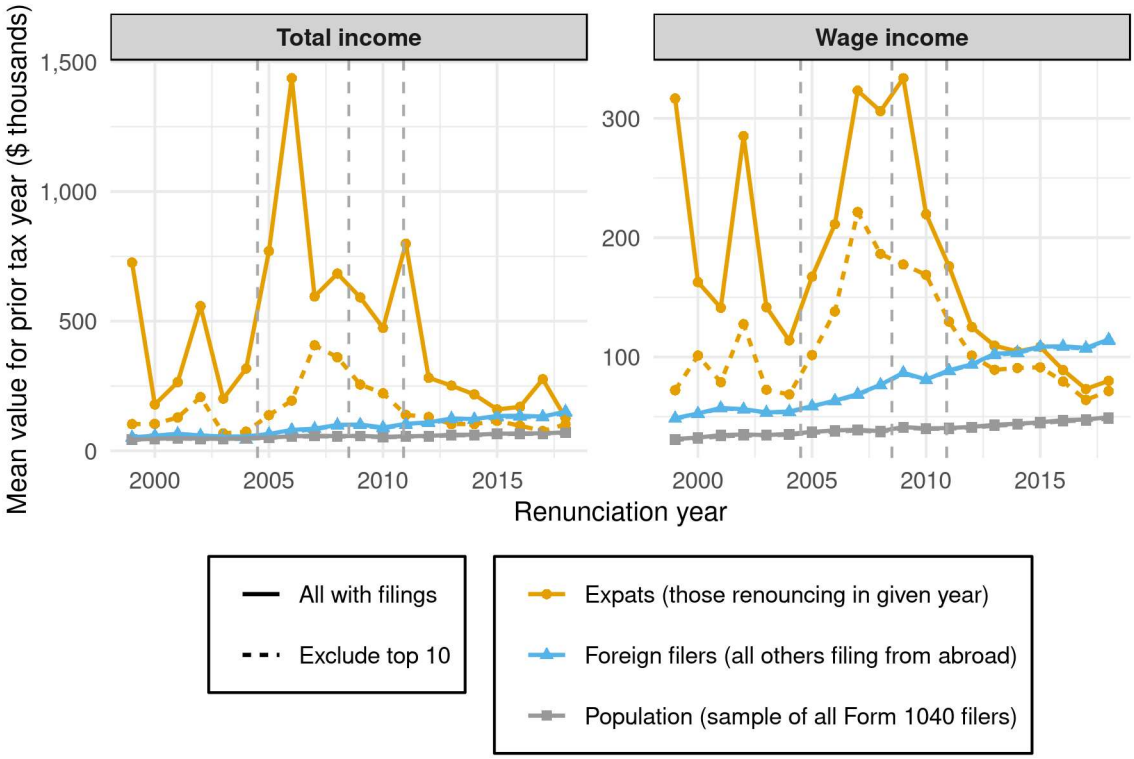
4.3. Income and wealth

It is also interesting to consider how these individuals compare to others in terms of income and wealth. I begin by comparing renouncers to other foreign filers and the full population of U.S. tax filers, in terms of total and wage income, and then compare income within renouncers, between Movers and Droppers. I then do a similar comparison for reported net worth.

Figure 3 reports the mean values of total income and wage income in the year prior to renunciation, and compares this to two other groups: (i) all other filings from foreign addresses, and (ii) a sample of the full population of Form 1040 filings. In orange are renouncers who were the primary filer for a linked 1040 in the year prior to renunciation.[18] In blue are all other Form 1040 filings from foreign addresses for the given year, and in gray are a sample of all Form 1040 filings. The vertical dashed lines represent three key dates related to expatriation tax law: 2004 AJCA (raising the net worth threshold for covered expatriate designation), 2008 HEART Act (introducing the mark-to-market exit tax), and 2010 FATCA (increasing information reporting of foreign financial accounts held by U.S. citizens). To illustrate the influence of a few outliers on the mean value among renouncers, the dashed line removes the top 10 individuals for each year.

[18] I use the prior year to ensure a full year's income is reported. In the year of renunciation itself, those renouncing citizenship file a Form 1040 representing the portion of the year they are a citizen, and may file a Form 1040 NR for the remaining portion of the year after they have renounced.

Figure 3: Comparison of income for renouncers, foreign filers, and all tax filers

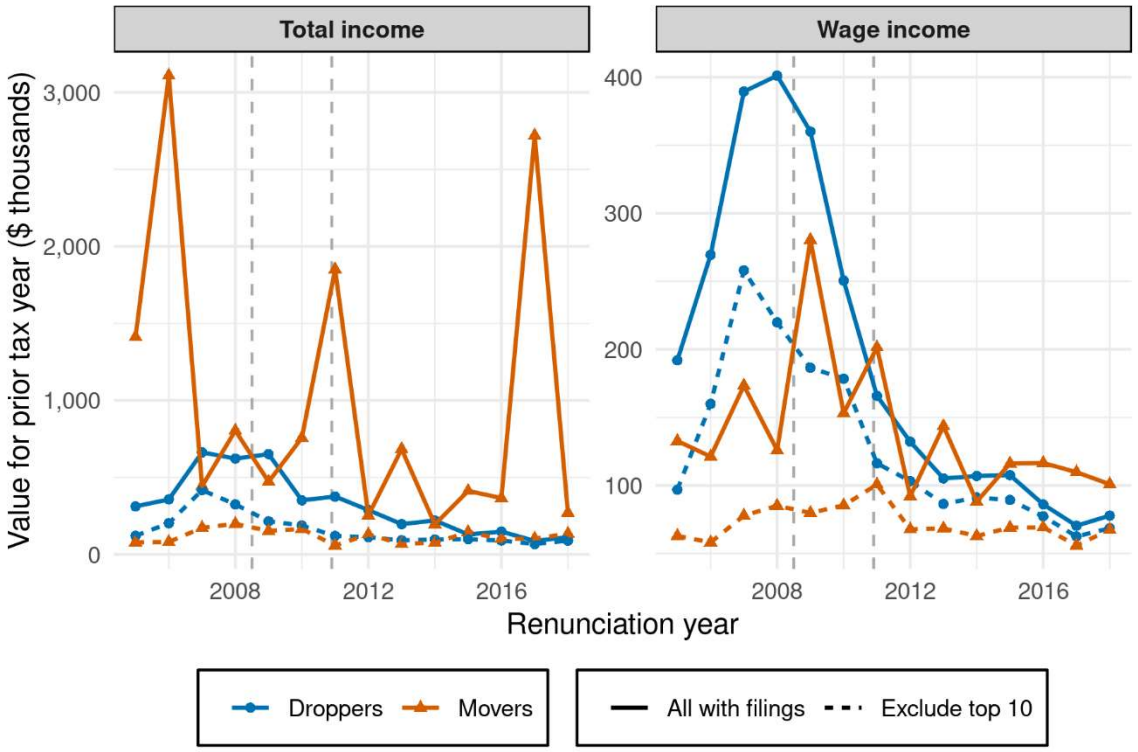


Notes: This figure compares the income of renouncers in the year prior to renunciation to two comparison groups: all other foreign filings, and a sample of the population of Form 1040 filing. For renouncers, only primary filers with linked filings are included. The three vertical dashed lines represent three key dates related to expatriation tax law: the 2004 AJCA, the 2008 HEART Act, and 2010 FATCA. The solid line includes all individuals; the dashed line removes the top 10 in each year.

Figure 3 demonstrates that the average income of those renouncing each year has changed dramatically over time, and that outlier individuals play an important role in driving the annual averages. Those renouncing during the window between 2004 (AJCA) and 2010 (FATCA) were on average much higher income, relative to those expatriating in the 2010s; and this is true even when removing the top 10 individuals each year. Prior to 2010, those renouncing were higher income, on average, than both other foreign filers and the broader U.S. filer population. Since 2010, those renouncing have had lower income, on average, than other foreign filers, but still higher than the U.S. filer population overall. Similar trends appear when considering the median values instead of the mean (see Appendix, Figure 15).

For more detail about the income of renouncers, consider Figure 4, which compares the income just for renouncers, with averages calculated separately for Movers and Droppers.[19] For both groups, incomes were higher during the 2005-2010 time period, but the big outliers for total income are among the Movers, not the Droppers. The groups also differ in terms of their source of income; Movers have higher average total income, but Droppers have higher average wage income. The dramatic influence of the top 10 individuals each year on the average total income among Movers is a stark example of the nature of the renunciation policy problem: although most individuals have a small revenue impact, a handful can have a significant effect; I discuss this in further detail in Section 6. As above, similar trends are seen in the median values (see Appendix, Figure 16).

Figure 4: Comparison of income among renouncers, Movers vs. Droppers

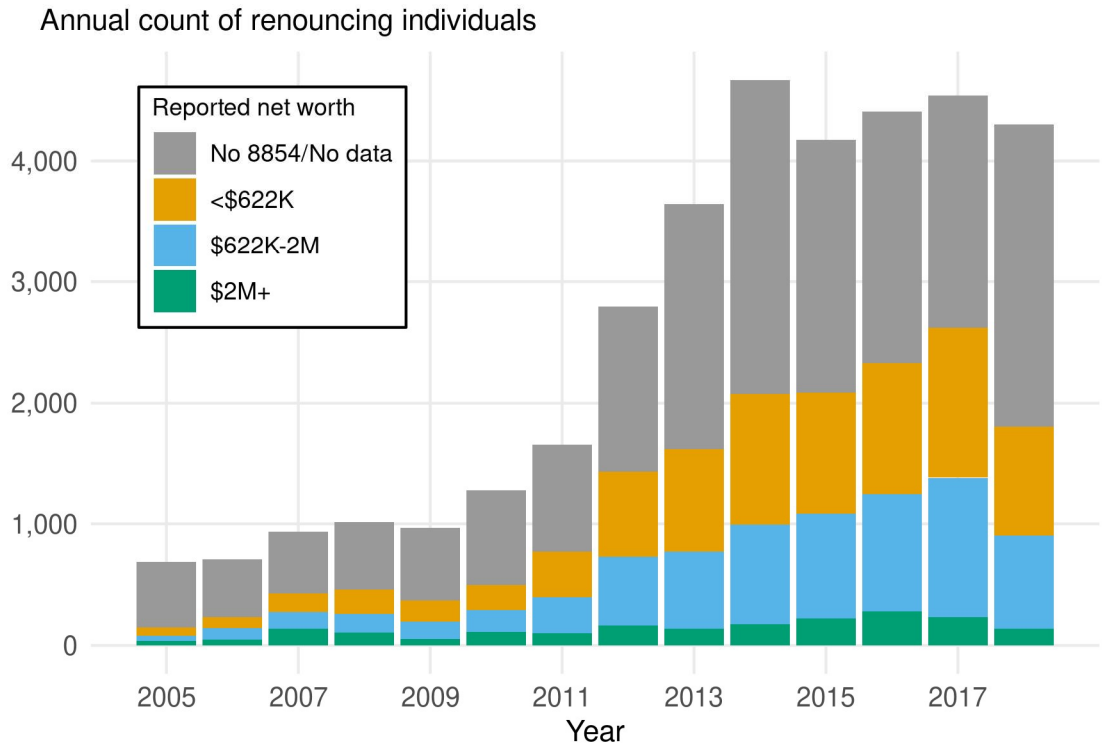


Notes: This figure compares the income in the year prior to renunciation for renouncers with linked Form 1040 filings as primary filers. The mean values are calculated separately among Movers and Droppers. Renouncers with no filings or no TINs are excluded.

[19] Those without filings or TINs are excluded due to lack of income data.

Moving from income to wealth, I begin by grouping the renouncers based on their net worth as reported on Form 8854. I construct buckets using the thresholds for covered expatriate designation: $622K (the threshold prior to the AJCA, i.e., prior to June 2004) and $2M (the threshold since the AJCA, i.e., after June 2004). Figure 5 shows the annual count, grouped by reported net worth.[20]

Figure 5: Annual count of renunciations, split by reported net worth



Notes: This figure plots the count of individuals renouncing each year, split by reported net worth. Prior to June 2004, reported net worth data are not available. This figure starts with the first full year of available data, 2005.

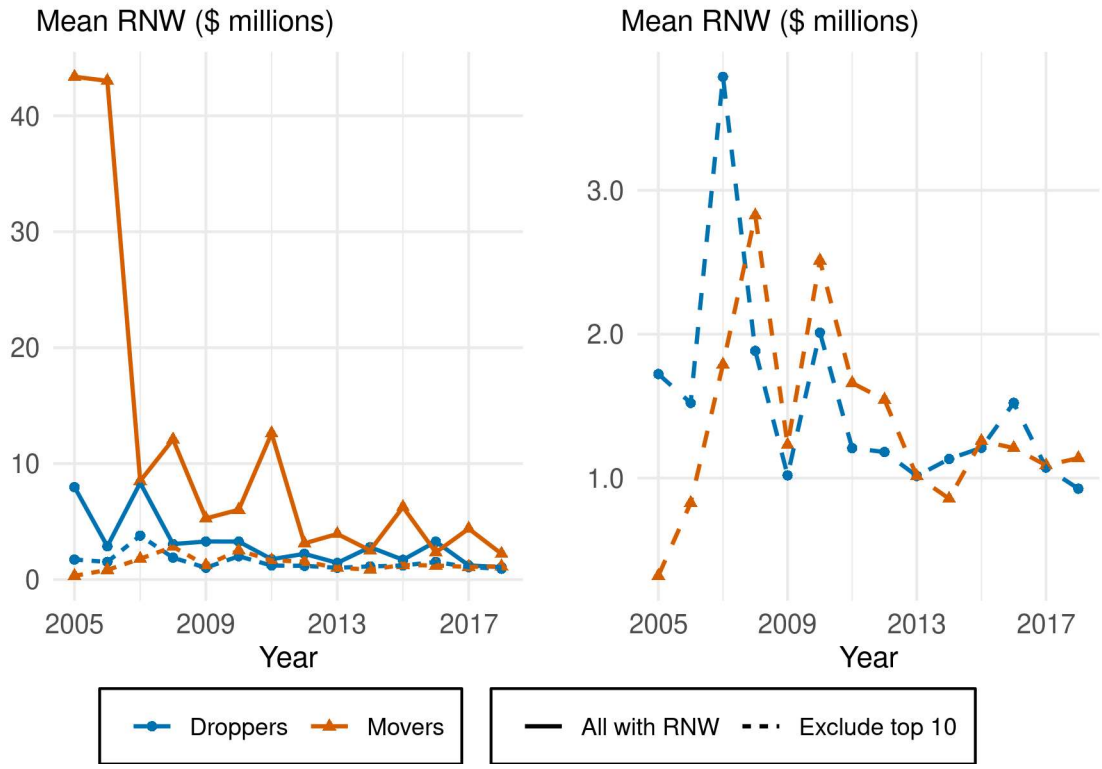
A few patterns are worth noting. First, although there has been a small rise in the number of renunciations by those reporting net worth of at least $2M (the green bars), these still represent a relatively small share of the total. Second, there has been more substantial growth in the number reporting between $622K and $2M in net worth (the blue bars); this group is relevant because it

[20] Reported net worth is only completely available since mid-2004, when Form 8854 began to require all filers to list their reported net worth; prior to this change, only those with net worth above the tax-motivation threshold ($622K in early 2004, adjusted upward for inflation over 1998-2004) were required to report this information.

represents the individuals who prior to the AJCA would have been designated as covered expatriates, but after the raising of the net worth threshold no longer faced such designation. At the same time, there was similar growth in those reporting less than $622K (the orange bars). Finally, an important pattern is the persistent large share of renunciations without Form 8854 or without reported net worth data, (the gray bars). Although filing Form 8854 is a necessary step to fully complete one's citizenship renunciation, a significant number of individuals still have not done so. Some of this pattern in more recent years could reflect that some file Form 8854 with a lag (this likely explains the difference between 2017 and 2018 – those who renounced in 2018 and plan to file Form 8854 may still be finalizing their filings). Although this non-filing limits the ability to draw comprehensive conclusions about the wealth of all renouncers, useful information can still be gleaned by studying those for whom data are available.

I next consider how the wealth of those renouncing each year has changed over time, and whether this differs for Movers and Droppers. Figure 6 reports the mean reported net worth of those renouncing each year since 2005, separately for Movers and Droppers (only including those with reported net worth data available). The patterns are similar to those above for income: Movers are wealthier than Droppers; average renouncer wealth during the 2004-2010 period was notably higher than in more recent years; and removing the top 10 individuals in each group each year has a dramatic effect on the average values. Similar patterns emerge when considering the median values (see Appendix, Figure 17).

Figure 6: Comparison of reported net worth among renouncers, Movers vs. Droppers



Notes: This figure compares reported net worth among those renouncing each year, separately for Movers and Droppers. Only those with reported net worth data available are included. The left panel includes all Movers and Droppers; right panel drops the top 10 Movers and Droppers, by reported net worth, each year.

Finally, I consider how the wealth distribution among renouncers compares to the population. Table 3 shows the count of renouncers from 2005-2018 by their reported net worth, as well as the total reported net worth in each group. The share of the population in each net worth group is included, based on the 2019 Survey of Consumer Finances (these population estimates are for households, and thus weighted towards higher amounts, relative to the renunciation statistics which are for individuals). I provide two estimates for the share of renouncers in each net worth group: the first assumes that all renouncers without reported net worth data are in the <$1M group; the other excludes those without reported net worth data (i.e., it assumes those without reported net worth data are distributed the same as those with data).

Table 3: Comparison of reported net worth groups

	Expatriates			Population	Expatriates		Expatriates
Reported net worth	Number	Share, assuming missing are <$1M	Share, excluding missing	Share (housholds)	Total reported net worth ($B)	Share of total	Median age
<$1M	10,700	82.7%	63.4%	88.1%	$3.90	8.0%	47
$1-2M	4,240	11.8%	25.1%	5.7%	$6.18	12.7%	56
$2-10M	1,430	4.0%	8.5%	5.1%	$6.20	12.8%	53
$10-100M	470	1.3%	2.8%	1.0%	$13.76	28.3%	51
$100M+	50	0.1%	0.3%	0.1%	$18.52	38.1%	45
Has 8854, no RNW	1,860						47
No 8854, no RNW	17,040						45
Total	35,790	100.0%	100.0%	100.0%	$48.56	100.0%	

Notes: This table reports statistics for individuals who renounced between 2005 and 2018. Renouncer counts are rounded to the nearest 10 for disclosure purposes. Population share is based on household shares in the 2019 Survey of Consumer Finances.

Renouncers are relatively wealthier than the population. Specifically, millionaires are relatively more common: 17% of renouncers (assuming none of those missing data are millionaires) versus the estimate of 12% among households in the U.S. population; and note that estimates for the U.S. population share of millionaires among *individuals* are lower, around 5-10%.[21] While those renouncing are on average wealthier than the population, the numbers also reveal the relatively small scale of ultra-wealthy expatriations. Between 2005 and 2018 only about 50 renouncers reported net worth above $100 million. However, although small in number, these individuals may have an outsize impact on policy; their decisions to expatriate tend to show up in the news and spur legislative changes.[22] Interestingly, above $1 million, the median age at expatriation decreases with reported net worth.

Taken together, the information on income and wealth shows that those who have chosen to renounce citizenship were on average higher income and higher wealth than the population, but

[21] The 2018 Credit Suisse Global Wealth Report estimates that 17.35 million Americans were millionaires, or 7.1% of the adult population.

[22] For example, legislative changes in the 1990s reportedly came about because then President Bill Clinton read about the tax-motivated expatriation of six wealthy Americans in Forbes magazine (Cooper and Melton 1995). More recently, Senators Chuck Schumer and Bob Casey proposed a bill to punish Facebook co-founder Eduardo Saverin for his pre-Facebook IPO expatriation (Romm 2012). The bill, titled the Expatriation Prevention by Abolishing Tax-Related Incentives for Offshore Tenancy, or Ex-PATRIOT Act, failed to make it out of committee.

this average obscures significant heterogeneity within the renouncer population: a few outliers in each year strongly influence the average values. The pattern over time shows that average income and wealth among renouncers has been trending down.

