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The redistributive impact of hypocrisy in international taxation

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Abstract

Why do tax havens, whose attractiveness for foreign investors depends upon financial secrecy, agree to automatically report account data to foreign governments? From a contractualist perspective, their cooperation should be motivated by the expectation of joint gains. Prior to such agreement, however, tax havens expected outflows of foreign capital and reductions in economic activity as likely outcomes. We show that the United States (US) imposed automatic information exchange on these countries without itself participating. The result is a strongly redistributive regime that worsens the economic situation of tax havens. By means of a difference-in-differences analysis, we ascertain a substantial and statistically significant negative effect of a US sanction threat on the value of assets held by foreigners in tax havens relative to non-havens. The effect becomes stronger when the US is included in the non-haven group. The analysis confirms the US's ability to redistribute financial wealth internationally through organized hypocrisy.

Keywords: capital flows, coercion, FATCA, sanctions, tax havens.

1. Introduction

The business model of tax havens depends on the provision of secrecy. If tax havens did not permit foreign investors to conceal capital income, such investors would be unable to evade corresponding taxes in their home countries. Therefore, tax havens have passed legislation penalizing the dissemination of account information and enabling the anonymous establishment of trusts and shell corporations. At the international level, they have staunchly defended such provisions against initiatives toward more financial transparency. Switzerland, Liechtenstein, and others, for instance, long refused to comply with Organisation for Economic Co-operation and Development (OECD) standards for the exchange of account information upon request (Eggenberger & Emmenegger 2015). Likewise, Austria and Luxembourg did not participate in the automatic exchange of information (AEI) regarding interest payments to non-residents among European Union (EU) members (Rixen & Schwarz 2012). Where tax havens have adopted international transparency rules, they have usually resorted to "mock compliance" rather than applying them to the letter (Woodward 2016, p. 103).

Things fundamentally changed in October 2014 when more than 50 countries gathered for the 7th meeting of the Global Forum on Transparency and Exchange of Information for Tax Purposes (Global Forum) in Berlin (Organisation for Economic Co-operation and Development [OECD] 2014a). Participants signed a multilateral agreement, committing to automatically exchange information on capital income earned by non-residents. The agreement obliges signatories to collect information on all types of capital income from financial institutions under their jurisdiction. They must transmit that information to treaty partners at regular intervals, and make sure banks look through trusts and shell corporations when identifying account holders (OECD 2014b,c). To limit mock compliance, signatories tasked the Global Forum to monitor the agreement's implementation in recurrent peer reviews (OECD 2014b). At the time of writing, all major tax havens had signed the document (OECD 2016). Accordingly, finance ministers, tax justice activists, and academics agree that it represents remarkable progress in the fight against tax evasion

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(Vasagar & Houlder 2014; Emmenegger 2017). But why did tax havens suddenly abandon financial secrecy, a cornerstone of their business model?

From a contractualist perspective, international cooperation requires voluntary compliance. Therefore, agreements need to provide signatories with joint gains (Hasenclever *et al.* 1997). The Luxembourg and Swiss governments, however, clearly expected losses from the adoption of the AEI. They not only anticipated adjustment costs for their financial sectors and outflows of foreign capital. Given the important role of finance to their economies they also worried about reductions in gross domestic product (GDP) and employment (Adam 2014; Schweizerischer Bundesrat 2015). Still, they replaced financial opacity with the routine reporting of account data. Some scholars have explained the persistence of tax havens as an unintended consequence of the double tax avoidance regime (Rixen 2008). Others stress the survival of Westphalian state sovereignty in a global economy without capital controls (Palan 1998). Hence they often used the importance attached by governments to their core competence of taxation to explain the absence of international cooperation in this field (Webb 2004; Sharman 2006). Nonetheless, even a country like Austria, which had given banking secrecy constitutional status, abandoned the concept in practice in 2014.

In contrast to these analyses, this article speaks to an emerging power-based approach to international cooperation in tax matters. Emmenegger (2017) recently demonstrated that the United States (US) exploited Swiss banks' structural dependence on the US financial market to impose the transfer of US client files on them. Because Switzerland had to abandon banking secrecy to enable this transfer, other governments were then able to request equivalent cooperation. Moreover, Sharman (2011, p. 982) shows that by imposing anti-money-laundering rules on tax havens, the US followed a "do as I say, not as I do" logic, circumventing the rules itself. We add to this line of research by showing that the US brought about multilateral AEI with a credible sanction threat, which linked access to its financial market to the routine reporting of account information, yet it does not reciprocate the AEI requested by foreign governments, and has not signed the multilateral agreement. Beyond demonstrating the establishment of "organized hypocrisy" by the US (Krasner 1999, p. 42), however, we also reveal its redistributive impact on the stock of foreign-held assets in tax havens relative to non-havens.

To ascertain that the non-reciprocal adoption of AEI disadvantages tax havens and, in particular, benefits the US, we perform a difference-in-differences (DD) analysis. This consists of a comparison of the stocks of deposits and debt securities held by foreign non-banks in tax havens and non-havens before and after the passage of the Foreign Account Tax Compliance Act (FATCA). Analysts have previously identified FATCA as a game changer in international bargaining over the AEI, but its redistributive impact has not yet been examined (Eccleston & Gray 2014; Palan & Wigan 2014). FATCA obliges foreign financial institutions (FFIs) to report their American clients' capital income and account balances to the Internal Revenue Service (IRS), and imposes a 30 percent withholding tax on payments from American sources to FFIs that are not compliant (Grinberg 2012). To avoid this prohibitive penalty, all internationally active banks responded by registering as reporting institutions (Internal Revenue Service [IRS] 2014). This obliged their home countries to enter into intergovernmental agreements (IGAs) with the US to avoid conflicts of law and change domestic secrecy provisions accordingly (US Treasury Department 2012a). Concessions to the US then made tax havens vulnerable to requests for equivalent cooperation from third countries, and eventually led to their adoption of multilateral AEI (Hakelberg 2015a; Emmenegger 2017).