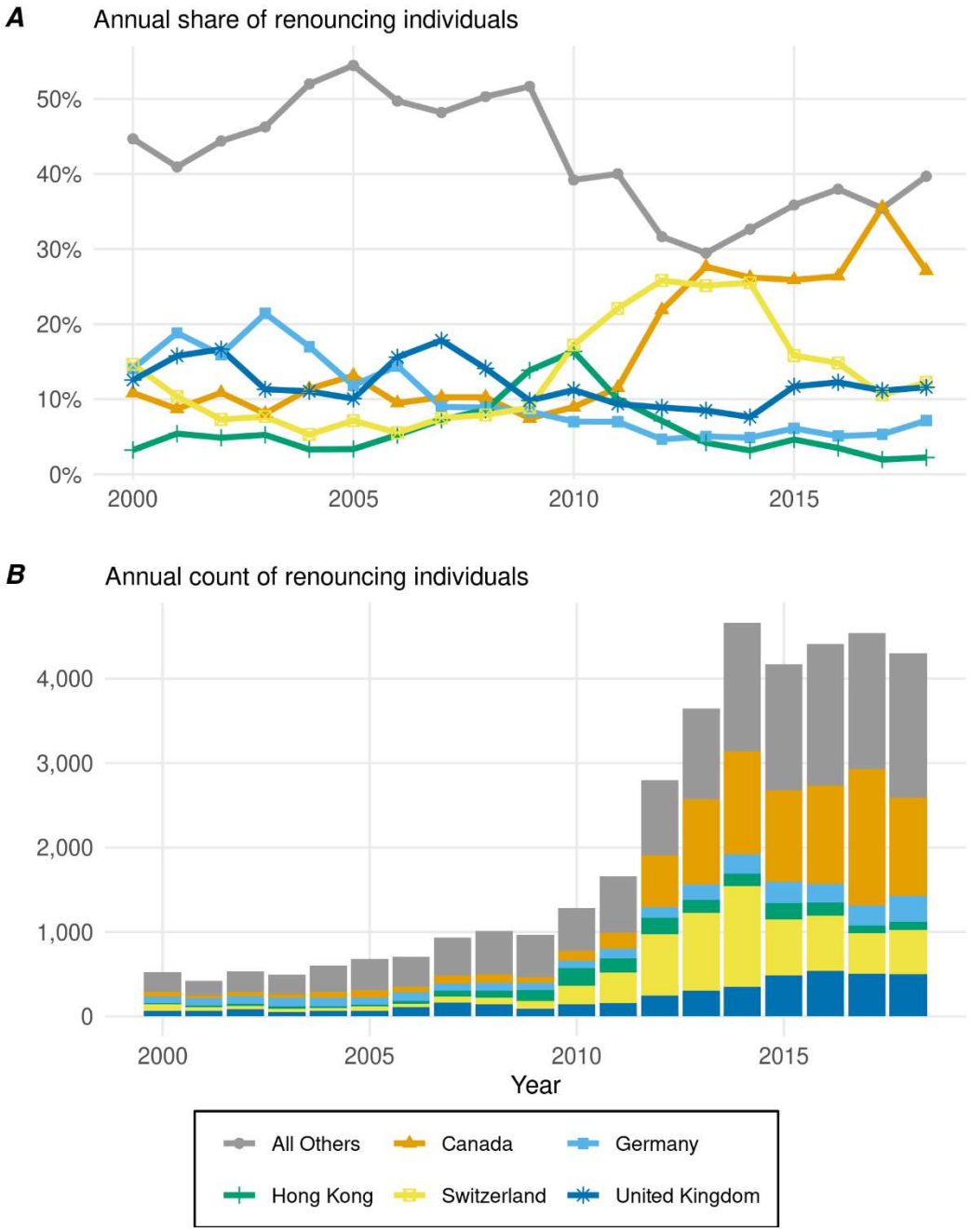
4.4. Destination jurisdictions

Finally, I provide information about renouncers' destination jurisdictions. "Destination" is perhaps a misnomer given that many of these individuals always lived in the foreign jurisdiction or moved there many years prior to dropping U.S. citizenship. Nonetheless, destination here refers to the foreign jurisdiction listed as an individual's country of tax residency (when reported) or general residency (when tax residency is not reported or available).[23] Renouncers' destinations are of interest generally, and may also provide some information about whether taxes are an important factor in the expatriation decision.

Figure 7 shows the share (in Panel A) and count (in Panel B) of renouncers in each year going to the top five destination jurisdictions (by total count from 1998-2018), and all others. Over time renunciation has become more concentrated in the top five destinations, with the share going to destinations outside these top five falling from about 50% in the 2000s to 30% in 2013, although this share ticked back up to 40% by 2018. In recent years, the share renouncing to Canada has risen dramatically. Also of note is the sharp rise and gentler fall in renunciations to Switzerland.

[23] In almost all cases, tax residency and general residency are the same: more than 99% of the records with both tax residency and general residency have the same jurisdiction reported for both.

Figure 7: Share and count of renunciations to top destination jurisdictions



Notes: Panel A plots the share of individuals in each year renouncing to each of the top five jurisdictions, or all others. Panel B plots the count of individuals renouncing to each of these jurisdictions, or all others.

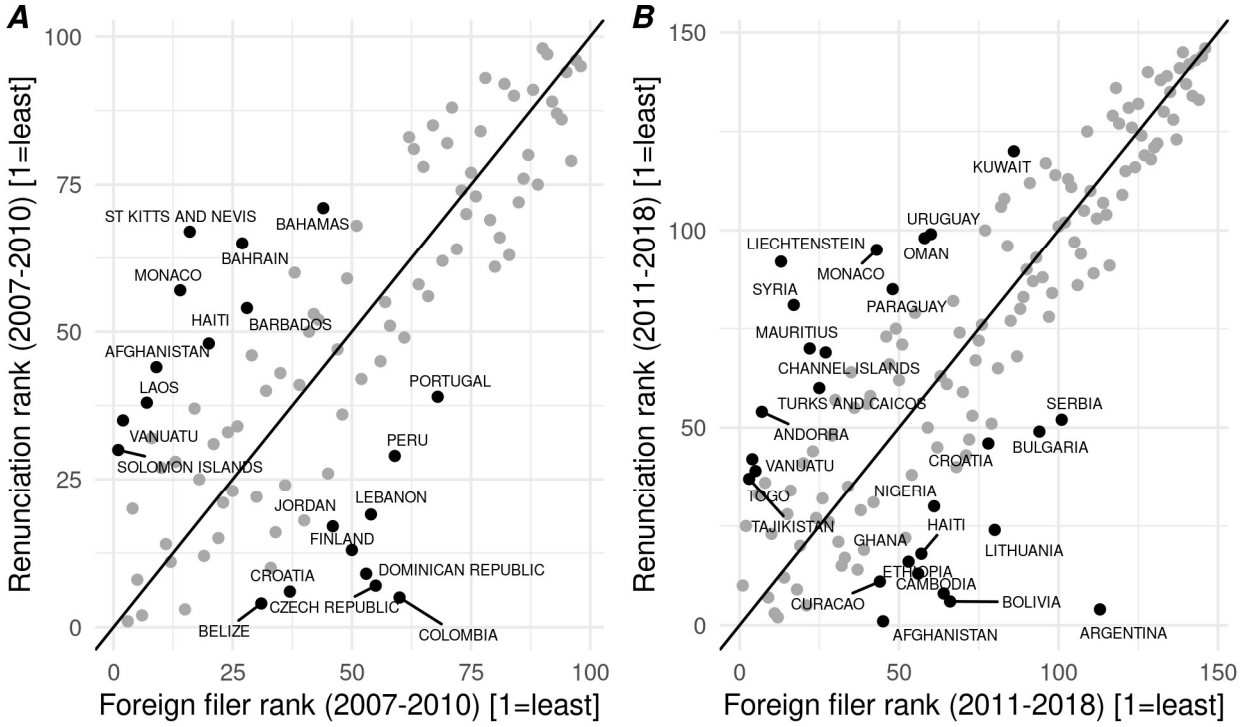
I next consider how the pattern of renunciations to certain jurisdictions relates to the base of U.S. citizens filing from those jurisdictions. If renunciation were equally likely regardless of where a U.S. citizen living abroad is located, then the number of U.S. citizens filing from a

jurisdiction should correlate perfectly with the number of U.S. citizens dropping their citizenship in that jurisdiction. To test whether the data follow such a pattern, I construct two rankings: first, I rank foreign jurisdictions by the average number of U.S. tax filings received each year from each jurisdiction; second, I rank the same foreign jurisdictions by the average number of renunciations each year listing that jurisdiction as their destination. I then produce a scatterplot of these rankings. I do this exercise separately for the years 2007-2010, and 2011-2018, in order to test whether the patterns change before and after FATCA.[24]

Figure 8 shows the rank-rank plots described above. A few patterns are worth noting. First, most jurisdictions fall close to the 45-degree line, suggesting that the correlation between foreign filings and renunciation is strong, on average. Second, there are clusters of jurisdictions that fall away from the 45-degree line. Above the line are jurisdictions whose renunciation rank is higher than their foreign filer rank; U.S. citizens filing from these jurisdictions are more likely to renounce citizenship, on average, than those filing from other jurisdictions. The prevalence of tax havens among these clusters suggests that tax considerations do play a role in some citizenship decisions.[25] Those below the line are jurisdictions where renunciation is less common than would be expected, based solely on the number of foreign filings. The difference between the pre- and post-FATCA plots also suggests the composition of renouncers may have changed between the two time periods. I study these jurisdiction patterns further in Section 5.1.3.

[24] At present I have comprehensive data on foreign filings by year and jurisdiction only since tax year 2007. If in future these data are available for earlier years, one could extend this analysis to include those additional years.
[25] In this discussion, and later in Section 5.1.3, I rely on the list of tax havens used in Johannesen et al. (2020). As they note in footnote 1, "This list does not have any official role in IRS enforcement efforts; the IRS does not have an officially accepted definition of a tax haven."

Figure 8: Comparing jurisdictions by renouncer rank vs. foreign filer rank



Notes: This figure plots each jurisdiction's rank based on renunciations (the average annual count of individuals reporting the jurisdiction as their destination when renouncing) and foreign filings (the average annual count of U.S. tax filings received from the jurisdiction). The ranks are calculated separately for the years 2007-2010 and 2011-2018 to test whether patterns change before and after FATCA.

Finally, one might ask whether the top destinations of renouncers differ when focusing on particular sub-groups (e.g., the wealthy). In general, this is not the case; although there are some small differences, the top jurisdictions are consistent when looking within various subgroups. In the Appendix, Table 7 shows the top ten destinations within each reported net worth group, and Table 8 the top ten destinations within each renouncer classification (Mover vs. Dropper).

5. Explaining the increase in renunciations

This section addresses the second of my three research questions: Why are individuals renouncing? I focus first on explaining the recent increase, which as shown above is mainly driven by Droppers. I then consider renunciations by Movers and their connection to U.S. expatriation tax policy.

5.1. Explaining renunciations by those already living abroad

I develop a framework for the decision of those living abroad to maintain or drop citizenship using a simple option value approach. I then use this framework to motivate empirical tests, first using individual-level data to test various determinants of renunciation and confirm that age is positively correlated with renunciation, then using jurisdiction-level data to test what characteristics correlate with greater renunciation frequency, and finally using a difference-in-differences approach to show that increased compliance costs help explain the recent increase in renunciations.

5.1.1. Theoretical framework

For U.S. citizens living abroad, U.S. citizenship can be thought of in an option value framework. For those abroad, U.S. citizenship represents an American-style call option in which the foreign resident U.S. citizen retains the right to return to the U.S. to live or work at some point in the future. Typically, option value can be decomposed into time value and intrinsic value. Time value for the option on U.S. citizenship corresponds to age: as individuals get older, the remaining time in which they can exercise the option decreases, leading the value of that option to decrease as well. All else equal, this suggests that the probability of renunciation should increase with age.

The intrinsic value of the option on U.S. citizenship comprises many components. First, consider that for a typical financial option, the value of that option increases with the volatility of the underlying asset. Similarly, the value of U.S. citizenship should increase as volatility increases. Volatility in this case could include global economic uncertainty and the political stability of foreign countries relative to the United States; those living in more stable countries may consider themselves less likely to want or need to exercise the option to return to or work in the U.S., and thus be more likely to renounce U.S. citizenship. Other components of the intrinsic value could include the tax rates of the foreign country relative to the U.S. and the relative value of the foreign country's passport. For those living in countries with lower relative rates, the value of the option on U.S. citizenship would be lower, while for those in countries with a relatively more valuable passport, the option value of being able to use one's U.S. passport would be lower.

Finally, in addition to the value of the option, consider the cost of maintaining it. This cost has always included remitting one's annual tax liability, if any, as well as the compliance costs, including time and effort, of annual filing of U.S. tax returns. These compliance costs have increased in recent years, with additional forms required for many taxpayers, both by tax agencies and financial institutions. In the next sections I test whether the predictions of this framework are borne out in the data.

5.1.2. Individual determinants of renunciation

To begin testing the implications of the options model, I focus first on identifying characteristics associated with the costs and benefits of the decision of those living abroad to renounce citizenship. Although not all the reasons someone might choose to renounce are captured in tax filings, administrative microdata still allow me to test how several key characteristics relate to renunciation.

The base for this study is the set of all U.S. tax filings by those filing from abroad. This includes Form 1040 filings, and other linked tax form data, for those filing from abroad for tax years 2007-2017. Among these filings, I identify the individuals who ultimately renounce citizenship, and flag the tax year prior to the year in which they expatriate, dropping subsequent filings for these individuals if they appear.[26] As noted above, I consider the tax information in the year prior to the year of expatriation as the most relevant, because it is represents a complete year of earnings and other taxpayer decisions. The final dataset contains about 17,000 instances of citizenship renunciation (I include only primary filers, and am unable to include individuals without TINs or linked tax filings), out of more than four million tax filings from those living abroad.

I develop a simple linear probability model, regressing *Renounce* (the decision to renounce citizenship in the following year) on a set of individual-year covariates and, in some specifications, jurisdiction, year, or jurisdiction X year fixed effects:

$$Renounce_{ijt+} = \beta(Covariates_{it}) + [\alpha_j] + [\alpha_t] + [\alpha_{jt}] + \varepsilon_{ijt}$$

[26] Some individuals who expatriate continue to file Form 1040 or Form 1040 NR after renunciation, depending on their income sources and other circumstances.

These covariates include: total positive income (TPI) in millions of dollars; wages as a share of total positive income (0 if no TPI); a dummy indicating the taxpayer had a positive tax liability; dummies indicating whether a taxpayer had nonzero values reported for Schedule C or Schedule E income, respectively[27], a dummy indicating that a charitable contribution deduction was claimed on Schedule A, a dummy indicating Form 709, the U.S. Gift and Generation-Skipping Transfer Tax Return, was filed; and a dummy indicating a taxpayer received any notice from the IRS. In some specifications I include age (in years), though this slightly lowers the observation count because of some missing data on dates of birth. Table 9 in the Appendix presents summary statistics for these variables.

The results of the basic linear probability model are shown in Table 4.[28] The dependent variable is coded as 100 or 0, so that the coefficient estimates represent the effect in percentage points for each covariate, holding all others constant. The different columns include various combinations of fixed effects, culminating in column (6) with year X jurisdiction fixed effects included (so that the model seeks to explain the decision to renounce within a jurisdiction in a year). Figure 18 in the Appendix plots the coefficient estimates, scaled by the mean probability of renunciation, to show the estimated percent change in the probability of renunciation resulting from a 0 to 1 change in each binary covariate. The figure also compares the coefficient estimates when including or excluding Movers, showing similar coefficient estimates.

[27] Schedule C includes income and loss from a business or profession practiced as a sole proprietor; Schedule E includes income and loss from rental real estate, royalties, partnerships, S corporations, estates, trusts, and residual interest in real estate mortgage investment conduits (REMICs).

[28] In this main specification, seeking to explain the recent increase in Droppers, I include only the Droppers as renouncers, excluding Movers from the dataset in any year where they appear. I also run the models including all renouncers, and the results are nearly identical; see Table 10 in the Appendix.

Table 4: Individual linear probability model results

Dependent variable:	Binary: Renounce in following year (100/0)					
	[1]	[2]	[3]	[4]	[5]	[6]
Total Positive Income	0.0102	0.0102	0.0108	0.0069	0.0074***	0.0071
($ millions)	(0.0064)	(0.0063)	(0.0064)	(0.0056)	(0.0018)	(0.0055)
Wage share	-0.0844	-0.055	-0.1119	-0.1203*	-0.1086***	-0.1044**
(% of TPI)	(0.0783)	(0.0603)	(0.0736)	(0.0549)	(0.0075)	(0.0386)
Positive tax liability	-0.0805	-0.0834	-0.0695	-0.0724	-0.0662***	-0.0645
(1/0)	(0.0641)	(0.0650)	(0.0630)	(0.0466)	(0.0059)	(0.0446)
Any Sch C income	0.0886***	0.0937***	0.0672**	0.0597***	0.0482***	0.0518**
(1/0)	(0.0248)	(0.0278)	(0.0229)	(0.0177)	(0.0088)	(0.0176)
Any Sch E income	0.0066	0.0042	-0.0104	0.0135	-0.0052	0.0033
(1/0)	(0.0372)	(0.0383)	(0.0366)	(0.0269)	(0.0081)	(0.0262)
Schedule A charity	-0.0136	-0.0218	0.0176	-0.1208	-0.0984***	-0.0963
(1/0)	(0.0881)	(0.0856)	(0.0903)	(0.0926)	(0.0112)	(0.0926)
Filed gift tax return	2.2867***	2.2807***	2.2498***	2.2302***	2.1869***	2.1767***
(1/0)	(0.4204)	(0.4172)	(0.4143)	(0.4277)	(0.0551)	(0.4175)
Received any notice	0.1070**	0.1023*	0.0313	0.1163*	0.0398***	0.0447
(1/0)	(0.0544)	(0.0547)	(0.0197)	(0.0529)	(0.0080)	(0.0280)
Age		0.0019			0.0022***	0.0022**
(years)		(0.0013)			(0.0002)	(0.0009)
Constant	0.3954***	0.2890***				
	(0.1356)	(0.0712)				
Year FE	No	No	Yes	No	Yes	No
Jurisdiction FE	No	No	No	Yes	Yes	No
YearXJurisdiction FE	No	No	No	No	No	Yes
Observations	4,831,000	4,790,000	4,831,000	4,831,000	4,790,000	4,790,000
Adjusted R^2	0.0005	0.0005	0.0013	0.0045	0.0053	0.0066
Mean dep. var.	0.343	0.343	0.343	0.343	0.343	0.343

Notes: *p<0.1; **p<0.05; ***p<0.01. Standard errors, clustered by year and by jurisdiction, are shown in parentheses. The dependent variable is coded as 100 or 0 so that the coefficient estimates represent the effect in percentage points for each covariate, holding all others constant. “Movers” that can be linked to Form 1040 filings as a primary filer are excluded here; results when including them are shown in Table 10 in the Appendix.

The results suggest several individual characteristics connected with the decision to renounce citizenship. Filing a gift tax form, which is relatively rare in general, is very strongly associated with renunciation (consistent with a pattern I demonstrate later related to the net worth threshold for covered expatriate designation). The presence of Schedule C income is positively associated with renunciation, while having a higher wage share of income is negatively associated with renunciation (interesting given the pattern shown in Section 4.3 that Droppers had relatively high wage income, suggesting that those renouncing had both high wage income and non-wage income). Having a positive tax liability is *negatively* associated with expatriation, although this is only statistically significant at standard levels in one specification. However, if the association is truly negative, this would be consistent with an explanation in which long-term foreign resident U.S. citizens drop citizenship because of increased compliance costs (filing new and more complicated forms), not because of tax liability itself.

Most relevant to the option value framework, the results show that age is significantly, and positively, correlated with the decision to renounce. This is consistent with the prediction that as individuals age, the time value of their option on U.S. citizenship decreases, leading to lower values for that option and renunciation becoming more common.

5.1.3. Jurisdiction characteristics and renunciation frequency

The previous section tested whether certain individual characteristics, observable in tax filings, correlate with the decision to renounce in a way consistent with the option value framework. In this section, I similarly test whether characteristics of the *jurisdictions* from which foreign-resident U.S. citizens file their taxes correlate with the prevalence of renunciations from those jurisdictions. The option value framework predicts a higher value of U.S. citizenship (and thus a lower rate of renunciation) for those living in foreign jurisdictions where they perceive a higher probability of wanting or needing to exercise the option by returning to live or work in the United States.

For this test, I collapse the individual-level data to a jurisdiction-level dataset and estimate the following equation:[29]

$$Renunciation\ share_j = \beta\big(Covariates_j\big) + \varepsilon_j$$

The renunciation share is defined as the total number of renunciations in a given jurisdiction from 2008 to 2018, divided by the unique set of U.S. tax filers from that jurisdiction over the period 2007 to 2017. The denominator approximates the set of "potential renouncers" – those who filed from abroad and could have chosen to renounce U.S. citizenship. Dividing the total number of renunciations to a jurisdiction by this set of potential renouncers gives an outcome value that allows comparison of the relative frequency of renunciation across jurisdictions.

The covariates are motivated by the option value framework. First are three binary variables indicating whether a jurisdiction is designated as a tax haven, relying on the designations in Johannesen et al. (2020); offers citizenship-for-sale, based on Christians (2017); and is majority native English-speaking. Next, I include separately the average percentile rank of the jurisdiction on two measures from the World Bank's Governance Indicators: the Rule of Law and Political Stability indices (higher values indicate better governance). I also include the average percentile rank of each jurisdiction's passport value according to the Henley Passport Index, a ranking of passports based on the number of destinations accessible without a prior visa (higher values indicate a more valuable foreign passport). Finally, I include the average annual change in real GDP, according to the IMF. Summary statistics are shown in the Appendix, Table 11.

The results are shown in Table 5 below. Tax haven jurisdictions are associated with higher renunciation shares, consistent with lower taxes motivating renunciation for at least some individuals. The Rule of Law index is also positively correlated with renunciations, consistent

[29] I take this approach to focus specifically on the jurisdiction characteristics and to capture associations over a longer time period (collapsing across years), relative to the individual approach above. However, I also test the relationship between the jurisdiction characteristics and the probability of renunciation by merging the characteristics into the individual-level data and running similar specifications to those in the prior section, replacing the jurisdiction fixed effects with the characteristics I discuss in this section. The results are generally consistent between the two approaches, though the two are not directly comparable: the individual approach studies the decision to renounce in a given year, while the jurisdiction approach studies the frequency of renunciations over a longer time period. See Table 12 in the Appendix for the results of the individual-level regression with jurisdiction-level covariates.

with the option value framework's prediction that individuals living in more stable jurisdictions anticipate a lower likelihood of exercising the U.S. citizenship option, and thus are more likely to renounce. Similarly, jurisdictions with more valuable passports are associated with higher renunciation shares. In these specifications, citizenship-for-sale (CFS) is negatively correlated with renunciation share; I also run specifications excluding CFS, or including a tax haven X CFS interaction (see Table 13 in the Appendix). Removing CFS does not materially affect the other covariate estimates, and the haven interaction suggests that the CFS effect is driven by the few non-haven CFS jurisdictions, like Bulgaria and Serbia, where renunciation is relatively uncommon. The lack of an effect for the Political Stability index likely reflects the strong correlation between the Rule of Law and Political Stability indices. Overall, the results are generally supportive of the predictions of the option value framework.

Table 5: Jurisdiction-level regression results

	Dep. var.: Total renunciations/unique foreign filers			
	[1]	[2]	[3]	[4]
Tax haven (1/0)	0.0262**	0.0266**	0.0353**	0.0171*
	(0.0125)	(0.0129)	(0.0156)	(0.0088)
Citizenship-for-sale (1/0)	-0.0095	-0.0112*	-0.0155*	-0.0068
	(0.0064)	(0.0065)	(0.0082)	(0.0053)
English-speaking (1/0	-0.0056	-0.0121	-0.0157	-0.0052
	(0.0073)	(0.0087)	(0.0097)	(0.0059)
Rule of Law index (percentile)		0.0323***	0.0182**	0.0201***
		(0.0093)	(0.0072)	(0.0062)
Political Stability index (percentile)		-0.0032	0.0015	-0.0042
		(0.0069)	(0.0078)	(0.0051)
Passport ranking (percentile)			0.0120**	0.0088
			(0.0057)	(0.0055)
Change in Real GDP (percentage points)				0.0002
				(0.0005)
Constant	0.0091***	-0.0038	-0.0047	-0.0033
	(0.0010)	(0.0033)	(0.0036)	(0.0030)
Observations	213	205	196	187
Adjusted R^2	0.0852	0.1707	0.2134	0.2253

Notes: *p<0.1; **p<0.05; ***p<0.01. Heteroskedasticity-robust standard errors are shown in parentheses.

5.1.4. Testing the compliance cost explanation

I now turn to an analysis which seeks to explain the increase in renunciations seen in the past decade. Many public press articles about the recent increase include anecdotes attributing the increase to increasing compliance costs for U.S. citizens living abroad; academic articles have posited this explanation as well (e.g., Kudrle (2015), De Simone, Lester and Markle (2020)). These articles highlight that over the past decade there has been a general increase in offshore financial enforcement, including FATCA, as well as *ad hoc* legal and information actions and bilateral treaties that, for certain countries, increased the flow of information to the IRS about

U.S. citizens' financial assets and earnings abroad. In general this meant that foreign financial institutions (FFIs) faced increasing compliance costs when working with U.S. citizen customers, and they became less willing to do so.[30] Thus for those already living abroad, maintaining U.S. citizenship in the 2010s brought additional costs (e.g., difficulty dealing with local financial institutions and increased filing requirements).[31] If one wished to remain abroad then these costs were only avoidable by dropping U.S. citizenship. In what follows, I test empirically whether the compliance cost narrative is consistent with the patterns visible in the data on renunciations.

In one test, I compare renunciation trends between jurisdictions that signed FATCA-related Inter-Governmental Agreements (IGAs) with the U.S. and those that did not. The hypothesis is that jurisdictions which sign IGAs are more cooperative in implementing increased enforcement measures, which could induce citizenship renunciation because of increased hassle costs of dealing with FFIs as a U.S. citizen, or by leading U.S. tax avoiders and evaders to drop citizenship in an attempt to avoid detection. Since FATCA was passed in 2010, about half of all foreign jurisdictions have signed IGAs specifying the terms under which foreign financial institutions (FFIs) identify and report information about U.S. accounts.[32] These IGAs were signed over time starting in 2012, with most signed by 2015 (Figure 19 in the Appendix plots the annual counts, and Figure 20 shows a map shaded by each jurisdiction's IGA status). For purposes of this test, the meaningful comparison is the binary distinction of whether or not a jurisdiction is an "IGA jurisdiction" (i.e., one that ultimately signs a FATCA IGA) rather than the timing of the signing itself, because the obligations imposed on FFIs by FATCA are not created by the IGAs; rather, FATCA imposed those obligations when it was passed, and the IGAs help

[30] Press reports describe numerous anecdotes of U.S. citizens abroad facing such difficulties. See, e.g., Williams (2014), "U.S. expats find their money is no longer welcome at the bank" and Graffy (2015), "The law that makes U.S. expats toxic." Some of these difficulties are only now starting to arise, as FATCA implementation was not necessarily immediate; France, for example, was set to start reporting information in 2020, prompting an August 2019 article warning of pending bank account closures for 40,000 U.S. citizens (Goncalves 2019).

[31] One important group of individuals who were particularly affected by the enforcement changes were those hiding assets abroad. These individuals faced an ever-increasing likelihood of being discovered by the IRS. One response to this would be to come clean, pay any necessary penalties, and maintain U.S. citizenship. Another response would be to drop U.S. citizenship in an attempt to "sneak out" before the hidden assets could be discovered. However, because hidden assets are unobservable it is not possible to test directly whether individuals with such assets were more likely to expatriate following the increased enforcement actions.

[32] There are two models of IGAs. Under Model 1, FFIs report information to a local agency which then communicates with the IRS on an automatic basis. Under Model 2, FFIs communicate directly with the IRS. The U.S. Treasury reports the countries with IGAs here.

the FFIs reconcile their FATCA obligations with any obligations under their domestic (non-U.S.) law.[33] By signing an IGA, a jurisdiction is identifying itself as one that is proactive about implementation of the new enforcement system under FATCA, and thus more likely to have led to increased compliance costs for U.S. citizens living there.[34] The main specification shown below includes all signed IGAs, and is robust to alternate specifications limiting to only IGAs signed in earlier years, and to also including jurisdictions that have "Agreements in Substance" but have not yet signed an IGA.[35]

In another test, I split jurisdictions based on whether they are considered tax havens, relying on the designations in Johannesen et al. (2020). Because Switzerland was subject to very focused enforcement actions prior to FATCA in 2008 and 2009 (see Section 2.3 above), I run the tax haven test twice, either including or excluding filings from Switzerland. The expectation for the relative difference between havens and non-havens is ambiguous. FATCA increases the compliance costs of those who are compliant; if those living in non-haven jurisdictions are more likely to be compliant (and thus bear the full weight of increased compliance costs), we would expect to see larger increases in renunciation in those non-haven jurisdictions. Conversely, if those living in tax havens are mainly there for tax evasion or avoidance purposes, and perceive FATCA as a signal that they will face increased scrutiny in future years, we may see a larger increase in renunciations by these haven residents in an attempt to escape the U.S. tax system before any detection of potential wrongdoing. Thus, it is not clear *ex ante* whether we should expect to see relatively more or less renunciation activity in havens relative to non-havens after FATCA.

These tests use a difference-in-differences approach, relying on the same underlying individual-year level data as in the previous section, as follows:

$$Renounce_{ijt+1} = \alpha + \beta_1 IGA_j * Post_t + \beta_2 IGA_j + \beta_3 Post_t + \gamma(Covariates_{it}) + \varepsilon_{ijt}$$

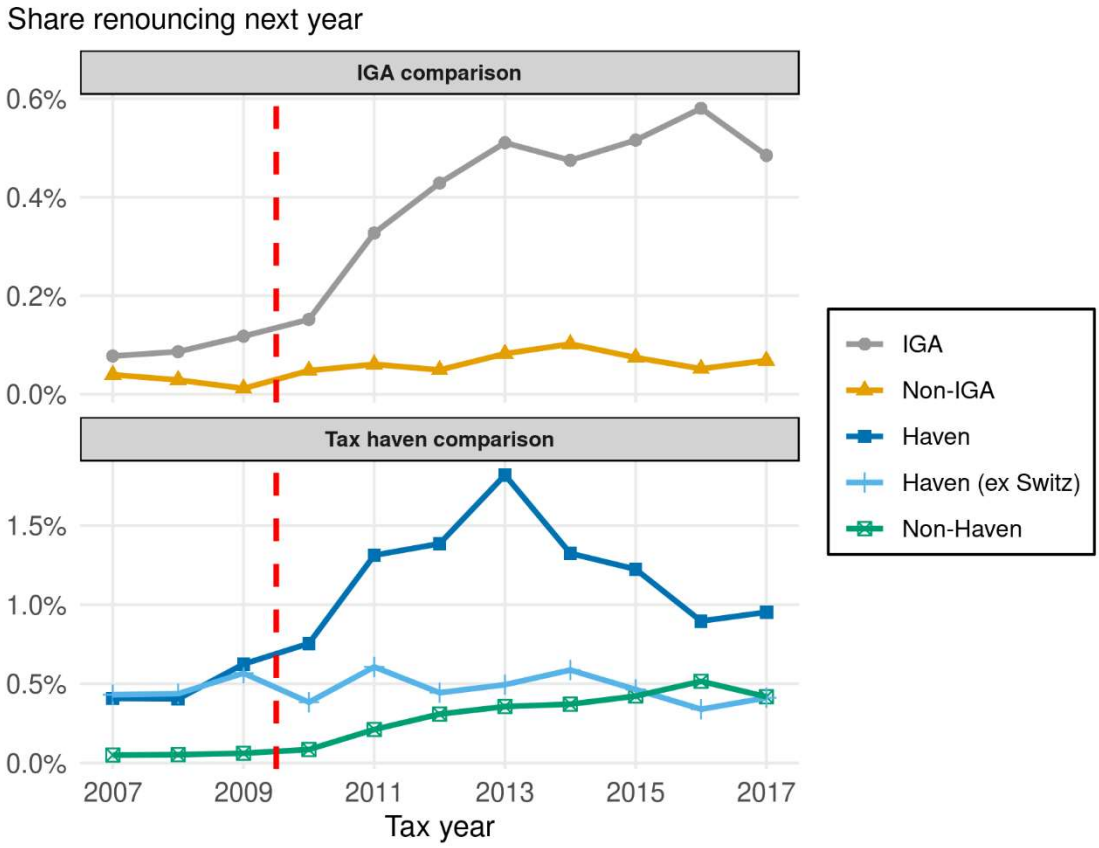
[33] Dharmapala (2016) uses a simple theoretical model to understand the effects of FATCA and IGAs.
[34] News coverage of IGA negotiations and signings in IGA jurisdictions may also have exposed U.S. citizens living there to relatively more information about FATCA and its obligations for U.S. citizens and for FFIs.
[35] The three jurisdictions with signed IGAs with the highest average annual U.S. tax filers during the sample period were Canada, the United Kingdom, and Israel; the three most frequent with Agreements in Substance were China, Peru, and Indonesia; the three most frequent non-IGA jurisdictions were Argentina, Lebanon, and Egypt.

where IGA is an indicator equal to one for jurisdictions that ultimately signed an IGA[36], $Post$ is an indicator for tax years 2010 or later (i.e., renunciations in 2011 or later), and $IGA * Post$ is their interaction.[37] For the tax haven tests, IGA is replaced by a dummy variable indicating whether the jurisdiction is designated as a haven or not. As before, *Renounce* is an indicator equal to 100 if an individual renounces citizenship the following year, and 0 otherwise.

Figure 9 shows graphically the difference in the trends (the average share of foreign filers from a jurisdiction who renounce the following year) between IGA and non-IGA jurisdictions (top panel) and between haven and non-haven jurisdictions (bottom panel). Tax years 2007-2009 are the "pre" period to the left of the red line, indicating the passing of FATCA in December 2010, while tax years 2010-2017 are the "post" period. The IGA jurisdictions clearly experience a rise in the share of filers renouncing citizenship, relative to the non-IGA jurisdictions. And among havens, after removing Switzerland, we see that the haven share is relatively constant, while the non-haven share rises after FATCA goes into place. Comparing the haven patterns reveals that Switzerland's renunciation share began to increase prior to FATCA, coincident with the 2008 and 2009 enforcement actions specifically targeting Switzerland.

[36] In the main specification, I include all IGAs through the end of 2019; I also test alternative specifications including only IGAs signed through 2017 or 2015 and find consistent results (see Table 14 in the Appendix).
[37] The results are robust to instead using a specification with year and year X IGA dummy variables, rather than pre/post-FATCA. Figure 23 in the Appendix shows the coefficients on the year X IGA covariates, in a pattern consistent with the trend in average renunciation shares shown in Figure 9.

Figure 9: Annual share renouncing for specified jurisdiction splits



Notes: This figure plots the average share of individuals renouncing in the following year, based on the data underlying the individual regressions and splitting the sample into groups based on IGA jurisdictions or tax haven jurisdictions. Both the IGA and Haven patterns are robust to a series of alternate specifications (IGA definition, jurisdiction restrictions, inclusion of Movers as well as Droppers); see Figure 21 and Figure 22 in the Appendix.

The results of the corresponding regressions are shown in Table 6 below and confirm that renunciation became relatively more common in IGA jurisdictions after FATCA, relative to non-IGA jurisdictions. For the tax haven tests, the most relevant results are those excluding Switzerland, given the special attention paid to Swiss activities for several years prior to FATCA. We see that consistent with the graph, the relative rate of renunciation from havens vs. non-havens was smaller after FATCA vs. before FATCA. This is consistent with the compliance costs explanation, in which those living in non-haven jurisdictions experience newly increased compliance costs under FATCA, and are more likely to drop citizenship in response, while those in haven jurisdictions do not experience as strong an increase in compliance costs.

Table 6: Individual difference-in-difference results

Dependent variable:	Binary: Renounce in following year (100/0)		
	[1]	[2]	[3]
Post	0.0372*	0.3013***	0.2969***
	(0.0211)	(0.0974)	(0.0994)
IGA jurisdiction	0.0559*		
	(0.0334)		
Post X IGA	**0.3144*** **		
	(0.1003)		
Tax haven jurisdiction		0.4611***	0.4582***
		(0.0881)	(0.1168)
Post X Haven		**0.4343**	**-0.3151*** **
		(0.5484)	**(0.1151)**
Individual covariates	Yes	Yes	Yes
Sample	Excl. Movers	Excl. Movers	Excl. Movers and Switzerland
Observations	4,831,000	4,831,000	4,686,000
Adjusted R^2	0.0013	0.0025	0.0012
Mean dep. var.	0.343	0.343	0.291

Notes: *p<0.1; **p<0.05; ***p<0.01. Standard errors clustered by year and by jurisdiction are shown in parentheses. IGA jurisdiction is an indicator for jurisdictions that signed a FATCA IGA in or before 2019; Haven is an indicator for jurisdictions designated as tax havens in Johannesen et al. (2020). Post is an indicator for tax years 2010 and later. These results are robust to various alternate variable definitions and jurisdiction restrictions; see Table 14 (IGA test) and Table 15 (haven test) in the Appendix.

Taken together, these two tests provide empirical evidence consistent with the compliance cost explanation for the recent increase in renunciations. The option value framework predicts that if compliance costs increase, renunciations should increase, and the two tests here show that renunciations became relatively more common after FATCA in jurisdictions where resident individuals were more likely to experience increased compliance costs, namely, IGA-signing jurisdictions and non-tax haven jurisdictions.

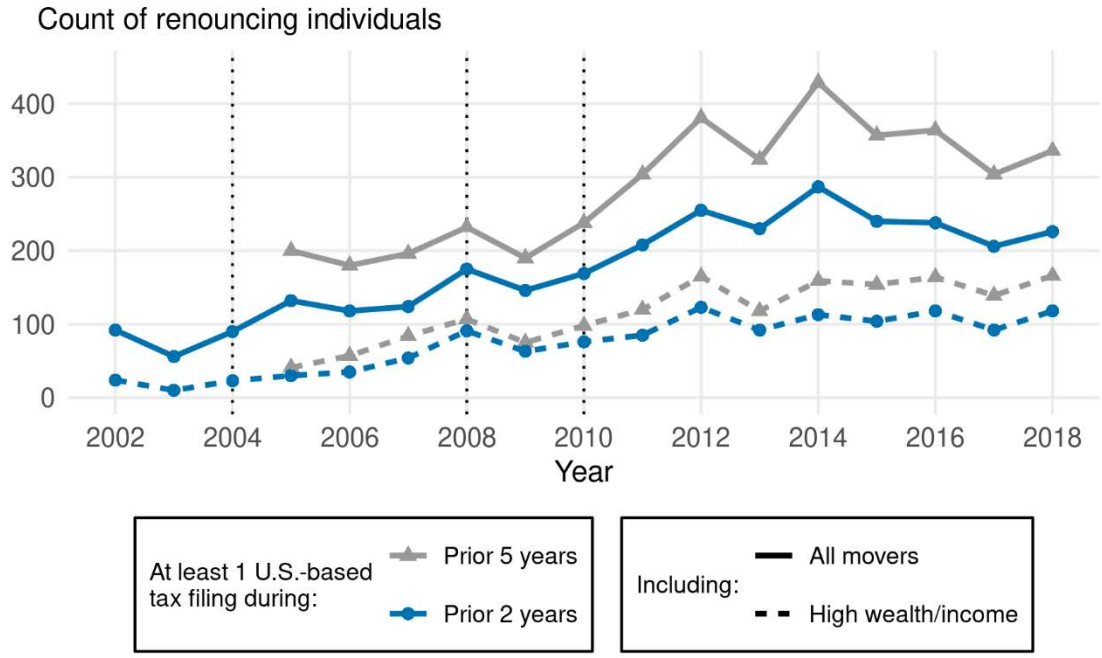
5.2. Evaluating the effects of expatriation tax law changes

The previous section focused on explaining the recent increase in renunciations by Droppers. What about Movers? Although in fact a small share of the total, those who at one point filed from the U.S. and subsequently moved abroad and renounced citizenship represent more of the stereotypical individual that may come to mind when thinking about expatriation and citizenship renunciation. Indeed, these are the types of individuals cited by legislators when discussing the expatriation tax system, and who in the past have apparently prompted changes to that system. Understanding their behavior is important for evaluating the effects of prior tax law changes, and considering future policy.