The article is structured as follows. The second section reviews the literature on international tax cooperation, demonstrating that a contractualist approach fails to explain the emergence of multilateral AEI. The third section explains how the US linked financial market access to compliance with FATCA, and how FATCA precipitated multilateral AEI. The fourth section discusses the merits of DD analysis in the present context. The fifth section presents data on deposit and debt security holdings in tax havens and non-havens, and explains the criteria according to which countries were classified. The sixth and seventh sections present graphical and regression-based evidence for a substantial and statistically significant decline in the value of assets held by foreigners in tax havens relative to non-havens after the passage of FATCA. Finally, we summarize our main findings and outline their general relevance.

2. Power in international tax matters

Standard theories of tax competition predict that international capital mobility will precipitate a downward trend in tax rates, leading to reductions in tax revenue and a suboptimal supply of public goods in affected countries (Wilson 1999).

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From this perspective, tax competition is a straightforward case of market failure, for which international cooperation is the mutually beneficial remedy. If differences in country size are introduced, smaller countries may overcompensate revenue lost to lower domestic taxes with revenue from the incoming foreign tax base. They can therefore win tax competition against larger countries that lack this ability (Dehejia & Genschel 1999). However, because they earn less tax revenue from tax competition than large countries lose (because of their lower rates), in theory, scope remains for a mutually beneficial agreement in which large countries compensate small countries for refraining from competitive behavior (Elsayyad & Konrad 2012). From the contractualist perspective, such a deal may be undermined by the weakest link problem, arising from a stepwise approach to compensation. That is, the longer a tax haven stays out of an expanding cooperating coalition, the more it benefits from reduced competition in the tax haven market, and the more expensive its compensation becomes for large countries (Genschel & Plumper 1997).

There are two problems with this approach to tax competition and cooperation. First, compensating tax havens is a "hard political sell for democratically elected governments" (Genschel & Schwarz 2011, p. 354). After all, large-country governments spend the money of honest taxpayers to compensate tax havens for ceasing to serve the dishonest. It is therefore no surprise that compensation has never been seriously debated in negotiations over tax cooperation at the OECD (Sharman 2006, pp. 153–154). Second, compensatory arguments rely on the implicit assumption that governments compete for tax revenue, which could be replaced by international aid money. It seems more realistic, however, to assume, along with Chisik and Davies (2004), that governments seek to maximize national income, defined as the sum of tax revenue and domestic production, and rather compete for tax base. In fact, incoming foreign capital not only increases tax revenue in small countries, it also raises economic activity, wages, and employment, which, in turn, increases revenue from the taxation of labor, and reduces spending on out-of-work benefits (Genschel & Seelkopf 2015).[1] These positive spillover effects are most likely more important than the increased revenue from capital taxation itself, meaning that international aid money represents a poor alternative. While large countries are thus highly unlikely to offer compensation, tax havens are just as unlikely to accept it.

With compensation off the table, bargaining over tax cooperation becomes highly redistributive, as small and large countries quarrel over the distribution of a single, globally mobile tax base. While small countries attract capital and the associated benefits at the expense of large countries when tax competition prevails, large countries win back capital and the associated benefits at the expense of small countries when tax cooperation prevails. Even if large countries impose higher tax rates than small countries, they do not use the additional revenue to compensate small countries. There are therefore no joint gains from cooperation, and there is no scope for voluntary agreement by small countries. As a result, large countries need to resort to coercion if they want to prevent tax havens from poaching their tax base through low tax rates or the provision of financial secrecy.

We argue that great powers, defined as governments controlling a financial market considered indispensable by foreign banks, can effectively coerce tax havens into cooperation. Analysts have consistently identified the US as the only great power in this respect, citing the size of the American financial market in terms of stock market valuation, interbank transactions, and trade in options and futures as evidence (Oatley & Nabors 1998; Simmons 2001; Singer 2007). Moreover, Helleiner (2002) highlights that US control over central financial infrastructure, like clearing houses and interbank transfer systems, that banks across the world rely on to process dollar-denominated transactions is an important power resource. As Hakelberg (2016) demonstrates, internal disunity in combination with a unanimity requirement for Council decisions on direct taxation has prevented the EU from harnessing its great power potential. Because of its dominant financial market and capacity to act, the US is the only government that can make credible sanction threats in bargaining over information exchange. Its threats are credible because foreign banks stand to suffer more in losing access to the American financial market than American banks do in losing access to the market of any foreign country. The US can thus condition market access on compliance with its demands without having to fear meaningful retaliation (Krasner 1976; Drezner 2008).

Against this background, the use of coercion by the US should be reflected in three indicators: (i) the US has to credibly link market access to the reporting of account information, (ii) this link has to force tax havens to comply and abandon financial secrecy provisions, and (iii) the removal of this cornerstone of their traditional business model has to depress the value of assets held by foreigners in tax havens in comparison to the value of assets held in non-havens. In the absence of such a loss, we could not exclude tax havens' voluntary participation in AEI. As the next section will show, FATCA fulfills conditions (i) and (ii), and was conceived to bring about condition (iii).