5.2.1. General trends in renunciation by Movers

As noted above, Movers may have a large set of reasons for moving abroad and renouncing their citizenship, including family or other ties abroad, but it is also possible that tax considerations play an important role in their decisions. To better understand the relationship between renunciations by Movers and the tax system, I begin by showing their annual counts; this is the solid gray line in Figure 10 below (the same as the gray bar in Figure 2 above). I then adjust this count in two ways. First, note that my preferred categorization of individuals as Movers or Droppers relies on five years of pre-renunciation tax filings, to allow for the fact that some of those moving from the U.S. take several years to settle in before renouncing. One drawback of this approach is that it limits observations to those renouncing in 2005 or later. To address this, I produce an alternate categorization based only on tax filings in the two years prior to renunciation, shown with the blue line. Second, because much of the public press and legislative focus on this subject has centered on wealthy or high-income Movers, I produce a set of counts restricting to those Movers who have high net worth (above $622K) or high income (AGI greater than $200K in the year prior to renunciation), shown with the dashed lines.

Figure 10: Annual count of renunciations by Movers



Notes: This figure plots the annual count of renunciations made by those designated as Movers, either based on having filed from the U.S. at least once during the prior five years (in gray) or two years (in blue). Total counts are shown with solid lines, and those including only high wealth (net worth > $622K) or income (prior-year AGI > $200K) are shown with dashed lines. Vertical dashed lines indicate years with legislative changes: 2004 (AJCA), 2008 (HEART Act), and 2010 (FATCA).

Over time there has been an increase in renunciations by Movers, although the increase in the past decade is less extreme than that seen above for Droppers. The number is still small, with annual counts of around 100-200 during the 2000s, and 300-400 in the 2010s. The increase in renunciations by Movers between 2004 and 2008 could indicate that the tax law changes in those years had some effect; I explore this further below. The acceleration in renunciations after 2010 suggests that the increase in offshore financial enforcement may also have played a role in the renunciation decisions for Movers, just as was seen above for Droppers; perhaps some U.S. citizens who previously would have moved abroad but maintained citizenship chose instead to renounce that citizenship when facing increased compliance costs during the 2010s.

5.2.2. Relating tax law changes to renunciations

How did the 2004 and 2008 tax law changes affect individuals' decisions of whether and when to renounce? The 2004 AJCA made two important changes to the expatriation tax system:

(1) it raised the net worth threshold for designation as a covered expatriate from $622K to $2M; and (2) it removed the ability to challenge one's designation as tax-motivated, replacing it with a strictly objective test based on net worth, past-five-years average tax liability, and certification of compliance with the last five years of tax filings.

Consider how these two changes would affect the costs and benefits of renunciation. The net worth threshold change would lower the cost for certain individuals. For individuals with true net worth between $622K and $2M, renunciation prior to the change would have included designation as a covered expatriate and the ensuing effort to either challenge that designation or deal with the next-10-years tax consequences. After the change, these individuals could renounce and report their true net worth without being designated as covered expatriates. The change may also have affected some individuals with true net worth above $2M, as the cost of getting under the threshold was lowered.[38] Individuals with true net worth below $622K would be unaffected, as both before and after the change they were not at risk of covered expatriate designation. In sum, the change lowered the cost of expatriation for those with net worth above $622K, and especially for those above $622K and below $2M. All else equal, this predicts more renunciation by such individuals as a result of the increase in the net worth threshold.

The removal of the ability to challenge covered expatriate designation should work in the opposite direction, *raising* the cost of renunciation for individuals who previously could have successfully challenged their covered expatriate designation. Consider two wealthy individuals (above the $2M threshold), identical in every respect except that one has no ties abroad, while the other does have strong ties in the country to which they plan to renounce. Prior to this change the former individual would be designated as a covered expatriate and may have some difficulty challenging that designation; the latter would also be designated as covered but would have an easier time challenging that designation. After the 2004 removal of the ability to challenge, both individuals would be designated as covered and remain so. The effect of this removal is thus a change in the relative cost of renunciation: for the individual with strong ties abroad, the relative cost of renunciation has increased when compared to the cost for an individual without strong

[38] For example, consider someone with $2.1M in true net worth; prior to the change, they would need to somehow lower their reported net worth by nearly $1.5M to fall below the $622K threshold, but only by $100K to fall below the new $2M threshold.

ties abroad. All else equal, this predicts relatively fewer renunciations by those with ties abroad, and thus relatively more by those without such ties.

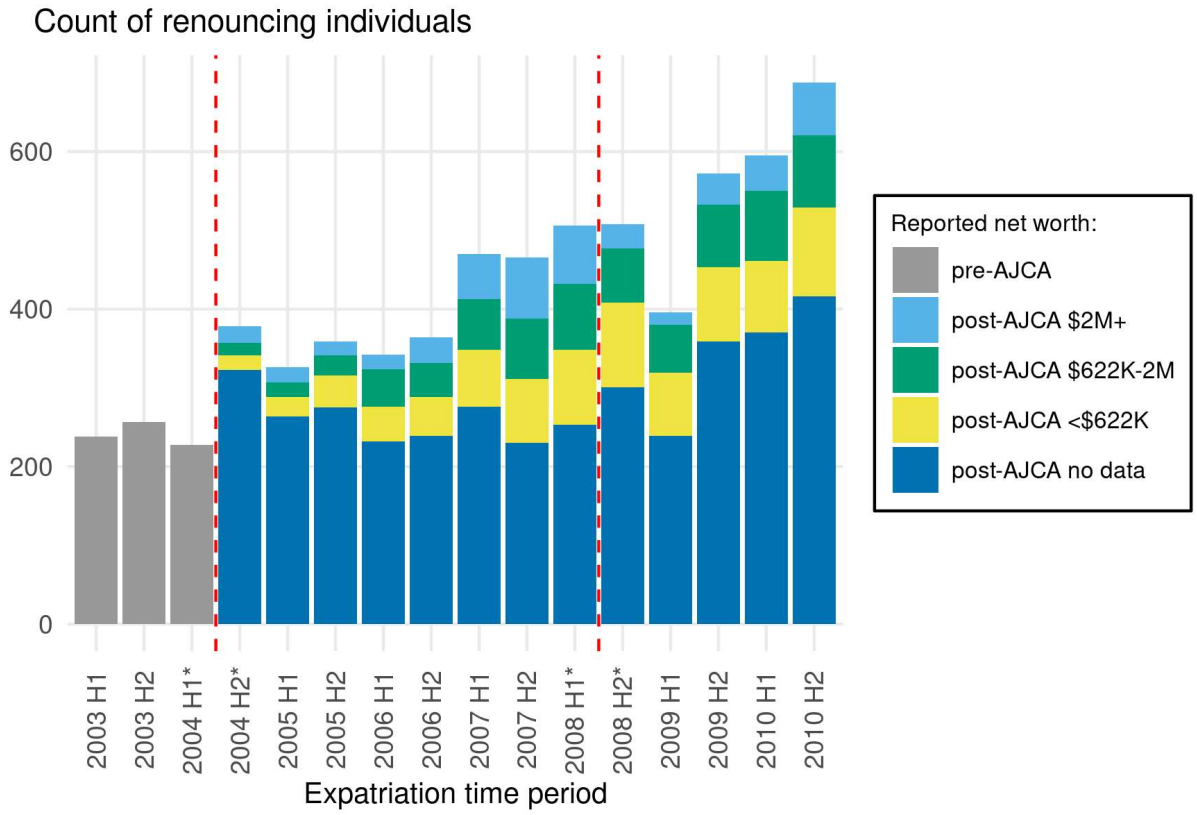
The 2008 HEART Act's introduction of the mark-to-market exit tax was a more fundamental change to the expatriation tax system. It changed the consequences of covered expatriate designation from an uncertain future liability based on an income over the next 10 years with an immediate, up-front tax liability based on unrealized capital gains above an exemption threshold (although this liability could be temporarily deferred). This change could in principle push in different directions. On the one hand, an up-front liability could be perceived as more costly than the uncertain future liability, and thus make renunciation seem more costly than under the prior system. On the other hand, the ability to pay the one-time exit tax and cleanly walk away may have been more desirable to some individuals, relative to the lingering connection to the U.S. that would persist under the next-10-years system. Whether the mark-to-market tax would be more or less desirable than the earlier system would also depend crucially on the extent of an individual's unrealized capital gains; someone with significant wealth but relatively low amounts of unrealized capital gains would face little or no liability under the mark-to-market tax, which exempts the first several hundred thousand dollars of gains. In sum, the change from the earlier system to the mark-to-market exit tax was certainly a significant change, but its effects would likely not push unambiguously in the same direction for all individuals.

5.2.3. Trends around the tax law changes

To further understand how the AJCA and HEART Act affected the number of renunciations, and the types of individuals renouncing, we can look for evidence in the patterns of renunciation around the tax law changes. Consider Figure 11, which shows the count of renouncing individuals, grouped by reported net worth, in each half-year time period from 2003-2010. Beginning with the effect of the AJCA, and focusing on the net worth threshold change, we would ideally compare the number with net worth between $622K and $2M, before and after the threshold change, to see whether under the post-AJCA regime in which they are no longer designated as covered expatriates, their numbers rise. Unfortunately, data on net worth is not available for the pre-AJCA renunciations, and even post-AJCA, many individuals either do not have a filed Form 8854 or do not have reported net worth data available.

Nevertheless, we can observe that the number of renunciations increased after the AJCA change; if the expatriate provisions in the AJCA were intended to discourage renunciations, a simple assessment of the trend suggests they may not have achieved that goal. We can also observe that after the net worth threshold was increased, there were a handful of individuals with reported net worth in the $622K to $2M range (the green bars); it is possible they were induced to renounce by no longer facing the cost of covered expatriate designation. At the same time, however, there were a similar number of renunciations by those with reported net worth above $2M (the top, light blue bars), confirming that renunciation was still desirable for some individuals even when facing the costs of covered expatriate designation. Without further detail on the net worth of all renouncers, both before and after the 2004 law change, it is difficult to draw firm conclusions about the effect of the change.

Figure 11: Annual count of renunciations, before and after AJCA and HEART Act changes



Notes: This figure plots the count of individuals renouncing in each half-year period grouped by reported net worth. For 2004, the periods are split around June 4, 2004, when the net worth threshold for designation as a covered expatriate increased from $622 thousand to $2 million, as part of the AJCA. For 2008, the periods are split around June 18, 2008, when the HEART Act's mark-to-market tax provisions went into place. For pre-AJCA expatriations, we can only observe whether an individual was above the net worth threshold (in gray) or not (in orange). Post-AJCA, most individuals filing Form 8854 report net worth, and thus can be grouped into three buckets based on the threshold changes, though there are still many individuals (in darker blue) without reported net worth data.

Focusing on the patterns around the 2008 HEART Act, some interesting patterns are visible. In the few periods prior to the HEART Act change, the number of renouncers reporting net worth of $622K-$2M and above $2M increased noticeably. This could reflect individuals accelerating their renunciations to avoid the mark-to-market tax, which was in discussion for at least several months prior to being passed and signed into law on, and affecting expatriations on or after, June 17, 2008.[39] The number of high-wealth renunciations fell in the second half of 2008 and first half of 2009, which again would be consistent with individuals moving renunciation forward to avoid the mark-to-market tax. However, the confounding effects of the financial crisis may also have affected the ability of U.S. citizens to move abroad or affected their decisions about whether to incur the costs of renunciation, and could also help to explain the drop in renunciations. Again, more complete information about these individuals would help to say more with greater certainty.

5.2.4. Responses to the net worth threshold

The data patterns discussed above suggest that some individuals responded to the changes in expatriation tax law. Further evidence of taxpayers responding to the expatriation tax rules can be seen by examining the pattern of filings with reported net worth above and below the $2M net worth threshold for designation as a covered expatriate.

As described above in Section 2.2, expatriating individuals are subjected to a test that determines whether they are a covered expatriate. The test has three components, any one of which results in designation as a covered expatriate: (1) net worth above a threshold; (2) past-five-years average income tax liability above a threshold; and (3) failing to certify compliance on

[39] Reichenberg Sherr (2008) notes that the expat provision ultimately passed as part of the HEART Act is "similar to…the expat provision in a prior bill, H.R. 3997, which was passed by both the House and Senate in December 2007 but did not get enacted due to other differences between the House and Senate bills."

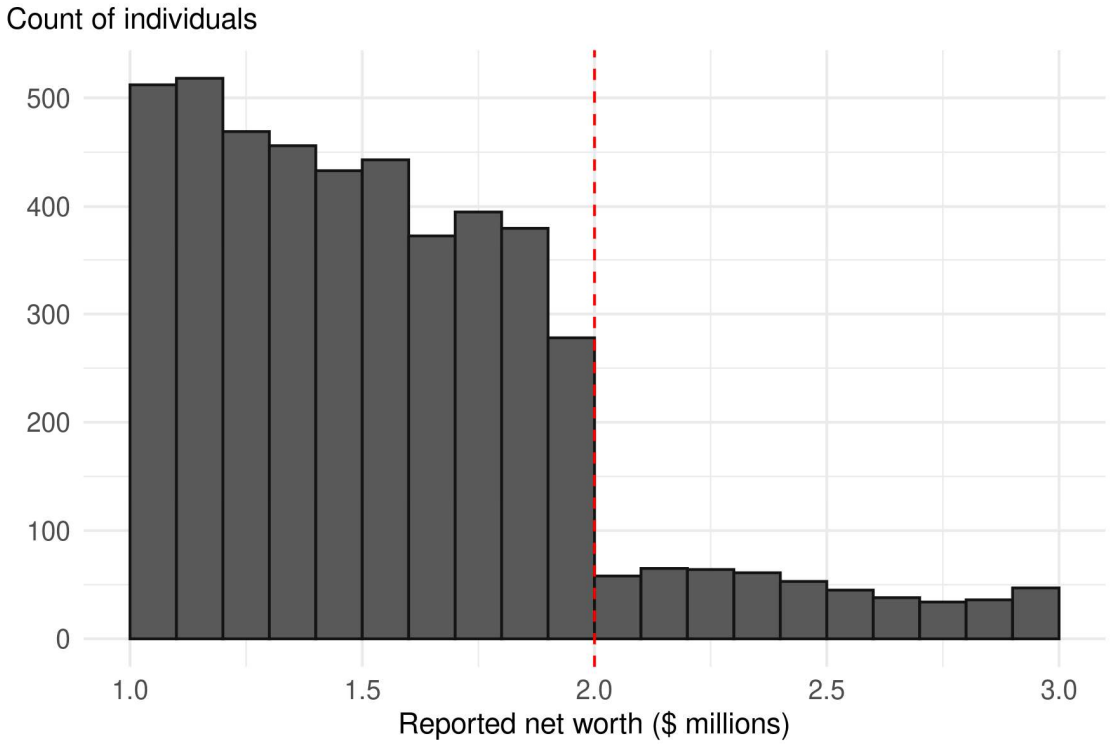
U.S. taxes for the five years prior to expatriation. Covered expatriate status results in additional filing requirements, as well as potential additional tax liability. Prior to the HEART Act in 2008, this tax liability was based on income earned during the 10 years following expatriation, which could be liable for U.S. income taxation. Since the HEART Act, this tax liability is a mark-to-market exit tax based on the value of all assets owned on the day prior to expatriation, with taxes applied to gains above a statutory exemption.

For most covered expatriates, the net worth threshold is the crucial component.[40] Since mid-2004, the net worth threshold has been constant at $2M. A histogram of renouncers' reported net worth around this threshold reveals a strong response, as shown in Figure 12: a sharp drop-off in the number of renouncers reporting net worth just above the threshold. This figure shows the aggregate histogram for all renunciations from mid-2004, when the AJCA took effect and net worth data become widely available, through 2018. Although not presented here for disclosure reasons, the pattern is also visible within each year.[41] There are several plausible explanations for this drop-off: some potential renouncers with net worth above $2M may have been discouraged from renouncing; some may have taken actions to reduce net worth below the $2M threshold (for example, by making gifts or charitable contributions); and some may have reported net worth lower than their actual net worth, in order to appear below the threshold. In addition, recall that only about half of renouncing individuals have a filed Form 8854 with reported net worth data available; it is possible that some individuals with net worth above the threshold chose not to file Form 8854.

[40] Among all covered expatriates, nearly 90% are over the net worth threshold, while only about 25% are over the average income tax liability threshold. The evidence suggests there is little direct response to the average income tax liability threshold, in that there is no bunching below the threshold (see Appendix, Figure 25). One explanation is that it is harder for taxpayers to adjust an average based on past-5-years income tax liabilities than it is to adjust reported net worth at the point of expatriation.

[41] That the pattern is visible both before and after the HEART Act suggests that covered expatriate designation was viewed as costly even without the mark-to-market exit tax consequences introduced under the HEART Act.

Figure 12: Histogram of reported net worth around $2 million



Notes: This figure plots the count of renouncers in each $100K bucket around the $2M threshold for designation as a covered expatriate. Renunciations with a filed Form 8854 and available reported net worth data, after the AJCA (mid-June 2004) through 2018, are included. The drop-off in filings with reported net worth occurs exactly at the cutoff for covered expatriate designation, suggesting it is this cutoff that is driving the observed behavior; there is no drop-off at either $1M or $3M, suggesting that round-number bunching can be ruled out as an explanation for the observed pattern (see Figure 24 in the Appendix).

There is evidence that for some taxpayers, gifts may have been used to get below the threshold. 8% of the individuals who report net worth of $1-2M would have had net worth above $2M if gifts they reported making in the 0-2 years prior to renunciation were added to their reported net worth. A handful of individuals similarly would move from below the threshold to above it if their pre-renunciation charitable contributions were added to their reported net worth.[42] Still, even after adjusting the reported net worth amounts to include recent gifts and charitable contributions, a large "hole" to the right of the threshold remains. One feature of Form 8854 (the expatriation tax form) is that it requires individuals to provide a balance sheet with

[42] For this analysis, I rely on gift amounts as reported on Form 709 and charitable contributions reported on Schedule A.

assets listed by asset type; although not presently available, these data could in future be used to further explore the patterns shown here.

In sum, there is evidence consistent with the hypothesis that renunciations were responsive to these tax law changes, although it is not possible to draw conclusions with certainty. When pairing the patterns shown here with the income and wealth trends discussed earlier in Section 4.3, the strongest trends seem to be that a group of high-wealth and high-income individuals chose to renounce after the AJCA and before the HEART Act. If these renunciations were tax-motivated and made in anticipation of the mark-to-market exit tax, this suggests that the exit tax was perceived by many taxpayers as costly and worth avoiding (a view further supported by the strong and observable behavioral response to the net worth threshold).

Although it is not possible to give a single answer to the question "Why are they renouncing?", the preceding analyses help to provide some resolution. The results suggest that the recent increase in renunciations was caused by increased compliance costs for those already living abroad, and that some individuals' renunciation decisions during the mid-2000s were at least in part a response to changes, or expectations of changes, to the expatriation tax system.

6. Policy consequences

Building on the findings above about who is renouncing and why, this section answers my third and final research question: What are the policy consequences? I first consider the revenue impacts of recent renunciations. I then discuss what lessons can be learned from the policy changes over the last two decades and conclude by discussing what these findings suggest about the value of U.S. citizenship.

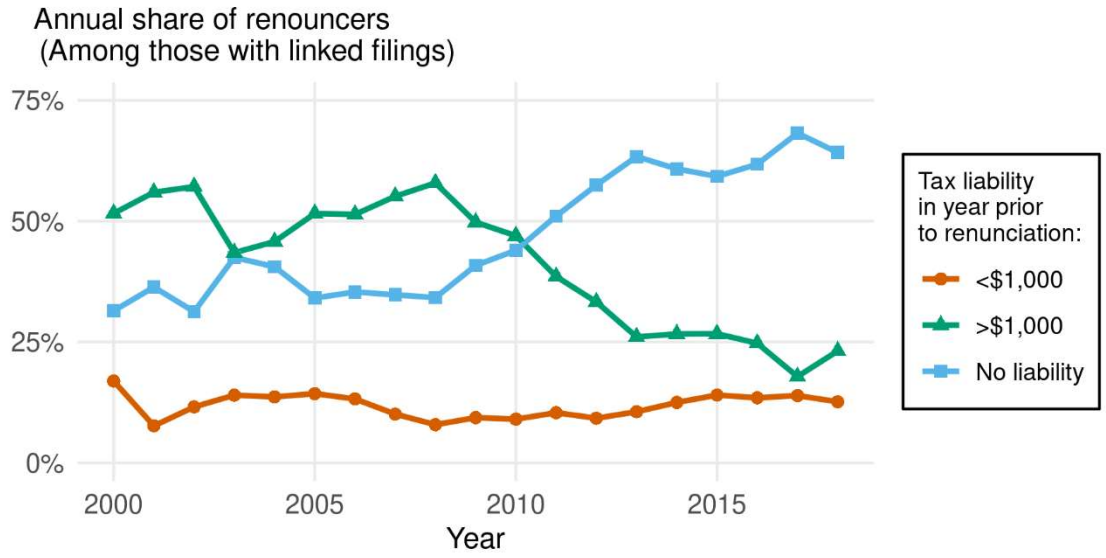
6.1. Revenue impacts

Considering the revenue impacts of recent renunciations, the evidence suggests that, although most do not have any effect, or at most a small one, a handful of renunciations by very high-wealth and high-income individuals could have substantial revenue impacts.

A simple way to think about the direct revenue impacts of renunciations is to consider the tax liabilities renouncers had in the years leading up to their renunciation and assume that these

liabilities would have continued had they not renounced. Focusing on the year just prior to renunciation, Figure 13 shows that the share of renouncers with no tax liability in the year prior to renunciation has increased markedly; since 2013, about two-thirds of renouncers linked to a Form 1040 filing as the primary filer in the year prior to renunciation had no liability on that return. These linked returns represent between half and two-thirds of all renouncers; the remainder are mostly those without TINs, or with TINs but no linked filings, who also likely had no U.S. tax liability. Including them in the proportions would further increase the share of renunciations with no revenue impact.

Figure 13: Pre-renunciation tax liability



Notes: This figure reports the share of individuals renouncing each year with a pre-renunciation tax liability of zero, <$1,000, or >$1,000, among those who are linked as a primary filer on a Form 1040.

Although many, indeed most, renunciations probably have a negligible revenue impact, this is not universally true, nor is it necessarily the case that this pattern will hold indefinitely. As shown earlier in Section 4.3, a handful of wealthy and high-income renouncers can have an outsize impact on the average net worth and income of those renouncing, and thus on the estimated revenue impacts. If policymakers are concerned about renunciation purely from a revenue perspective, the wealthy and high-income are where their focus should continue to be. The experience of the past two decades does provide some evidence that policy can help discourage renunciation by these individuals. The prevalence of especially wealthy and high-income

individuals among those renouncing between 2004 and 2008 suggests that the introduction of the mark-to-market tax was perceived as costly, and thus may have had some success in discouraging subsequent high wealth and income taxpayers from renouncing (although unable to stop those who could renounce before its enactment, an issue I discuss below). In addition, for those still choosing to renounce, the mark-to-market tax helps to mitigate the revenue impact. One high-profile example of this is the renunciation of U.S. citizenship by Facebook co-founder Eduardo Saverin.[43] Although his renunciation meant the U.S. lost out on future income and estate tax revenue, this was at least partly offset by his exit tax liability (which, according to reports in the public press, likely was in the hundreds of millions of dollars (Benoit 2012).

Table 16 in the Appendix provides an additional set of summary statistics that support these conclusions about the revenue impacts of recent renunciations. More than half of Droppers had no liability during all five years prior to their renunciation. Movers are more likely to have had non-zero liabilities, but for most individuals, these are still relatively small. The median non-zero liability for Movers in the year prior to renunciation was about $12K, or $8K when considering the average over the five years prior to renunciation. These median values are about 10 times smaller than the mean values, again illustrating that a few outliers have a large impact while most individuals do not.

Of course, liabilities can change from year to year and assuming that they would stay constant may not always be correct. A more refined estimate of the revenue impacts of renunciation could take several routes. To get a more precise estimate of the direct revenue impacts, one could more carefully forecast what the path of tax liabilities would have been, absent renunciation. This could consider the path of liabilities prior to renunciation, as well as the renouncer's age and assumptions about retirement age and life expectancy. In addition, the revenue impacts should include estimated effects on future estate tax liabilities, and the revenue raised from expatriation tax liabilities of covered expatriates. Still, even taking account of these refinements the conclusion is unlikely to change: most renunciations have had minimal revenue impact, but a handful probably had a significant impact.

[43] According to the quarterly publication of expatriating individuals in the Federal Register, Saverin renounced his U.S. citizenship in the first quarter of 2012, prior to Facebook, Inc's IPO on May 18, 2012 (77 FR 25538).

A secondary impact on revenue could come from "brain drain". Academic literature on this topic has focused mainly on high-skilled migration from less-developed to more-developed countries (Gibson and McKenzie 2011), but in principle it could also matter for the U.S. It is possible that some Movers' renunciations could generate negative spillover effects in the U.S., for example if Movers close or relocate U.S. businesses when they move abroad, or postpone entrepreneurial activity and innovation until after renunciation. Given the small number of Movers to date, this is unlikely to have had a significant impact, but in principle could become relevant if future policies led to increasing numbers of Movers. This is less of a concern when considering the impacts of renunciation by Droppers, as their economic activity is probably concentrated abroad and thus their renunciations are unlikely to have spillover effects in the U.S.

Finally, consider that the incentives affecting the outflow of citizens (renunciation) should also affect the inflow of citizens (immigration and naturalization). The academic literature on immigration points to economic incentives as one factor determining whether, when, and where individuals migrate (Freeman 2006). As shown above, expatriation tax rules did affect renunciation decisions by some U.S. citizens on the margin, particularly the wealthy and high-income. It is plausible that these rules, and the tax costs and benefits of U.S. citizenship, would similarly affect the decisions of those considering in-migration to the U.S. Mason (2016) raises the concern that citizenship taxation could discourage marginal wealthy or high-income migrants; Kim (2017) disagrees, arguing that it is U.S. immigration law, not tax law, that is the real obstacle for highly skilled and educated immigrants. The key determinant of the importance of the tax law effect is the existence of at least some individuals considering in-migration who are on the margin. If the distribution of those considering in-migration is comparable to those considering renunciation, then U.S. tax law could discourage some individuals on the margin from migrating to the U.S. or naturalizing once in the U.S. Given the relative magnitudes (for the U.S., naturalizations are two orders of magnitude higher than renunciations, as I discuss below), this could have significant implications for U.S. tax revenue and economic activity.

6.2. Policy lessons

Studying the renunciation responses to recent tax policy changes reveals two additional lessons. First, unintended side effects matter: FATCA appears to have induced some U.S. citizens

abroad to renounce citizenship, and the resulting social cost should be considered when evaluating FATCA. Second, timing matters: the timing of the AJCA and HEART Act legislation may have allowed some high-wealth individuals to renounce in advance of the exit tax taking effect.

The analysis in Section 5 showed that the increase in renunciations in the last decade was in part an unintended side effect of FATCA and other related policies that, while having some positive revenue impacts, imposed additional compliance costs on those maintaining financial accounts abroad. Does the U.S. value those foreign-resident U.S. citizens? I argue that the answer is yes. It may at first seem that these individuals' welfare should be discounted; because such individuals are often called "accidental Americans" one might think their renunciations do not have a social cost. The treatment of citizenship under U.S. nationality law, however, suggests this is not the case. In principle, the U.S. could further restrict citizenship but so far has not. This reveals that the U.S. indeed places some value or social benefit on maintaining citizenship for these individuals.[44] Thus, the U.S. *loses* value, or experiences a social cost, when those abroad renounce citizenship, and this cost should be included when evaluating the overall effects of FATCA.

The experience of renunciations during the 2000s also illustrates the importance of policy timing, and how anticipatory action can partially negate some of the intended effects of legislation. As shown above, the years between the AJCA and HEART Act saw a handful of wealthy individuals renouncing citizenship, perhaps influenced in part by a desire to renounce before the imposition of the mark-to-market exit tax which was being discussed but not yet implemented. A resulting lesson is thus that the speed of debate and implementation becomes more important when considering a policy that is intended to target a small group of people who are sophisticated and well-informed about potential policy changes.

6.3. The value of U.S. citizenship

Finally, it is important to put recent renunciations in context. This paper focuses on those dropping citizenship, motivated by the recent increase in renunciations. However, to evaluate the

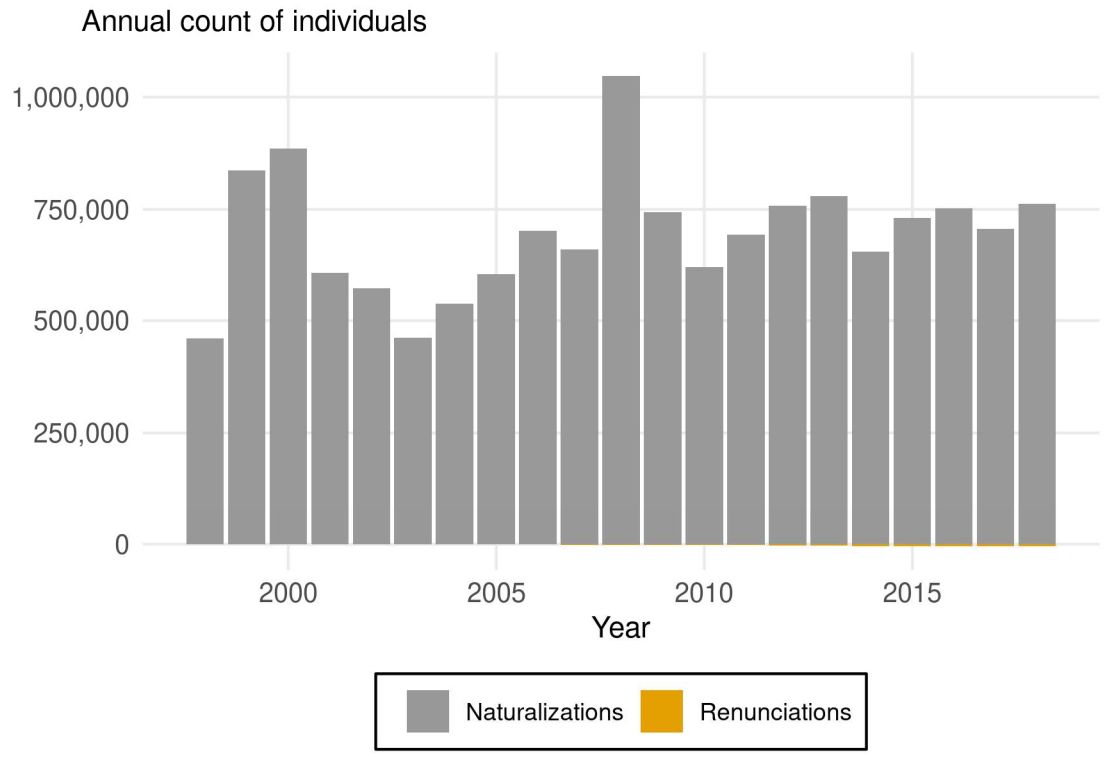
[44] My thanks to Dhammika Dharmapala for a helpful discussion about this topic.

effect of the tax system on citizenship decisions overall, consider the rest of the picture: most individuals do *not* choose to renounce citizenship, and there is also a large number each year *gaining* U.S. citizenship.

Consider first the naturalizations: although the relative increase in renunciations over the last decade is remarkable, the net flow (naturalizations less renunciations) is still vastly tilted towards in-migration. Figure 14 plots the annual count of naturalizations (those receiving U.S. citizenship) in gray, and renunciations (plotted with negative values) in orange. The renunciations are just barely distinguishable at the bottom of the graph, two orders of magnitude smaller than the naturalizations. In every year between 1998 and 2018, the number of naturalizations was above 400,000. This compares to a *total* of roughly 40,000 citizenship renunciations between 1998 and 2018.[45]

[45] As noted above, due to data accessibility I focus in this paper on citizenship and not long-term residency status, but similar arguments can be made for the long-term resident population, with similar conclusions about the effect of the tax system on individuals' decisions. In each year, the number of individuals relinquishing long-term residency status is far lower than the number applying for it.

Figure 14: Naturalizations vs. citizenship renunciations



Notes: This figure plots in gray the total number of U.S. naturalizations each year from 1998-2018, from DHS, 2019 Yearbook of Immigration Statistics, Table 20; in orange with negative values are the annual counts of those renouncing citizenship.

What about those who already have citizenship, and choose not to renounce it? This describes almost all U.S. citizens. There are more than 300 million such individuals, and typically fewer than 5,000 renouncing each year. The number of renunciations is still tiny even when compared to the stock of U.S. citizens abroad, who could more readily renounce. Although the exact number of U.S. citizens living abroad is not known, some estimates put it at perhaps nine million, and the number filing taxes from foreign addresses is more than one million per year. A few thousand renunciations per year thus represents, as a conservative upper bound, less than half of 1 percent of those living abroad.[46] This suggests another lesson from the fact that the increased compliance costs under FATCA induced some individuals abroad to drop their U.S.

[46] I am not the first to draw this comparison; a similar point was made by Elise Bean in her testimony before the House Subcommittee on Government Operations in a hearing titled "Reviewing the Unintended Consequences of the Foreign Account Tax Compliance Act," held on April 26, 2017. In some respects, the discussion of renunciations is similar to that of corporate inversions: although the absolute number occurring is relatively small, there is still significant public press and legislative focus on the issue.

citizenship: those costs did *not* induce vastly many more foreign-resident U.S. citizens to drop citizenship, implying that for those individuals the maintenance of U.S. citizenship was worth incurring the resulting financial and hassle costs of complying with new regulations, and thus that they place a relatively high value on U.S. citizenship.

7. Conclusions

Because the U.S. tax system applies to its citizens' worldwide income and estates, citizenship and taxes are more closely connected for the U.S. than for nearly any other country. Using administrative tax microdata on the population of individuals who have dropped U.S. citizenship over the past twenty years, this paper demonstrates that this connection can have substantial impacts on taxpayer behavior, including the decision to maintain or renounce citizenship.

The preceding analyses provide a detailed understanding of who is renouncing and why. The recent increase in renunciations has come mainly from those who have long filed U.S. taxes from abroad – that is, mainly from Droppers, not Movers. These Droppers' renunciations were primarily an unintended side effect of the increased compliance costs brought on by FATCA and other offshore financial enforcement during the 2010s. And although renouncers on average are wealthier and higher-income than the U.S. population, most recent renouncers had low or zero pre-renunciation U.S. tax liability, suggesting that their renunciations may not have a significant revenue impact.

The evidence reveals that citizenship decisions are connected to U.S. tax policy, most notably that the compliance costs of increased offshore enforcement may have led thousands of U.S. citizens abroad to drop their citizenship; for these individuals the costs of renunciation, both financial and emotional, surely were quite large. Still, the total number of renunciations remains relatively small, whether compared to estimates of the remaining population of U.S. citizens living abroad, filing taxes from foreign addresses, or newly gaining U.S. citizenship, and in purely financial terms, the revenue impact of their renunciations is likely to be small. All this together suggests that U.S. citizenship has historically been perceived as valuable by most who hold it, and remains so today.

That citizenship decisions and the tax system are connected should be accounted for when considering changes to the tax system. The attractiveness of citizenship renunciation depends crucially on the current tax system as well as expectations about its future, relative to alternative foreign tax systems. Individuals determine the expected costs and benefits of retaining or dropping citizenship, factoring in the potential for future tax increases (or decreases) or even entirely new taxes, such as an annual wealth tax. This determination may be particularly relevant for younger individuals facing a future stream of annual tax liabilities, for entrepreneurs considering the potential future net-of-tax gains to their innovation, and for the wealthy considering potential future estate tax liabilities. Those considering moving to the U.S., or naturalizing as U.S. citizens, may also be influenced by the tax system. Policymakers should not ignore citizenship renunciation and naturalization as potentially important margins of response.