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3. The Foreign Account Tax Compliance Act's (FATCA's) redistributive potential

As discussed above, the US issued a credible sanction threat toward tax havens through FATCA. This law, passed by the US Congress in March 2010, provides for a 30 percent withholding tax on US source payments received by FFIs incompliant with the requirement to report the capital income and account balances of US residents among their clients (Mollohan 2010). The threat was credible because it came from the government controlling the world's largest capital market. Moreover, it was contained in binding legislation. Hence, American banks, acting as withholding agents on behalf of the IRS, would be breaking the law if they did not impose the tax on payments to FFIs identified as FATCA-incompliant by the service. Accordingly, virtually all FFIs doing business in the US registered as reporting institutions with the IRS (IRS 2014), whereas all jurisdictions hosting an internationally active financial sector struck bilateral FATCA IGAs with the US Treasury Department, committing their financial institutions to the routine reporting of the capital income and account balances of US residents (US Treasury Department 2012a). As a result, FATCA pierced banking secrecy and other provisions protecting investor anonymity in tax havens. FATCA therefore had the potential to curb tax evasion by US residents using hidden offshore accounts.

In addition, FATCA also precipitated multilateral AEI.[2] Its sanction mechanism forced tax havens to end their fundamental opposition to this form of tax cooperation, making it harder for them to deny third states the same type of information reporting. Recognizing this predicament, the G20 and OECD declared the AEI the new global standard for tax cooperation, and modeled its formal requirements closely on FATCA and the corresponding IGAs (OECD 2014c). In Switzerland, for instance, the government's signature of a FATCA deal convinced a majority of banks that it was less costly for them to apply AEI to all of their international clients than to have parallel procedures in place for different nationalities (Brunetti 2013). At EU level, Austria and Luxembourg had to offer the AEI to other member states after entering into FATCA agreements with the US, because of a most favored nation clause contained in a Council Directive (Hakelberg 2015a). Likewise, the United Kingdom piggybacked the US in pressuring its Crown Dependencies and Overseas Territories, including important tax havens like the Cayman Islands, Guernsey, and Jersey to provide itself and other EU member states with account data (Houlder 2013a,b). Over the course of 2012 and 2013 it became increasingly clear to investors that the AEI would not only affect US residents, but would likely be applied across nationalities and by virtually all traditional tax havens in the near future.

During the transition phase between the passage of FATCA until the start of actual information exchange, tax evaders could choose to react in one of three ways. First, they could declare hidden assets to their domestic tax authorities, pay the taxes due, and hope for a fine instead of imprisonment, based on the voluntary nature of their disclosure. This was indeed what tens of thousands of tax evaders did over the course of the years following FATCA (Finanzministerium NRW 2017). In the process, they did not necessarily repatriate all of their offshore wealth, but it is likely that they used at least some of it to pay back taxes and fines. Voluntary disclosure by penitent tax evaders should thus depress the total value of foreign-held assets in tax havens. Second, tax evaders could shift either hidden assets or formal ownership to an entity located in one of the few traditional tax havens that were still dragging their feet in adopting the AEI. For US residents this was especially difficult to do given the truly global reach of FATCA. But this approach also became increasingly tough for other residents: as one tax haven after the other pledged to apply the AEI multilaterally, the few remaining non-cooperative jurisdictions came under increasing pressure to cooperate and eventually acquiesced. Shifting assets between tax havens does not, of course, reduce the value of overall offshore assets.

The third option is similar to the second, but interesting in that it involves the US as the destination for hidden capital. Despite having forced virtually all other countries to participate in AEI, the US government neither signed the multilateral agreement nor provides its FATCA treaty partners with the same data it requests from them.[3] In fact, the US lacks regulations requiring its own banks to automatically report the capital income of non-residents to the IRS, and still does not have "know-your-customer" rules in place that satisfy Financial Action Task Force standards (Christians 2013; Financial Action Task Force 2006). Most importantly, however, several US states, such as Delaware, Nevada, and South Dakota, allow investors to open shell corporations without providing any identification (Findley *et al.* 2014). As a result, the US has become more secretive than most traditional tax havens and increased its attractiveness as a destination for hidden capital. In fact, tax advisors have begun to recommend the US as a safe haven to tax evaders currently holding assets in Austria, Luxembourg, or Switzerland,[4] while international private banks have recently opened new branches in secretive US states, which, in turn, have recorded solid growth in their financial

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sectors (Drucker 2016; Scannell & Houlder 2016). FATCA is therefore likely to reduce the stock of foreign-held assets in traditional tax havens, while increasing it in the US. Post-FATCA divergence between tax havens and non-havens should therefore be greater when the US is included among non-havens than when it is excluded.

4. Analytical strategy

To ascertain FATCA's redistributive impact, we apply a DD analysis, comparing the stocks of offshore capital in tax havens and non-havens before and after the act's passage. We use FATCA as the treatment variable because it triggered the political process that eventually led to the adoption of multilateral AEI. In contrast, previous attempts by the OECD to make information exchange upon request the global standard had been undermined by tax havens' mock or non-compliance, and the standard's inherent weakness (Eccleston & Woodward 2014). Accordingly, the adoption of corresponding agreements merely led to capital shifts between traditional tax havens, instead of a reduction in the stock of capital in tax havens in general (Johannesen & Zucman 2012).

The DD method was conceived for the identification of a treatment's causal effect on a treatment group relative to a control group not exposed to the treatment. In the basic set-up, outcomes are observed for the two groups before and after the treatment. The average difference in the outcome values of the control group is then subtracted from the average difference in the treatment group. This removes biases in after-treatment comparisons of the treatment and control groups that could be a result of other factors permanently distinguishing the two groups from each other. It also removes "biases from comparisons over time in the treatment group that could be the result of trends" distinct from the actual treatment (Wooldridge 2007, pp. 2–3).