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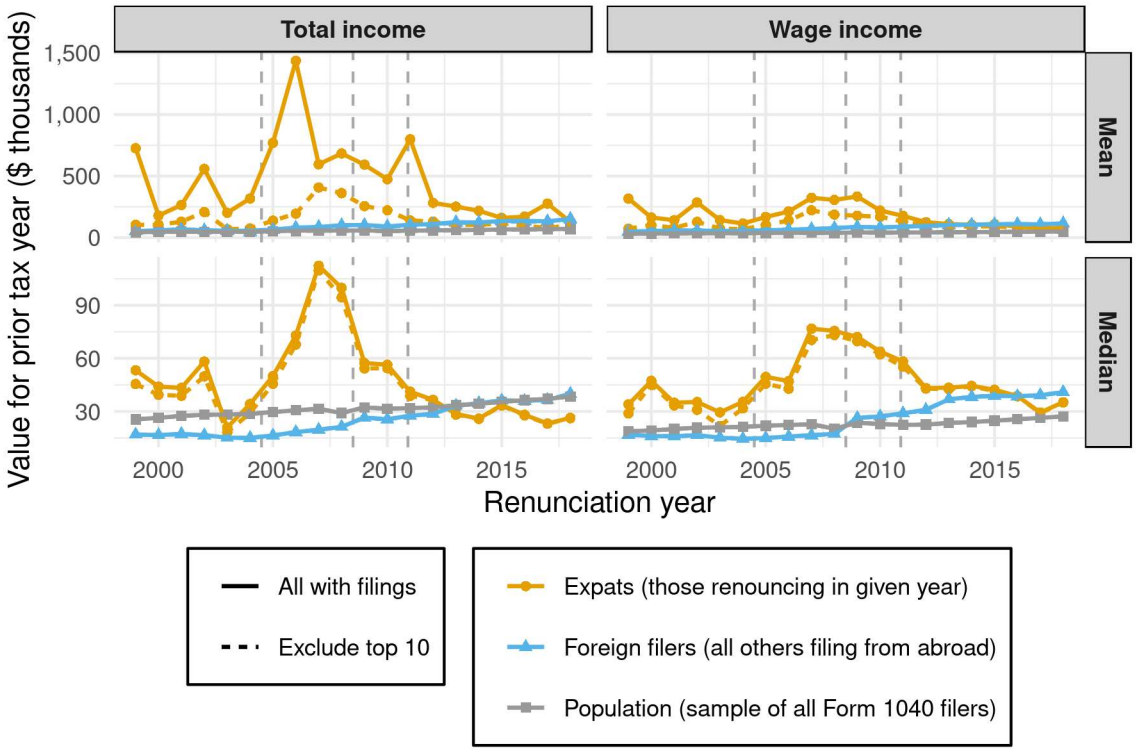
Appendices

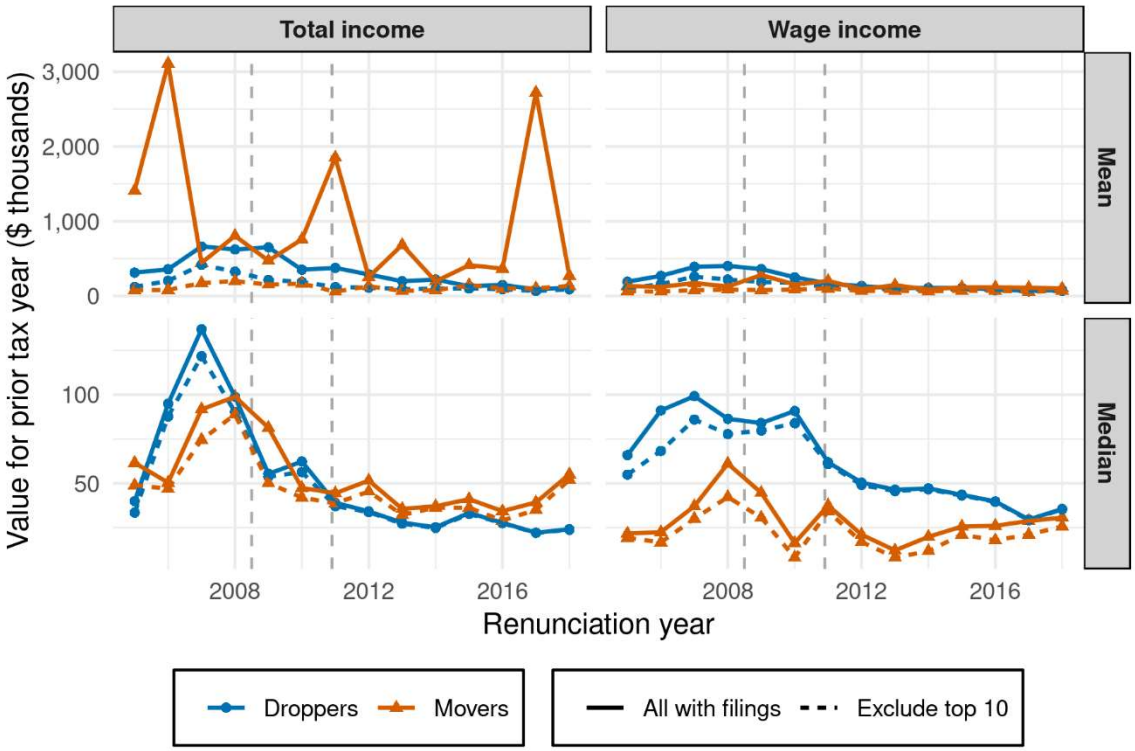
Appendix A. Additional figures and tables

Figure 15: Comparison of income for renouncers, foreign filers, and all tax filers, mean and median



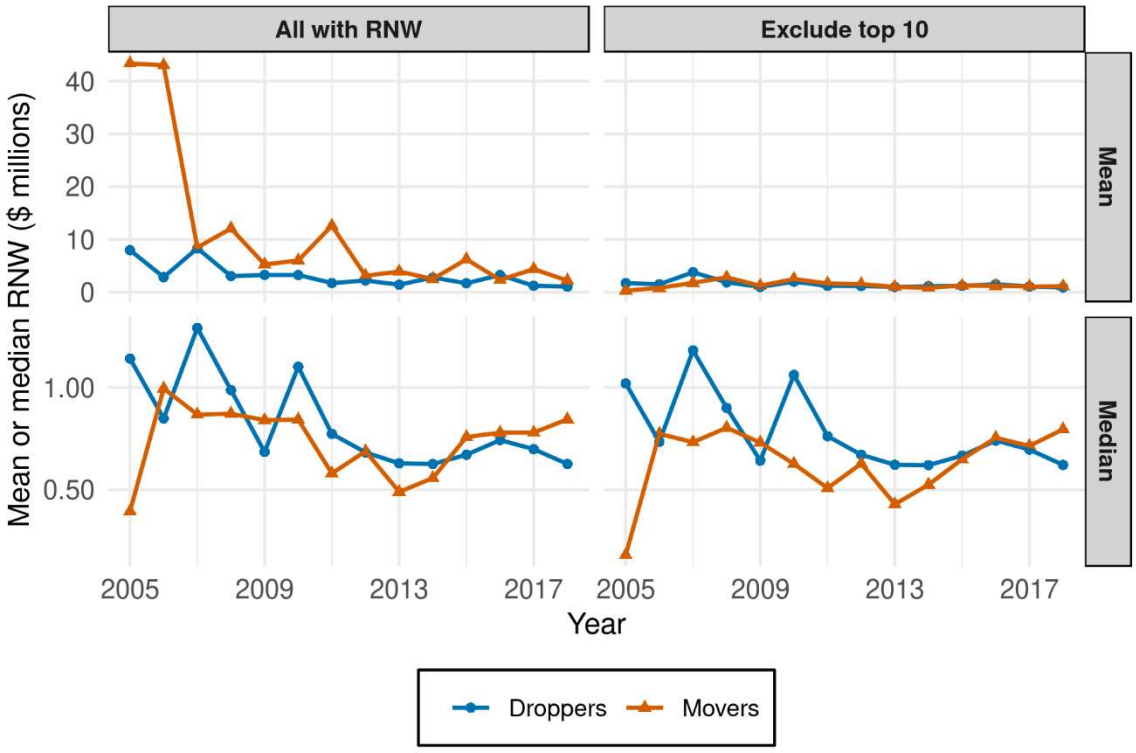
Notes: This figure compares the income of renouncers in the year prior to renunciation to two comparison groups: all other foreign filings, and a sample of the population of Form 1040 filing. For renouncers, only primary filers with linked filings are included. The three vertical dashed lines represent three key dates related to expatriation tax law: the 2004 AJCA, the 2008 HEART Act, and 2010 FATCA. The solid line includes all individuals; the dashed line removes the top 10 in each year.

Figure 16: Comparison of income among renouncers, Movers vs. Droppers, mean and median



Notes: This figure comparison the income in the year prior to renunciation for renouncers with linked Form 1040 filings as primary filers. The mean values are calculated separately among Movers and Droppers. Renouncers with no filings or no TINs are excluded.

Figure 17: Comparison of reported net worth among renouncers, Movers vs. Droppers, mean and median



Notes: This figure compares reported net worth among those renouncing each year, separately for Movers and Droppers. Only those with reported net worth data available are included. The left panel includes all Movers and Droppers; right panel drops the top 10 Movers and Droppers, by reported net worth, each year.

Table 7: Top destinations, split by renouncer reported net worth

		Renouncers, split by reported net worth				
Rank	**All renouncers**	**$2M+**	**$622K-2M**	**$0-622K**	**No RNW**	**No 8854**
1	Canada	Canada	Canada	Canada	Canada	Canada
2	Switzerland	United Kingdom	Switzerland	Switzerland	Switzerland	Switzerland
3	United Kingdom	Switzerland	United Kingdom	United Kingdom	United Kingdom	United Kingdom
4	Germany	Hong Kong	Hong Kong	Hong Kong	Germany	Germany
5	Hong Kong	Australia	Australia	Germany	South Korea	South Korea
6	Australia	France	Germany	Australia	China	Singapore
7	South Korea	Germany	France	Netherlands	Norway	Hong Kong
8	Singapore	Singapore	Singapore	Taiwan	Hong Kong	Australia
9	Taiwan	Taiwan	Taiwan	France	France	Taiwan
10	France	China	Belgium	Singapore	*Japan*	Belgium

Notes: This table presents the top 10 destinations among all renouncers, and then within each reported net worth group. All renunciations between 2005 and 2018 are included.

Table 8: Top destinations, split by renouncer classification

		Renouncers, split by classification			
Rank	**All renouncers**	**Mover**	**Dropper**	**No Filings**	**No TIN**
1	Canada	Canada	Canada	Switzerland	Switzerland
2	Switzerland	United Kingdom	Switzerland	Canada	Canada
3	United Kingdom	Switzerland	United Kingdom	United Kingdom	Germany
4	Germany	Hong Kong	Hong Kong	Germany	United Kingdom
5	Hong Kong	Taiwan	Australia	South Korea	South Korea
6	Australia	Germany	Germany	Hong Kong	Singapore
7	South Korea	South Korea	France	Australia	Hong Kong
8	Singapore	China	Netherlands	France	Taiwan
9	Taiwan	Australia	Singapore	Singapore	Belgium
10	France	Singapore	New Zealand	Taiwan	Australia

Notes: This table presents the top 10 destinations among all renouncers, and then within each reported classification. All renunciations between 2005 and 2018 are included.

Table 9: Summary statistics for individual-level regression data

Variable	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Binary outcome (100/0)								
Renounce in following year	4,831,000	0.343	5.849	0	0	0	0	100
Covariates								
Total Positive Income ($M)	4,831,000	0.14	1.48	0	0.02	0.05	0.11	1,200
Wage share of TPI (%)	4,831,000	0.64	0.44	0.00	0.00	0.95	1.00	1.00
Age (years)	4,790,000	48	17	16	34	46	60	100
Binary covariates (1/0)								
Positive tax liability	4,831,000	0.38	0.49	0	0	0	1	1
Had any Sch C income	4,831,000	0.12	0.32	0	0	0	0	1
Had any Sch E income	4,831,000	0.14	0.34	0	0	0	0	1
Received an IRS notice	4,831,000	0.15	0.35	0	0	0	0	1
Made Sch A charity deduction	4,831,000	0.07	0.25	0	0	0	0	1
Filed a gift tax form	4,831,000	0.00	0.05	0	0	0	0	1
Diff-in-diff covariates (1/0)								
IGA jurisdiction								
as of 2019	4,831,000	0.932	0.25	0	1	1	1	1
as of 2017	4,831,000	0.930	0.26	0	1	1	1	1
as of 2015	4,831,000	0.873	0.33	0	1	1	1	1
Tax haven jurisdiction	4,831,000	0.082	0.27	0	0	0	0	1
Post (tax years >= 2010)	4,831,000	0.766	0.42	0	1	1	1	1

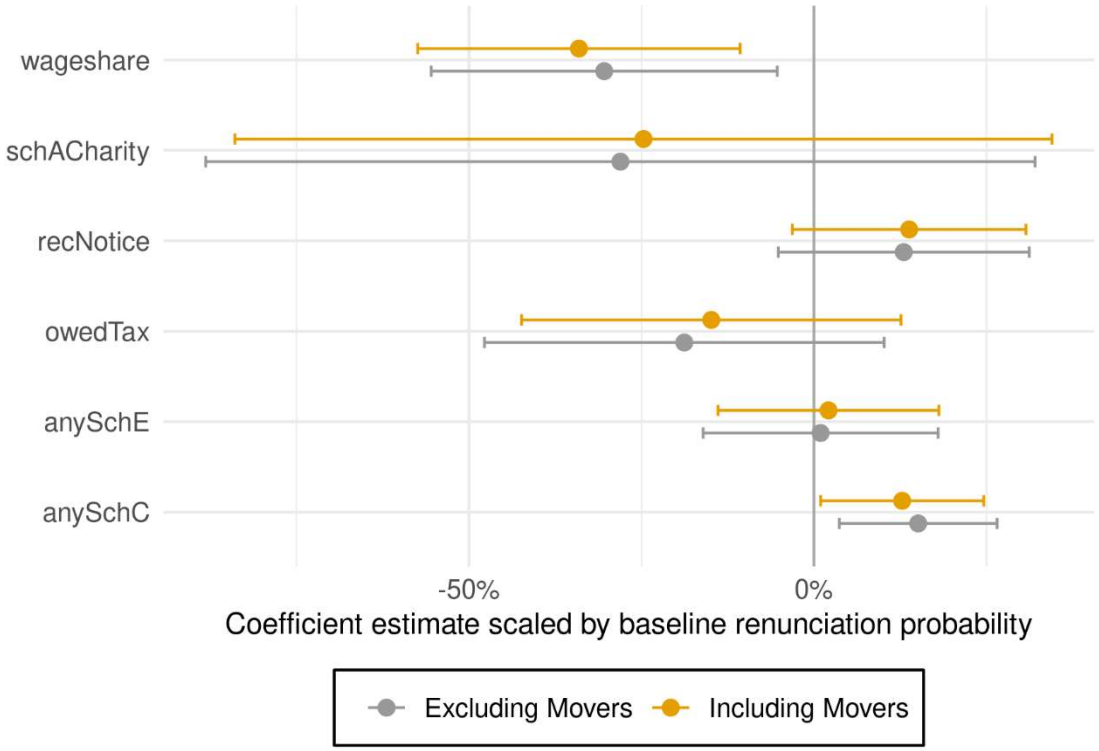
Notes: This table reports the summary statistics for the individual-year level data used in regression analysis with results shown in Table 4. The population is all Form 1040 filings from foreign addresses for tax years 2007-2017, excluding any Mover renouncers. Values are rounded for disclosure purposes.

Table 10: Individual regression results, including all linked renouncers

Dependent variable:	Binary: Renounce in following year (100/0)					
	[1]	[2]	[3]	[4]	[5]	[6]
Total Positive Income	0.0171	0.017	0.0176	0.0137	0.0140***	0.0137
($ millions)	(0.0105)	(0.0104)	(0.0105)	(0.0098)	(0.0018)	(0.0097)
Wage share	-0.0934	-0.071	-0.1216	-0.1345**	-0.1293***	-0.1250***
(% of TPI)	(0.0804)	(0.0614)	(0.0748)	(0.0558)	(0.0077)	(0.0385)
Positive tax liability	-0.0692	-0.0717	-0.0579	-0.0632	-0.0562***	-0.0546
(1/0)	(0.0655)	(0.0665)	(0.0644)	(0.0472)	(0.0061)	(0.0453)
Any Sch C income	0.0843***	0.0874***	0.0624**	0.0570**	0.0433***	0.0469**
(1/0)	(0.0278)	(0.0309)	(0.0254)	(0.0196)	(0.0091)	(0.0195)
Any Sch E income	0.0127	0.0105	-0.0046	0.018	-0.0011	0.0077
(1/0)	(0.0381)	(0.0392)	(0.0376)	(0.0270)	(0.0083)	(0.0264)
Schedule A charity	-0.0052	-0.0131	0.0264	-0.1158	-0.0928***	-0.0907
(1/0)	(0.0915)	(0.0894)	(0.0938)	(0.0972)	(0.0115)	(0.0975)
Filed gift tax return	2.5150***	2.5109***	2.4779***	2.4555***	2.4139***	2.4046***
(1/0)	(0.4208)	(0.4180)	(0.4150)	(0.4284)	(0.0568)	(0.4188)
Received any notice	0.1163**	0.1123**	0.0376*	0.1241**	0.0454***	0.0506*
(1/0)	(0.0560)	(0.0563)	(0.0197)	(0.0543)	(0.0082)	(0.0279)
Age		0.0016			0.0020***	0.0019
(years)		(0.0013)			(0.0002)	(0.0012)
Constant	0.4168***	0.3304***				
	(0.1370)	(0.0720)				
Year FE	No	No	Yes	No	Yes	No
Jurisdiction FE	No	No	No	Yes	Yes	No
YearXJurisdiction FE	No	No	No	No	No	Yes
Observations	4,835,000	4,793,000	4,835,000	4,835,000	4,793,000	4,793,000
Adjusted R^2	0.0006	0.0006	0.0014	0.0046	0.0054	0.0067
Mean dep. var.	0.343	0.343	0.343	0.343	0.343	0.343

Notes: *p<0.1; **p<0.05; ***p<0.01. Standard errors, clustered by year and by jurisdiction, are shown in parentheses. The dependent variable is coded as 100 or 0 so that the coefficient estimates represent the effect in percentage points for each covariate, holding all others constant. All expatriates that can be linked to Form 1040 filings as a primary filer are included.

Figure 18: Scaled coefficient estimates for selected covariates, individual LPM



Notes: This figure plots the coefficient estimates for selected covariates of the fully saturated linear probability model reported in column 6 of Table 4 (excluding Movers) and Table 10 (including Movers). The estimates are scaled by the mean dependent variable to show the estimated effect on the probability of a given type of expatriation, in percent. 95% confidence intervals using standard errors clustered by year and jurisdiction are shown around each point estimate. The covariate for filing a gift tax form is excluded from this figure because it dominates the others, with a scaled point estimate suggesting it is associated with a more than 500% increase in the probability of renunciation.

Table 11: Summary statistics for jurisdiction-level regression data

Variable	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Outcome								
Renunciation share	213	0.013	0.030	0	0	0.005	0.0128	0.3415
Covariates								
Tax haven	213	0.174	0.380	0	0	0	0	1
Citizenship-for-sale	213	0.047	0.212	0	0	0	0	1
English-speaking	213	0.094	0.292	0	0	0	0	1
WGI Rule of Law	205	0.490	0.284	0	0.251	0.474	0.728	0.996
WGI Political Stability	205	0.497	0.286	0.012	0.255	0.493	0.769	0.985
Passport value	197	0.469	0.297	0.015	0.214	0.415	0.733	0.979
Average change in RGDP	188	3.218	2.370	-4.609	1.600	3.177	4.766	11.509

Notes: This table reports the summary statistics for the jurisdiction-level data used in the regression analysis with results shown in Table 5. The population is all jurisdictions with any U.S. tax filings for tax years 2007-2017. Certain covariates are only available for a subset of jurisdictions. I define citizenship-for-sale jurisdictions as those that began such a program prior to 2017: Antigua and Barbuda, Bulgaria, Comoros, Dominica, Grenada, Malta, St. Kitts and Nevis, Serbia, St. Lucia, and Vanuatu (Christians 2017).