The crucial assumption underpinning this reasoning is that the outcomes in the treatment and control groups would have shared a common time trend, had it not been for the treatment (Taber 2012). In lab experiments, where the method was originally applied, this assumption holds as a result of the randomized selection of treatment and control groups. In econometrics, where DD has been widely used to study the impact of government policies and programs on economic actors in different geographic locations, the assumption is confirmed via the observation of common trends in the outcome variable before the introduction of the respective policy (Taber 2012).

5. Context and data

The DD analysis implemented compares the value of assets held by foreigners (outcome) in tax havens (treatment group) and non-havens (control group) before and after the passage of FATCA (treatment). Accordingly, it relies on two main classes of data: we obtain data on foreign-held assets from locational banking statistics provided by the Bank for International Settlements (BIS), and classify countries as either tax havens or non-havens based on their readiness to practice the AEI ahead of FATCA. We then confirm the plausibility of this selection procedure through a comparison of the groups' average secrecy scores and population size.

5.1. Foreign deposits and debt security holdings

The BIS locational banking statistics provide information on cross-border deposits and debt security holdings for 44 countries (Bank for International Settlements [BIS] 2016a). Deposits reflect the cash value of bank accounts, whereas debt securities refer to "negotiable instrument[s] serving as evidence of a debt" (BIS 2016b, p. 290). In BIS statistics these include: "bills, bonds, notes, negotiable certificates of deposit, commercial paper, debentures, asset-backed securities, money market instruments and similar instruments normally traded in financial markets" (BIS 2016b, p. 290). The data underlying these statistics are reported from commercial banks to central banks on a quarterly basis and then transmitted to the BIS (Johannesen 2014). The BIS publish the data as country-level aggregates – for instance, total deposits and debt securities held by foreigners in Swiss banks, or total deposits and debt securities held by German residents in foreign banks. In contrast, bilateral data revealing deposits and debt security holdings of German residents in Swiss banks remains confidential (Johannesen & Zucman 2012). For the purposes of this study, which centers on a comparison of overall foreign deposits and debt security holdings in tax havens relative to non-havens, limited access to bilateral data is, however, secondary.[5]

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International economics heavily rely on BIS data as a crucial component of balance of payment statistics. Moreover, the data has been popular for studying the impact of regulatory measures on tax havens, as every important offshore center reports to the BIS (see Table 1). In fact, the BIS systematically include new offshore centers in its statistics "when their cross-border banking business becomes substantial" (BIS 2012, p. 6). Hence, those not included can be considered negligible as destinations for hidden capital. In addition, coverage rates within tax havens (and all other reporting countries) are close to universal, as all deposit-taking financial institutions with cross-border positions are required to report (BIS 2012). Accordingly, the data have been used to study the impact of withholding tax rates and information exchange on cross-border deposits (Huizinga & Nicodème 2004), the effect of the Swiss–EU Savings Agreement (2004/911/EC) on the composition of counterparties who own deposits in Switzerland (Johannesen 2014), and the impact of bilateral Tax Information Exchange Agreements on cross-border deposits held by the treaty partners' residents (Johannesen & Zucman 2012).

While such data are suitable for general inferences on the determinants of cross-border depositing in tax havens and other countries, they have several limitations relevant to this study. First, the BIS do not disclose the share of deposits and debt securities owned by households. Counterparties are merely separated into banks and non-banks. Yet next to households, non-banks also include multinational corporations and institutional investors, which do not rely on financial secrecy to evade personal income taxes on capital income. They should therefore be unaffected by a tax haven's participation in the AEI. On the one hand, this implies that BIS data do not allow for the direct

Table 1 Classification of BIS reporting countries into tax havens and non-havens

Tax Havens			**Non-havens**		
Country	*Secrecy Score (2011)*	*Population (millions)*	*Country*	*Secrecy Score (2011)*	*Population (millions)*
Austria	66	8.7	Australia	(51)	24.1
Bahamas	83	0.4	Belgium	59	11.3
Bahrain	78	1.4	Brazil	(57)	206.1
Bermuda	85	0.1	Canada	56	36.0
Cayman Islands	77	0.1	Chile	(65)	18.2
Curaçao	83	0.2	Denmark	40	5.7
Guernsey	65	0.1	Finland	(37)	5.5
Hong Kong	73	7.3	France	(45)	66.7
Isle of Man	65	0.1	Germany	57	81.7
Jersey	78	0.1	Greece	(43)	10.8
Luxembourg	68	0.6	India	53	1288.9
Macao	83	0.6	Ireland	44	4.6
Panama	77	0.4	Italy	49	60.7
Singapore	71	5.5	Japan	64	127.0
Switzerland	78	8.3	Mexico	(54)	122.3
			Netherlands	49	17.0
			Norway	(46)	5.2
			Portugal	51	10.4
			South Korea	54	50.8
			Spain	34	46.4
			Sweden	(35)	9.9
			Taiwan	n.a.	23.5
			Turkey	(77)	78.7
			United Kingdom	45	65.0
			United States*	58	323.5
Mean	75.3	2.3	Mean	48.1	108

Scores in brackets are estimates for countries not ranked in 2011, because of the small size of their financial sectors. They reflect the respective country's score in a subsequent edition of the Financial Secrecy Index multiplied by the secrecy score's average rate of decline between editions. *Data sources:* TJN 2011, 2013, 2015; World Bank 2016. BIS, Bank for International Settlements.