Table 12: Individual-level regression results with jurisdiction-level covariates

Dependent variable:	Binary: Renounce in following year (100/0)					
	[1]	[2]	[3]	[4]	[5]	[6]
Total Positive Income	0.0102	0.0068	0.0073	0.0108	0.0074	0.0079
($ millions)	(0.0063)	(0.0060)	(0.0063)	(0.0063)	(0.0073)	(0.0072)
Wage share	-0.055	-0.0922**	-0.0961**	-0.073	-0.1093**	-0.1122**
(% of TPI)	(0.0603)	(0.0422)	(0.0418)	(0.0567)	(0.0389)	(0.0389)
Positive tax liability	-0.0834	-0.0869*	-0.0883*	-0.0727	-0.0772	-0.0784
(1/0)	(0.0650)	(0.0465)	(0.0462)	(0.0638)	(0.0442)	(0.0445)
Any Sch C income	0.0937***	0.0864***	0.0887***	0.0749**	0.0691***	0.0710***
(1/0)	(0.0278)	(0.0236)	(0.0221)	(0.0274)	(0.0199)	(0.0198)
Any Sch E income	0.0042	-0.0044	-0.0044	-0.0129	-0.0208	-0.0207
(1/0)	(0.0383)	(0.0354)	(0.0348)	(0.0377)	(0.0342)	(0.0338)
Schedule A charity	-0.0218	-0.114	-0.1148	0.0084	-0.0828	-0.0834
(1/0)	(0.0856)	(0.0912)	(0.0928)	(0.0874)	(0.0930)	(0.0937)
Filed gift tax return	2.2807***	2.2270***	2.2497***	2.2419***	2.1897***	2.2117***
(1/0)	(0.4172)	(0.4222)	(0.4266)	(0.4108)	(0.4141)	(0.4183)
Received any notice	0.1023*	0.1066*	0.1055*	0.025	0.032	0.0311
(1/0)	(0.0547)	(0.0569)	(0.0569)	(0.0191)	(0.0283)	(0.0286)
Age	0.0019	0.0020*	0.0019*	0.0023*	0.0024**	0.0023**
(years)	(0.0013)	(0.0011)	(0.0011)	(0.0012)	(0.0010)	(0.0010)
Tax haven		0.7891**	0.8146**		0.7949*	0.8255**
(1/0)		(0.3659)	(0.3698)		(0.3657)	(0.3698)
Citizenship-for-sale		-0.2167	-0.2056		-0.2018	-0.1946
(1/0)		(0.1338)	(0.1445)		(0.1373)	(0.1484)
English-speaking		0.2075***	0.2124***		0.2043***	0.2109***
(1/0		(0.0435)	(0.0453)		(0.0568)	(0.0572)
Rule of Law index		0.2542***	0.4921***		0.2257***	0.4409**
(percentile)		(0.0672)	(0.1799)		(0.0655)	(0.1752)
Political Stability index		0.2708***	0.2558***		0.2842***	0.2603**
(percentile)		(0.0775)	(0.0755)		(0.0854)	(0.0877)
Passport ranking			-0.3995*			-0.3806
(percentile)			(0.2280)			(0.2226)
Change in Real GDP			-0.035			-0.0374
(percentage points)			(0.0255)			(0.0253)
Constant	0.2890***	-0.2045**	0.0171			
	(0.0712)	(0.0810)	(0.1428)			
Year FE	No	No	No	Yes	Yes	Yes
Observations	4,790,000	4,786,000	4,752,000	4,790,000	4,786,000	4,752,000
Adjusted R^2	0.0005	0.0030	0.0030	0.0014	0.0038	0.0039
Mean dep. var.	0.343	0.343	0.343	0.343	0.343	0.343

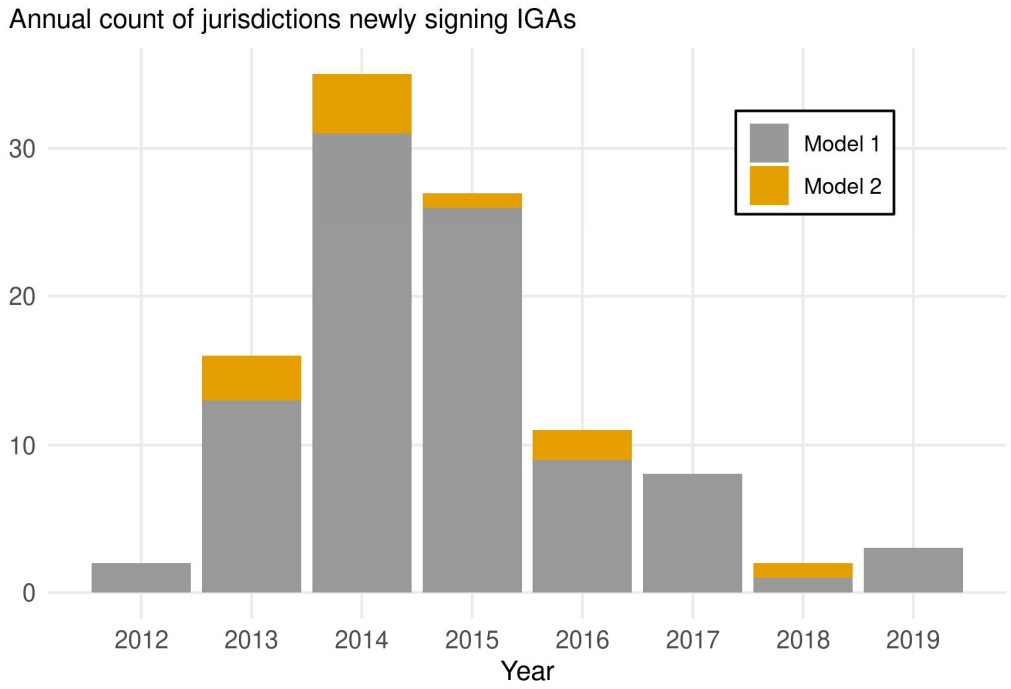
Notes: *p<0.1; **p<0.05; ***p<0.01. Standard errors clustered by year are shown in parentheses. Jurisdiction-level covariates are averages over the full time period, and not time-varying. Observations are individual-year.

Table 13: Jurisdiction-level regression results, CFS robustness checks

	Dep. var.: Total renunciations/unique foreign filers							
	Robustness 1: Remove CFS covariate				*Robustness 2: Include Haven X CFS interaction*			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Tax haven (1/0)	0.0253**	0.0254**	0.0332**	0.0160*	0.0267**	0.0273**	0.0367**	0.0172*
	(0.0121)	(0.0123)	(0.0147)	(0.0083)	(0.0131)	(0.0137)	(0.0168)	(0.0096)
Citizenship-for-sale (1/0)					-0.0054*	-0.0070***	-0.0085***	-0.0065***
					(0.0028)	(0.0024)	(0.0031)	(0.0025)
Tax haven X CFS (1/0)					-0.0077	-0.0081	-0.0139	-0.0006
					(0.0118)	(0.0117)	(0.0145)	(0.0103)
English-speaking (1/0	-0.0074	-0.0144	-0.0189*	-0.0064	-0.0049	-0.0111	-0.014	-0.0051
	(0.0080)	(0.0097)	(0.0111)	(0.0065)	(0.0067)	(0.0079)	(0.0088)	(0.0055)
Rule of Law index (percentile)		0.0328***	0.0194***	0.0206***		0.0323***	0.0186**	0.0201***
		(0.0093)	(0.0072)	(0.0063)		(0.0093)	(0.0074)	(0.0063)
Political Stability index (percentile)		-0.0036	0.0002	-0.0049		-0.0034	0.0014	-0.0042
		(0.0067)	(0.0074)	(0.0050)		(0.0070)	(0.0078)	(0.0051)
Passport ranking (percentile)			0.0120**	0.0089			0.0112**	0.0087
			(0.0057)	(0.0055)			(0.0055)	(0.0055)
Change in Real GDP (percentage points)				0.0002				0.0001
				(0.0005)				(0.0005)
Constant	0.0090***	-0.004	-0.0049	-0.0035	0.0090***	-0.0038	-0.0047	-0.0033
	(0.0010)	(0.0034)	(0.0037)	(0.0031)	(0.0010)	(0.0034)	(0.0036)	(0.0030)
Observations	213	205	196	187	213	205	196	187
Adjusted R^2	0.0855	0.1693	0.2069	0.2231	0.0814	0.1672	0.2113	0.2210

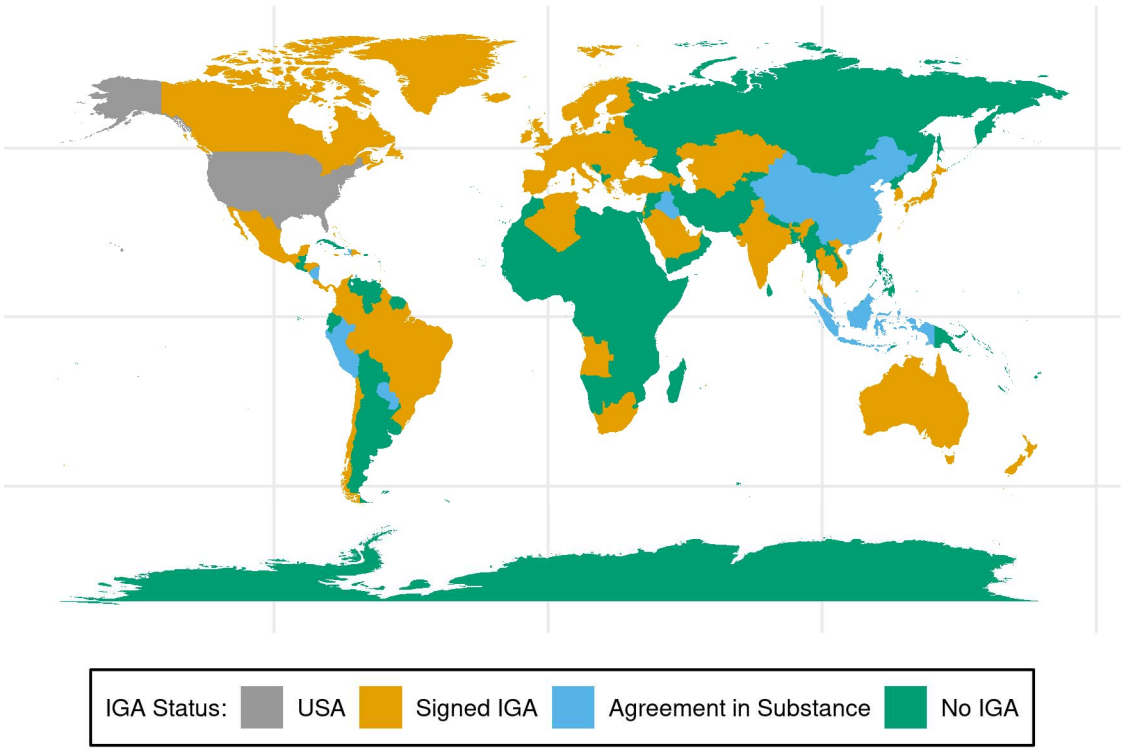
Notes: This table reports the results of two alternative sets of jurisdiction-level regression specifications, one without the citizenship-for-sale covariate, and one adding a Tax haven X CFS interaction covariate. Removing CFS as a covariate does not materially affect the estimates on other covariates. Adding the haven interaction reveals that the CFS effect is driven by the non-haven CFS jurisdictions, like Bulgaria and Serbia.

Figure 19: Count of jurisdictions signing FATCA IGAs, by year and model type



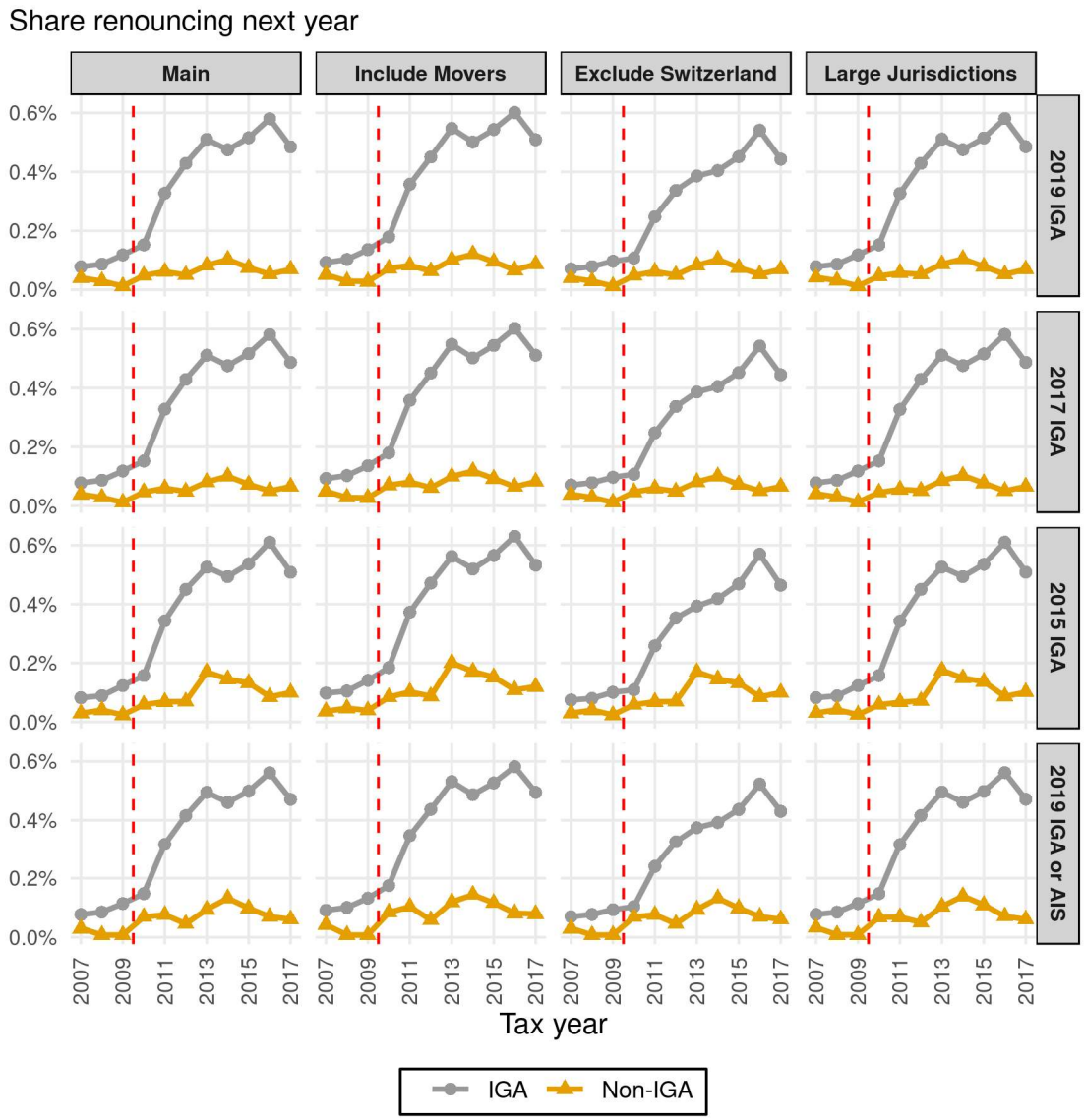
Notes: This figure plots the count of unique jurisdictions that signed a FATCA-related IGA with the U.S. in each year, separately for the two types of IGAs.

Figure 20: Jurisdictions by FATCA IGA status



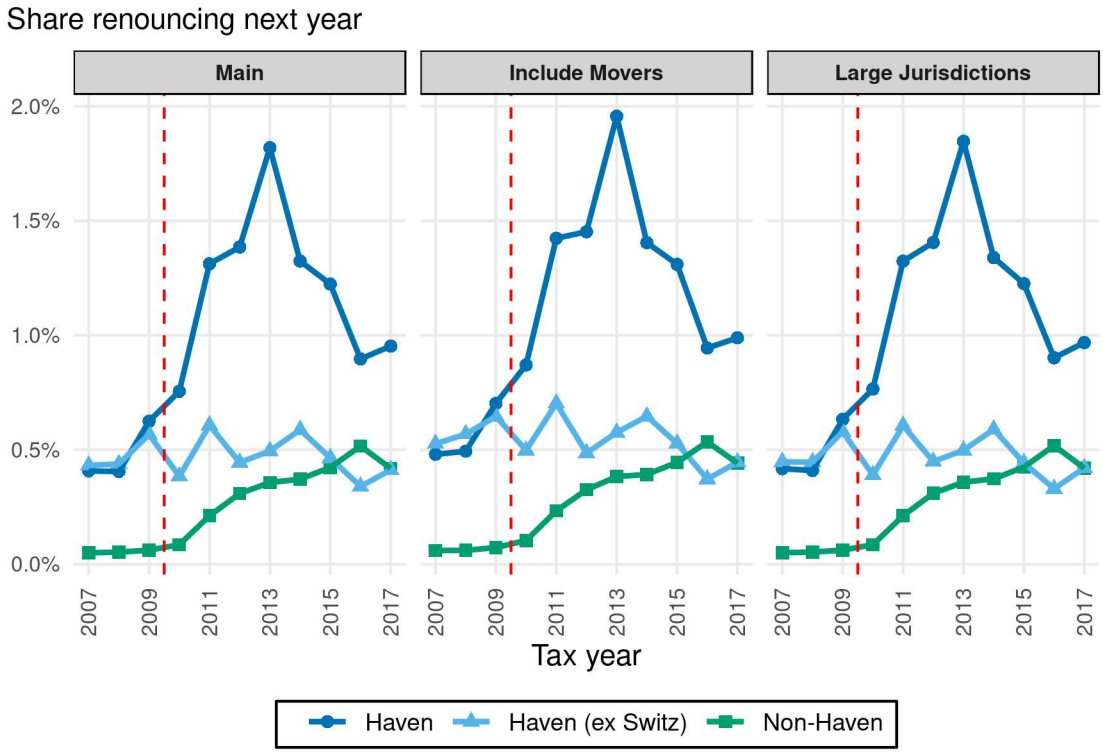
Notes: This figure shows world jurisdictions, shaded to indicate their FATCA IGA status, according to the U.S. Treasury. Jurisdictions with a signed IGA are shaded in orange; those listed as having an "Agreement in Substance" but not yet signed are shaded in blue. Those with neither a signed IGA nor an Agreement in Substance are shaded in green.

Figure 21: Annual share renouncing between IGA and non-IGA jurisdictions, alternate specifications



Notes: This figure plots the number of individual renouncing each year as a share of prior-year U.S. tax filers, from either IGA or non-IGA jurisdictions. The four rows correspond to four different definitions of "IGA jurisdictions": including those signed through 2019, 2017, or 2015, or adding in those with Agreements in Substance. The four columns correspond to sample definitions; the main specification includes only Dropper renouncers; the second column also includes Movers; the third column excludes Switzerland; the fourth column restricts to jurisdictions with at least 100 U.S. tax filers in one year.

Figure 22: Annual share renouncing between haven and non-haven jurisdictions, alternate specifications



Notes: This figure plots the number of individual renouncing each year as a share of prior-year U.S. tax filers, from either tax haven or non-tax-haven jurisdictions. The three columns correspond to sample definitions; the main specification includes only Dropper renouncers; the second column also includes Movers; the third column restricts to jurisdictions with at least 100 U.S. tax filers in one year.

Table 14: Difference-in-difference, IGA test robustness checks

Dependent variable:	Binary: Renounce in following year (100/0)			
Sample:	Droppers	Droppers & Movers	Exclude Switzerland	Large Jurisdictions
	[1]	[2]	[3]	[4]
IGA definition				
Signed through 2019	0.3144***	0.3168***	0.2580***	0.3149***
	(0.1003)	(0.1023)	(0.0996)	(0.1006)
Signed through 2017	0.3155***	0.3182***	0.2589***	0.3156***
	(0.1000)	(0.1019)	(0.0991)	(0.1003)
Signed through 2015	0.2912***	0.2869***	0.2305**	0.2897***
	(0.0998)	(0.1017)	(0.0991)	(0.1001)
Signed or Agreed in Substance through 2019	0.2738***	0.2724***	0.2182**	0.2716***
	(0.0971)	(0.0989)	(0.0958)	(0.0972)
Individual covariates	Yes	Yes	Yes	Yes
Observations	4,831,000	4,835,000	4,686,000	4,805,000
Adjusted R^2	0.0013	0.0013	0.0012	0.0013

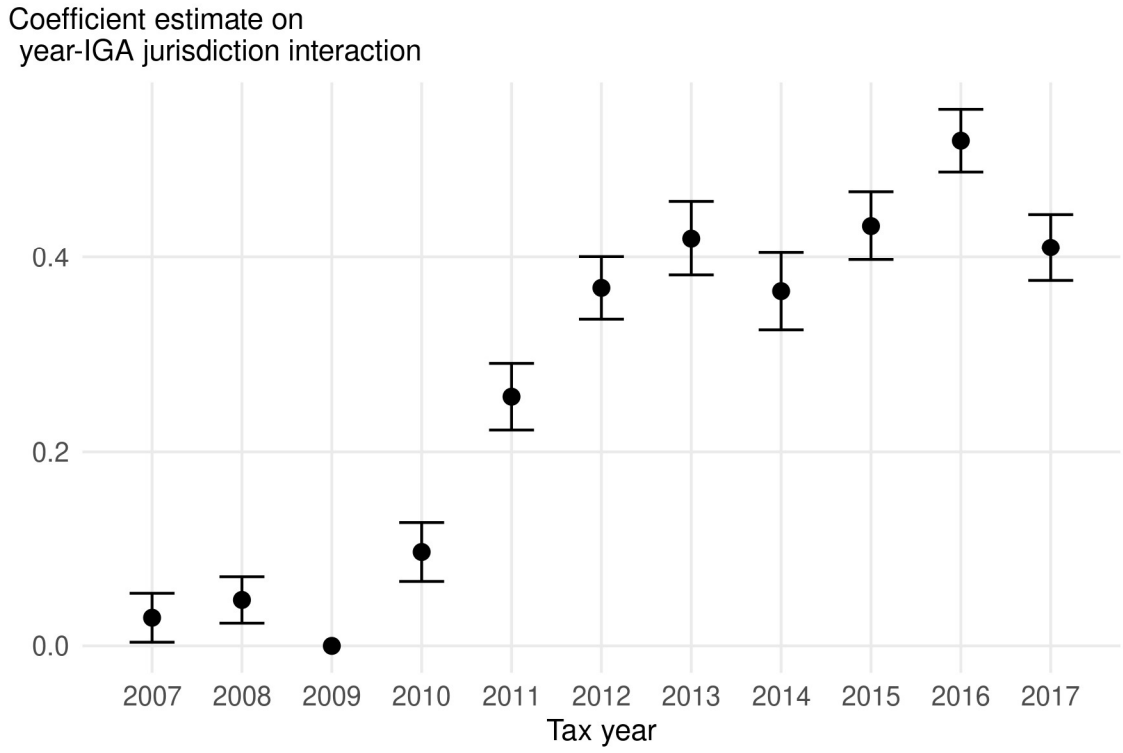
Notes: *p<0.1; **p<0.05; ***p<0.01. The coefficient estimates on the Post X IGA covariate are shown under alternate IGA definitions and sample definitions. Standard errors clustered by year and by jurisdiction are shown in parentheses. The four rows correspond to four different definitions of "IGA jurisdictions": including those signed through 2019, 2017, or 2015, or adding in those with Agreements in Substance. The four columns correspond to sample definitions; the main specification includes only Dropper renouncers; the second column also includes Movers; the third column excludes Switzerland; the fourth column restricts to jurisdictions with at least 100 U.S. tax filers in one year.