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observation of the reaction of tax evaders to the introduction of the AEI, but merely allow for inferences based on variance in foreign deposits and debt security holdings of non-banks. On the other hand, this does not undermine the validity of the study's results precisely because non-banks other than households evading taxes should be unaffected by FATCA and the introduction of the AEI it precipitated. Accordingly, any observed effect of FATCA on deposits and debt security holdings of foreign non-banks should be attributable to the reaction of households with undeclared capital income. The inclusion of non-banks other than households should, however, reduce the elasticity of reported liabilities to the treatment compared to an ideal dataset including households only (Johannesen & Zucman 2012; Johannesen 2014).

To provide this assumption with some empirical backing, it is useful at this point to present some estimates of the share of households among non-banks. Based on Swiss National Bank data on assets under management in Swiss banks and anomalies in balance of payments statistics, Zucman (2013, see online appendix) estimates that households held $1.4 trillion in tax haven banks in 2011. This figure is commensurate to 50 percent of all foreign non-bank deposits in tax havens reported by the BIS for the same year. Shares for individual jurisdictions may even lie above this figure. As Johannesen and Zucman (2012) report, non-resident households owned 70–75 percent of deposits in the Channel Islands and the Isle of Man in 2007, and 80–90 percent of Swiss accounts between 1987 and 2011. The Luxembourg statistics office attributes 53 percent of all foreign-held assets managed by the country's banks in 2012, including debt securities, to households (Adam 2014). Likewise, the Swiss National Bank attributes a third of debt securities held by foreigners in Swiss banks in 2010 to households, without, however, taking private foundations and trusts into account (Swiss National Bank [SNB] 2014). Based on these numbers, assuming a household share of 50 percent in deposits and debt securities held by foreign non-banks seems fair, given that BIS data for individual countries suggest that deposits and debt securities each account for about 50 percent of the combined total.[6]

The second limitation in the BIS data concerns their focus on deposits and debt security holdings. This implies that they do not take foreign equity holdings, which could form an important part of an investor's asset portfolio, into account. The Swiss National Bank reports, for instance, that 65 percent of all assets managed in Swiss banks on behalf of foreign households are company or mutual fund shares (SNB 2014). Therefore, the present analysis does not enable direct conclusions on the impact of FATCA on the distribution of households' overall offshore financial wealth. Given that the act's reporting requirements extend to all asset classes, however, investing in equity instead of debt does not protect a tax evader from detection by her domestic tax authority. Therefore, the impact of FATCA on deposits and debt securities is a good proxy for the impact of AEI on households' overall offshore financial wealth. Still, it reflects only a fraction of the total capital outflow precipitated by FATCA and the subsequent multilateral initiatives, and only a fraction of the costs imposed on tax havens.

5.2. Tax havens and non-havens

FATCA, as well as multilateral AEI, target only those tax havens that abet tax evasion by individuals through the provision of secrecy. By imposing a comprehensive reporting requirement on foreign banks, the act pierces banking secrecy and other forms of financial opacity outside the US. It does not interfere with tax avoidance strategies deployed by multinational corporations, which are usually based on the legal exploitation of loopholes in tax codes and treaties rather than criminal underreporting of foreign capital income. Therefore, for the purposes of this study, only jurisdictions providing secrecy to private investors are classified as tax havens. In contrast, tax havens enabling the tax avoidance schemes of multinationals but not providing financial secrecy are classified as non-havens, as they are not targeted, and should thus be unaffected by the provisions of both FATCA and multilateral AEI.

Even when focusing on secrecy, however, a consensual definition of tax haven is hard to come by (Palan *et al.* 2010). As the Tax Justice Network (TJN) reveals by means of its financial secrecy index, some possibilities for providing foreign investors with anonymity from their home countries prevail in every country (Tax Justice Network [TJN] 2015). Of course, the Cayman Islands, Panama, and Switzerland put a lot more effort into concealing investor identities than the average member of the Nordic Council. Yet the difference may be interpreted as gradual rather than categorical. In contrast, tax haven blacklists published by international organizations such as the OECD or the International Monetary Fund provide a categorical distinction between countries compliant and non-compliant with

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a certain transparency or tax standard. Yet these blacklists are often politically biased in that they exclude member states or third states that have committed to but not yet implemented reforms (Webb 2004; Sharman 2006). Sometimes they also confound jurisdictions providing financial secrecy with other jurisdictions focusing exclusively on the abatement of tax avoidance (Dharmapala & Hines 2009). In order to determine which BIS-reporting countries should be considered part of the treatment group (i.e. most likely to be affected by the introduction of FATCA), we thus need to establish a new list geared toward the requirements of this study.

Conveniently, FATCA was not the first attempt at extending the AEI to tax havens. In fact, the EU had already passed the Savings Directive in 2003 (2003/48/EC), providing for the AEI on interest payments to non-residents among its member states. To avoid capital flight from the single market, the EU Commission also tried to ensure that the Directive's AEI mechanism included those third states hosting the largest stocks of offshore wealth owned by EU residents.[7] By 2009, however, EU member states Austria and Luxembourg still refused to participate in intra-EU AEI, providing third states with the perfect excuse for declining the Commission's request (Hakelberg 2015a). For the purposes of this study, we will define as tax havens those countries that had been approached by the Commission, but still refused to participate in the EU's AEI scheme when the US Congress passed FATCA in 2010. These countries accounted for significant shares in EU-owned offshore wealth, and associated participation in AEI with competitive disadvantages for their financial sectors. They should therefore be most affected by the subsequent enforcement of the AEI through FATCA. In addition, the Bahamas, Bahrain, and Panama are included in the tax haven group. They were not approached by the Commission to sign the Savings Agreement, but are defined by the BIS as offshore centers for "dealing primarily with non-residents and/or in foreign currency on a scale out of proportion to the size of the host economy" (BIS 2016c, p. 59). Moreover, Johannesen (2014) also identifies them as important destinations for hidden capital that fled jurisdictions that had entered into Savings Agreements.