Table 15: Difference-in-difference, haven test robustness checks

Dependent variable:	Binary: Renounce in following year (100/0)		
Sample:	Droppers	Droppers & Movers	Large Jurisdictions
	[1]	[2]	[4]
Switzerland treatment:			
Included	0.4343	0.4274	0.4384
	(0.5484)	(0.5820)	(0.5591)
Excluded	-0.3151***	-0.3641***	-0.3301***
	(0.1151)	(0.1234)	(0.1145)
Individual covariates	Yes	Yes	Yes
Observations	4,831,000	4,835,000	4,805,000
Adjusted R^2	0.0025	0.0027	0.0025

Notes: *p<0.1; **p<0.05; ***p<0.01. The coefficient estimates on the Post X Haven covariate are shown when including or excluding Switzerland, and under alternat sample definitions Standard errors clustered by year and jurisdiction are shown in parentheses. The three columns correspond to sample definitions; the main specification includes only Dropper renouncers; the second column also includes Movers; the third column restricts to jurisdictions with at least 100 U.S. tax filers in one year.

Figure 23: Individual IGA analysis, year-by-year specification



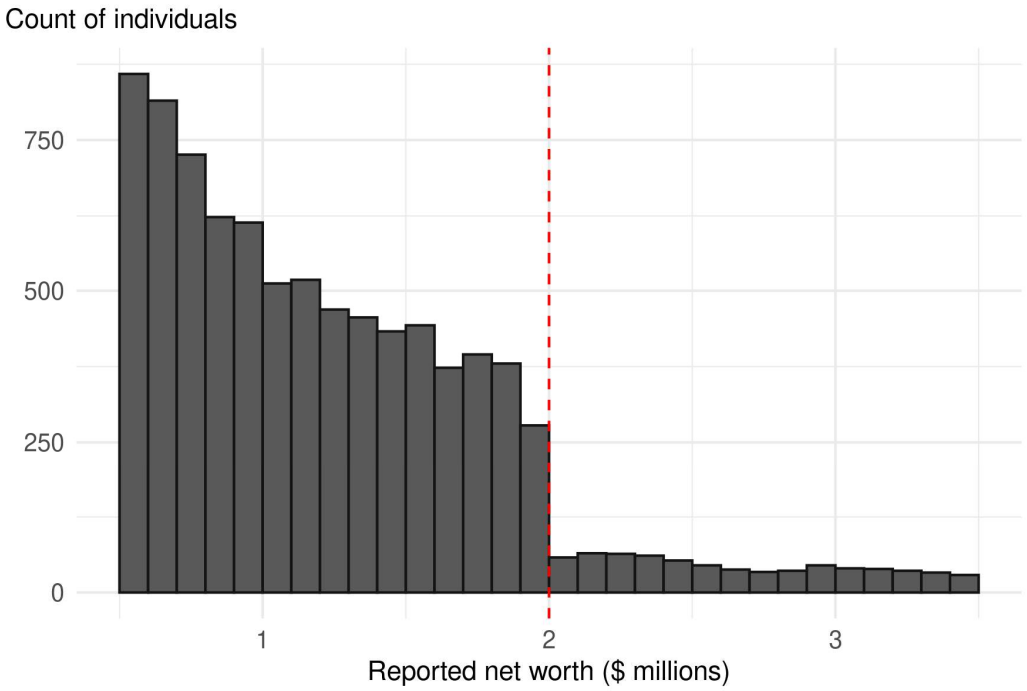
Notes: This figure plots the coefficient estimates on the year X IGA dummy variables in a specification which also includes year dummy variables and individual covariates (i.e., the same as the main IGA difference-in-difference specification but replacing the Post, IGA, and Post X IGA variables with year-by-year covariates). This alternate specification shows results consistent with the main difference-in-difference IGA analysis.

Table 16: Revenue-relevant summary statistics

		Split by prior U.S.-based filing		Split by time period	
	All	Mover	Dropper	1998-2010	2011-2018
Total count of renouncers	39,300	4,600	20,000	9,100	30,200
Count with TIN/SSN	27,900	4,600	20,000	6,500	21,400
Count with Form 8854	20,400	3,200	14,500	5,000	15,400
Tax liability one year prior to renunciation					
Count with non-zero liability	8,700	2,200	6,100	2,400	6,200
Among those with TIN: share with non-zero liability	31%	48%	31%	37%	29%
Among those with non-zero liability:					
Median liability ($)	$4,200	$11,800	$3,000	$9,300	$3,200
Mean liability ($)	$81,000	$183,500	$46,900	$137,500	$60,400
Total liability ($M)	$704	$404	$286	$330	$374
Median age at expatriation	52	51	52	50	52
Average annual tax liability over five years prior to expatriation					
Count with at least one year of non-zero liability	14,800	3,600	10,600	3,800	11,000
Among those with TIN: share with non-zero liability	53%	78%	53%	58%	51%
Among those with non-zero liability:					
Median liability ($)	$2,200	$8,000	$1,400	$6,200	$1,500
Mean liability ($)	$41,500	$94,000	$24,900	$71,700	$31,000
Total liability ($M)	$614	$338	$264	$272	$341
Median age at expatriation	52	50	52	49	53

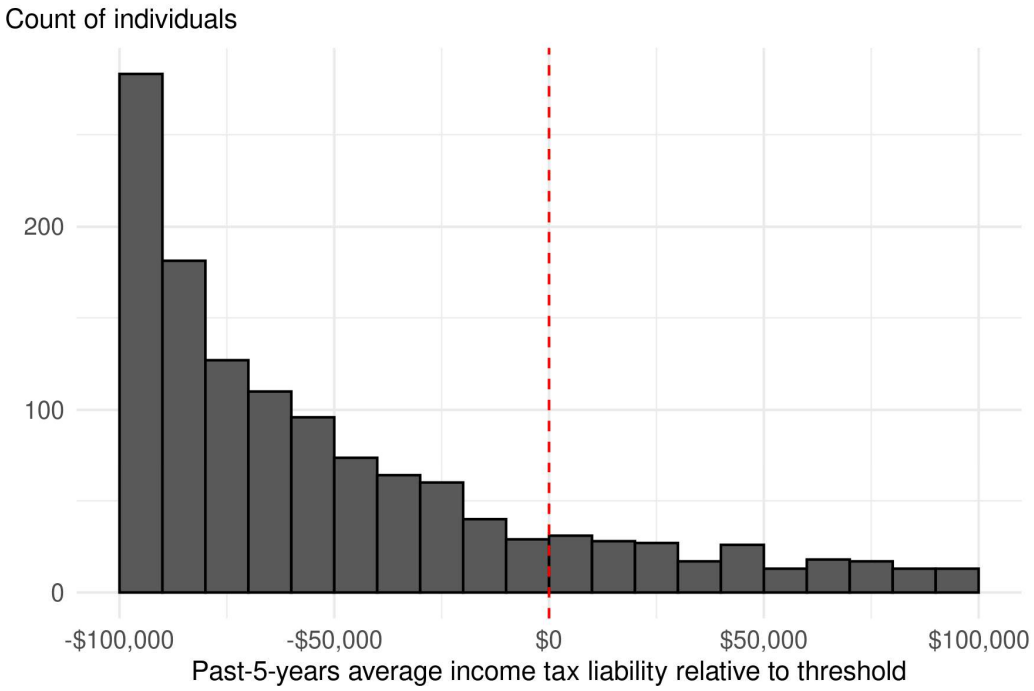
Notes: pre-FATCA includes expatriations from 1998-2010; post-FATCA from 2011-2018. Values are rounded to the nearest 100 for disclosure purposes. Tax liability is net of the Foreign Tax Credit.

Figure 24: Histogram of reported net worth around $2 million (extended range)



Notes: This figure plots the count of expatriates with past-5-years average income tax liability in each $10K bucket of liability relative to the covered expatriate threshold in their year of renunciation. The thresholds are shown above in Figure 26.

Figure 25: Histogram of average income tax liability relative to threshold



Notes: This figure plots the count of expatriates with past-5-years average income tax liability in each $10K bucket of liability relative to the covered expatriate threshold in their year of renunciation. The thresholds are shown in Figure 26.

Appendix B. Additional notes on U.S. citizenship renunciation

Appendix B.1. The process of U.S. citizenship renunciation

Section 349(a) of the Immigration and Nationality Act outlines the seven acts by which a U.S. national can voluntarily relinquish U.S. nationality: (1) obtaining naturalization in a foreign state once 18 years or older; (2) declaring allegiance to a foreign state once 18 years or older; (3) serving in the armed forces of a foreign state, either as an officer or engaged in hostilities against the U.S.; (4) serving a foreign government if that service requires foreign nationality or allegiance; (5) making a formal renunciation of nationality before a diplomatic or consular officer of the U.S. in a foreign state; (6) making a formal written renunciation of nationality in the U.S. (when the U.S. is at war and the renunciation is approved by the Attorney General); and (7) committing treason against or attempting to overthrow the U.S. government (8 U.S.C. §1481).

The fifth option is the main approach taken by those choosing to lose their U.S. citizenship. The required steps include preparing the necessary forms, meeting with a diplomatic or consular officer in a foreign state, swearing an oath of renunciation, and paying the renunciation fee. In most cases, renunciation requires two separate appointments at a foreign embassy or consulate. In the first appointment, the U.S. citizen is interviewed to confirm that renunciation is being done out of free will and not under duress. At the second appointment, an oath of renunciation is sworn. The current fee for citizenship renunciation is $2,350 (until mid-2014 the fee was $450, and there was no fee before 2010). Because of the recent increase in renunciations, some embassies and consulates have experienced backlogs of renunciation appointments, leading to delays or prompting some individuals to travel to other cities and countries to seek earlier appointments (Richards 2016). Various third-party firms offer services to U.S. citizens considering citizenship renunciation, promising to assist with the process and often targeting their marketing at high-wealth individuals.[47]

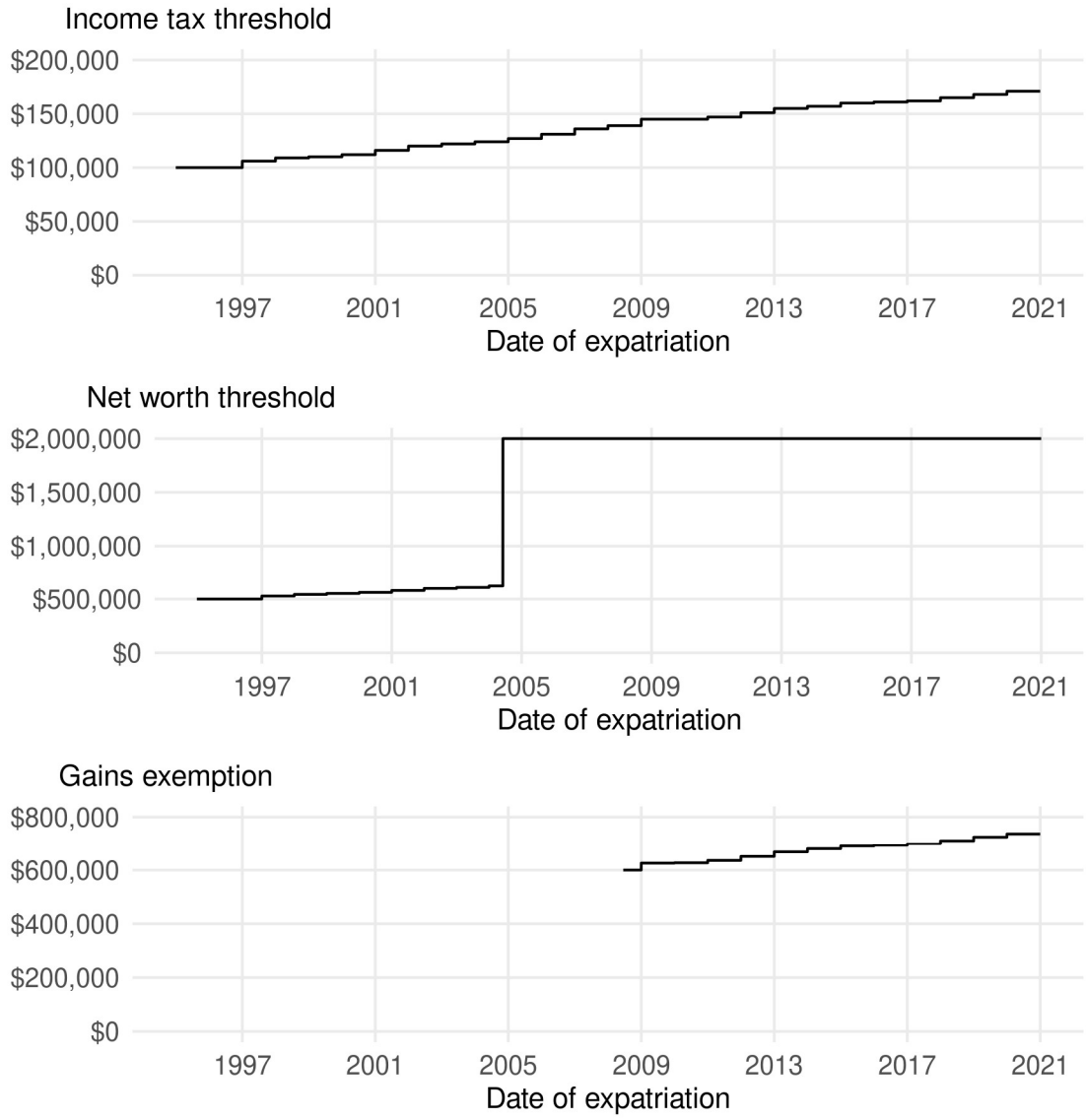
After completing these steps, the State Department processes the renunciation and sends the individual a Certificate of Loss of Nationality confirming the renunciation of U.S. citizenship.

[47] See, e.g., the Nomad Capitalist (https://nomadcapitalist.com/) or 1040Abroad (https://1040abroad.com/about/).

Those renouncing citizenship must also file a U.S. income tax form for the year in which they renounced citizenship and include Form 8854 to complete renunciation for tax purposes (and remit or make arrangements to remit any associated tax liability). Because expatriation is an individual process, each individual must file a separate Form 8854, even if filing Form 1040 with married filing jointly status.

Figure 26 below plots the changes over time in the income tax and net worth thresholds for covered expatriate designation, as well as the changes in the capital gains exemption available to those who are deemed covered expatriates and subject to the mark-to-market exit tax (since 2008).

Figure 26: Statutory covered expatriate thresholds and gains exemptions over time



Appendix B.2. Prior U.S. history with citizenship renunciation

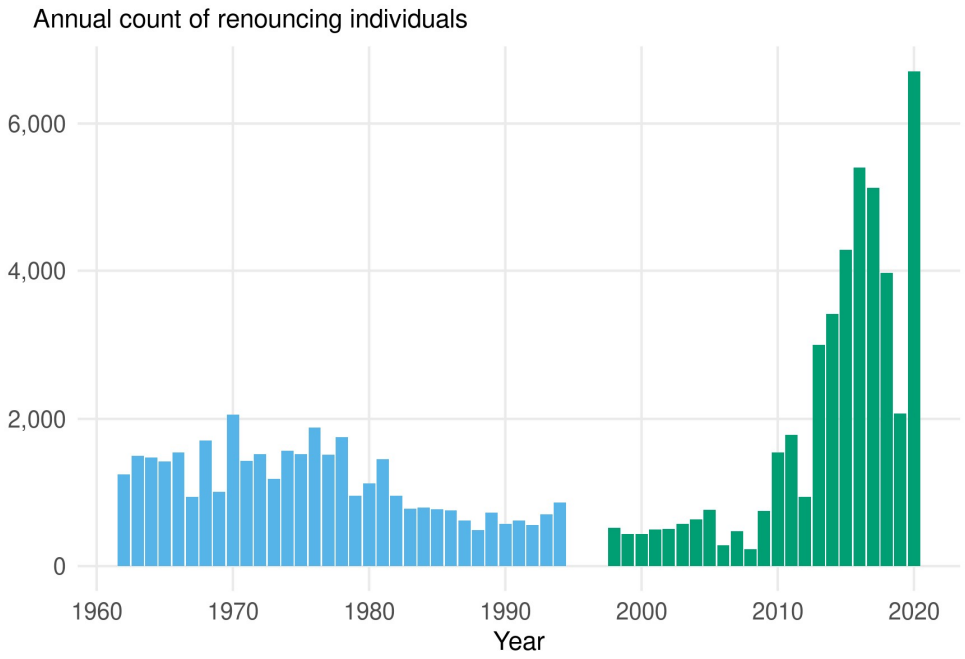
In the main text of this paper I focus on renunciations from 1998-2018, the years for which the IRS database with information on those renouncing U.S. citizenship is available and complete. Using outside sources, it is also possible to provide some context on renunciations covering a longer time period.

Annual counts of U.S. citizen renunciations are available for the years 1962-1994 from the State Department, as listed in a report discussing proposals for changes to the tax treatment of

expatriation (Joint Committee on Taxation 1995). These can be paired with annual counts of individuals reported in the Federal Register as having relinquished citizenship, which are available for the years 1998-2020. Note that because of slight differences in the way numbers were tracked from year to year and the precise criteria for inclusion, these sources may not be exactly comparable with each other, nor with the counts I present above.[48] Still, all three capture a similar idea and allow for consideration of trends over time.

Figure 27 below shows the JCT and Federal Register series, with the JCT numbers in blue and the Federal Register numbers in green. The longer-term trend shows that renunciations were actually somewhat more common in the 1960s and 1970s, and had fallen to a relative low by the 2000s, before increasing in the past decade, as discussed above.

Figure 27: Annual count of renunciations (JCT and Federal Register)



Notes: This figure plots the count of U.S. citizenship renunciations from two sources. For the years 1962-1994, the values are as reported in Joint Committee on Taxation (1995). For the years 1998-2020, the values are the count of names published in the Federal Register as the "Quarterly Publication of Individuals Who Have Chosen to Expatriate", required under IRC §6039G.

[48] For instance, the JCT report notes at p. 7 that there may be discrepancies between the definitions used for the yeas 1962-1979 and 1980-1994.