The tax haven and non-haven groups obtained as a result of the above procedure are presented in Table 1. Tax havens include all countries defined as offshore centers by the BIS, plus Austria, Luxembourg, and Switzerland. In 2009, Austria and Luxembourg were the last remaining opponents of intra-EU AEI, and the largest recipients of cross-border deposits from within the Euro area. The same year, Switzerland was the world's biggest offshore center in terms of foreign assets under management, and still refused to discuss AEI with the EU (Hakelberg 2015a). Accordingly, non-havens include all remaining countries providing data to the BIS, minus Cyprus, Indonesia, Malaysia, and South Africa, which only started reporting in or shortly before 2010, and do not provide enough data for the pre-treatment comparison of group trends beginning in 2005 (BIS 2016a). The US is a special case among non-havens, as it is not merely affected or unaffected by FATCA, but is the act's originator and main profiteer because of its refusal to reciprocate the AEI. To show that FATCA's redistributive impact benefits the US in particular, two models will be estimated: the first excluding, and the second including the US among non-havens. Clearly, FATCA's redistributive impact on tax havens relative to non-havens should be stronger when including the US in the second group.

In general, the plausibility of the applied selection procedure is confirmed when comparing the groups' average secrecy scores, as well as their population size. The secrecy score is a component of the TJN's financial secrecy index, and measures the effort a given jurisdiction puts into concealing the identities of non-resident account holders. It takes values between 0 and 100, and is made up of 15 components that indicate whether: information on the beneficial owner of a bank account, trust, foundation, or corporation is readily available to local tax authorities and the public; tax administration is efficient, in the sense that information actually flows from financial institutions to the services; and whether the given jurisdiction respects international standards for tax cooperation and actually provides administrative assistance to foreign authorities (TJN 2013, 2015). The index has been released every two years since 2009. As the 2009 index does not provide scores for all of the countries included in the selected groups (TJN 2009), we base intergroup comparison on scores that were released in 2011 but relate to research carried out in 2010 (Meinzer & Eichenberger 2011; TJN 2011). Accordingly, the 2011 scores reflect the regulatory situation at the time when FATCA was passed. As Table 1 shows, the average secrecy score for tax havens is 27 percentage points above the average score for non-havens. The measure also shows that tax havens were financially far more opaque than non-havens before FATCA. In addition, they were a lot smaller in terms of population, and far more likely to benefit from the small country advantage in tax competition. These data therefore provide additional reason to expect the introduction of the AEI to have been met with strongly diverging reactions from the two groups.

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6. Graphical evidence

6.1. The parallel trends assumption

Difference-in-differences analyses rely on the assumption that the outcomes in the treatment and control group would have followed the same time trend had it not been for the treatment. To validate this assumption for the present study, Figure 1 displays the evolution of the average value of deposits and debt securities held by foreign non-banks with banks in tax havens and non-havens for the five years preceding and following the introduction of FATCA. In fact, group trends evolved perfectly in parallel between 2005 and 2008. After the outbreak of the financial crisis they continued to move in the same direction, sharply declining between 2008 and 2009, and then stabilizing between 2009 and 2010. As we compare trends instead of levels, including the US in the non-haven group does not alter the general picture. As Figure 2 shows, both tax havens and non-havens continued to experience strong growth ahead of the financial crisis, followed by a sharp decline and subsequent stabilization in the value of cross-border deposits and debt security holdings. The graphical evidence thus suggests that the common trend assumption holds. Two specific observations nonetheless merit closer attention: slightly faster pre-crisis growth in non-havens observed when including the US, as well as steeper post-crisis decline observed with and without the US.

According to Bernanke *et al.* (2011), emerging economies began to run large current account surpluses at the beginning of the 2000s. Instead of investing these surpluses in their domestic economies, however, they "sought safe, high-quality financial assets that their own governments and financial systems could not provide" (Bernanke *et al.* (2011, p. 5) Accordingly, their sovereign wealth funds invested heavily in US Treasury bonds and other highly rated debt securities issued in major advanced economies (Bernanke *et al.* 2011). As institutional investors acting on behalf of governments, these funds had no incentive to hold their securities via tax haven banks, and therefore invested directly in advanced economies. While increasing the volume of debt securities held by foreign non-banks in non-havens, their investment also created downward pressure on bond yields, and created demand for supposedly safe debt securities

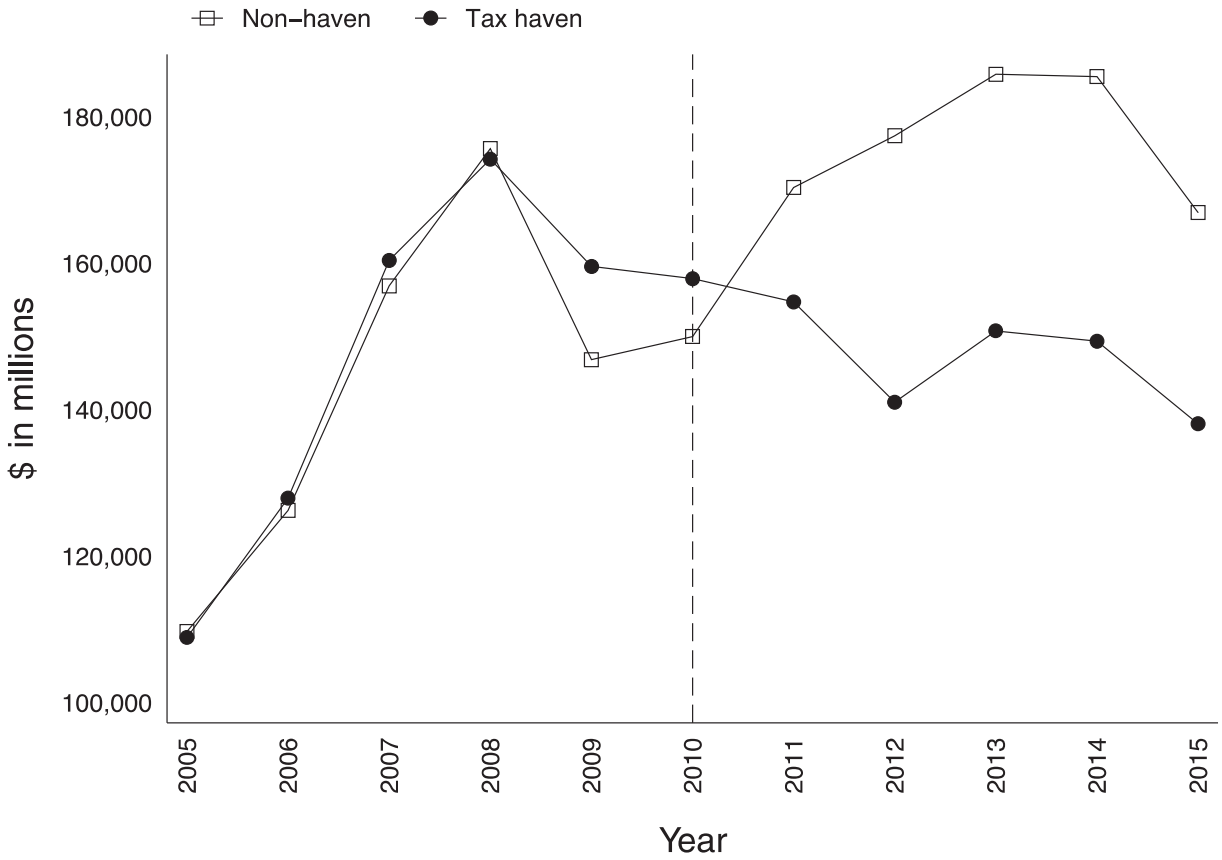

Figure 1 Banks' deposit and debt security liabilities to foreign non-banks (excl. United States) (mean liabilities per country group). *Data sources*: BIS 2016d.

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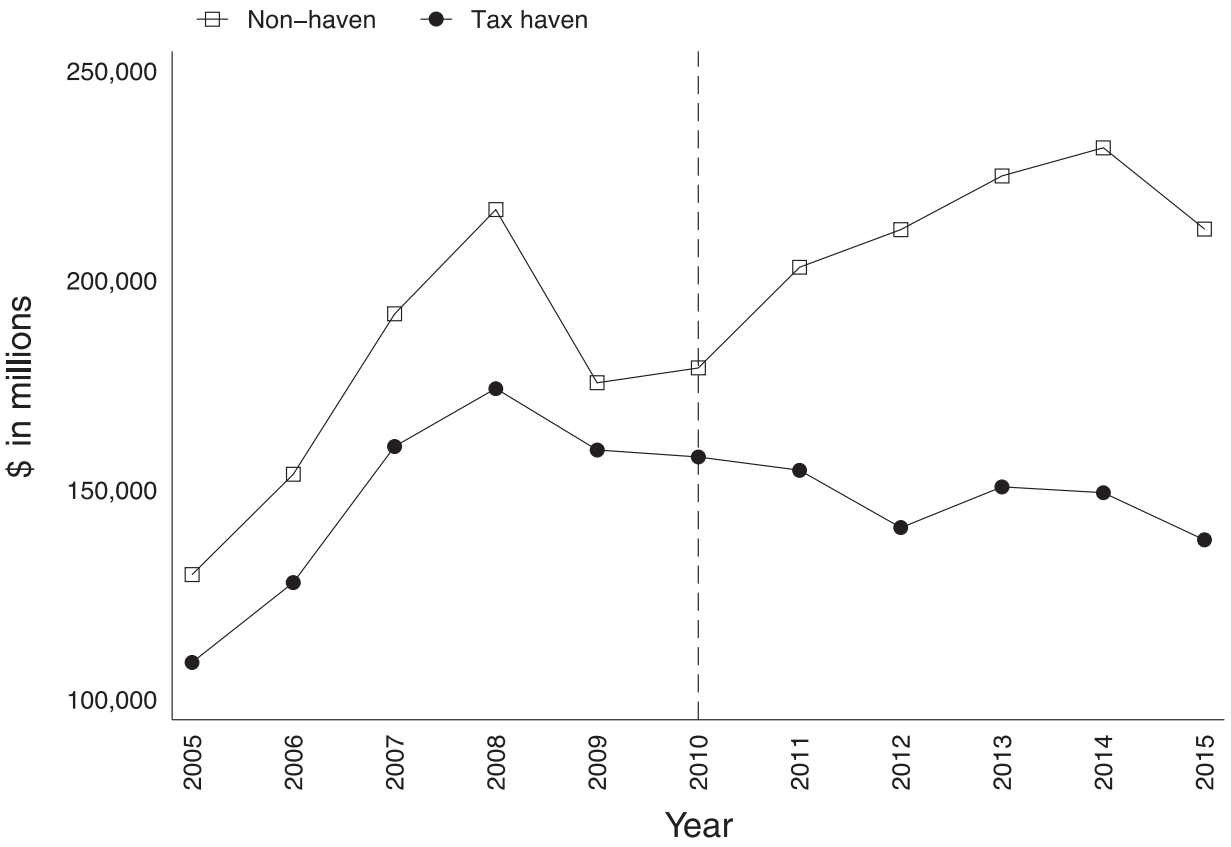

Figure 2 Banks' deposit and debt security liabilities to foreign non-banks (incl. United States) (mean liabilities per country group). *Data sources*: BIS 2016d.

producing higher returns. The US financial sector met this demand with mortgage-backed securities, the default of which eventually triggered the financial crisis, and is likely reflected in a steeper decline of non-havens' deposit and debt security liabilities (Bernanke *et al.* 2011). After this correction, however, group trends again evolved roughly in parallel between 2009 and 2010 – that is, just before the introduction of FATCA. For the period under observation it is indeed only in 2011 that we observe truly diverging group trends.

6.2. The impact of FATCA

Both country samples – the one excluding and the one including the US among non-havens – feature large breaks in the trends of tax haven and non-haven means after 2010, the year when Congress passed FATCA (see Figures 1 and 2). While the tax haven mean drops by $17 billion, or 11 percent, between 2010 and 2012, the non-haven mean grows by $27 billion, or 18 percent, over the same period when the US is excluded. The result is a DD of $44 billion, which is almost five times the $9 billion observed for the preceding two-year period. Most strikingly, the $17 billion decline in the tax haven mean exceeds the $16 billion loss incurred between 2008 and 2010. On average, FATCA thus seems to have affected tax havens even more than the financial crisis. In contrast, non-havens experienced a quick return to growth. Between 2010 and 2012, foreign deposits and debt security holdings already grew at 50 percent the rate of the period between 2006 and 2008, the two boom years preceding the crisis. The data therefore point to a strongly redistributive outcome to the detriment of tax havens.

The picture does not change much for the two-year period directly following the introduction of FATCA when including the US among non-havens. Between 2010 and 2012, the non-haven mean grows by 18 percent, just like before. During the four-year period following the introduction of FATCA, however, greater divergence can be observed. While the non-haven mean grows by 24 percent between 2010 and 2014 when excluding the US, it grows by 29 percent when the country is included. The five-percentage point increase shows that foreign deposits and debt security holdings grew faster in the US than in the average non-haven during the four years following the introduction

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of FATCA. Seemingly, the country benefitted more from the act's redistributive impact than others – not immediately, but over time. An instant benefit for the US would have been surprising, given FATCA's implementation history. In fact, the first joint statements on FATCA implementation with Switzerland and the EU G5 were not finalized before mid-2012 (US Treasury Department 2012b,c). It only became clear in 2012 that the US would not reciprocate the AEI under FATCA, and was unlikely to join a multilateral AEI mechanism. It is therefore quite likely that committed tax evaders only began to shift their hidden assets to the US over the course of the subsequent years.

As expected, the data's graphical representation suggests that FATCA and the multilateral initiatives it precipitated had a substantial impact on the distribution of foreign deposits and debt security holdings between tax havens and non-havens. While group trends had evolved largely in parallel before FATCA's passage, tax havens experienced huge losses afterwards, exceeding even those incurred during the financial crisis. At the same time, non-havens experienced solid growth. Moreover, above average growth in the US during the four years following FATCA suggests that the country benefitted from the act more than other non-havens, most likely because of its refusal to reciprocate the AEI.

7. Regression-based evidence

7.1. FATCA's causal effect

The previous graphical analysis revealed parallel group trends before the introduction of FATCA, as well as substantial divergence beginning just after its passage. This section provides a more formal analysis of these trends, based on the estimation of the regression below:

$$(1)\ Liabilities_{ct} = \gamma_c + \lambda_t + \beta TaxHaven_{ct} + \epsilon_{ct}$$

whereby the dependent variable is the value of deposit and debt security liabilities to foreign non-banks incurred by banks in country c at time t, γ_c are fixed effects for the different countries, λ_t are indicators for the year of observation, $TaxHaven_{ct}$ captures the effect of being a tax haven for a country c at time t, and ϵ_{ct} is an error term. In order to account for potential year-to-year serial correlation in the values of the dependent variable within countries, standard errors are bootstrapped (1000 repetitions) in all calculations, blocking at the country level. This is the procedure recommended by Bertrand *et al.* (2004) for samples with a relatively large number of clusters, as in the present case (there are 40 countries in the dataset). We report the regression results in Table 2.

The reported DD relate to the reference point $t = 2010$, the year FATCA was adopted. The coefficient β for $TaxHaven_{ct}$ captures the difference in the evolution of deposit and debt security liabilities in tax havens relative to non-havens. In model 1, when excluding the US from non-havens, this coefficient is substantially large and statistically significant at the 0.1 level for the three years following the passage of FATCA. Tax havens' liabilities to foreign non-banks decreased by an average of $3.2 billion between 2010 and 2011, whereas in non-havens they increased by $20.3 billion, resulting in a DD of about $23.5 billion. The coefficients for the remaining years are the leads and lags of this main DD effect.[8] The coefficient for 2009 captures, for example, the extent to which the DD changed between 2009 and 2010. Its small size and statistical insignificance demonstrate that time trends traced each other before the treatment period. Similarly, the coefficient for 2012 captures the DD between 2010 and 2012. The effect is substantially large and, in contrast to the effects for the pre-treatment period, statistically significant at the 0.1 level. Hence, the coefficient is testimony to the fact that the effect of FATCA continued to grow over the course of 2011, which is consistent with the act's implementation history and international consequences discussed above.

Model 2, capturing the effect of FATCA on the country sample including the US among non-havens, shows the same general pattern as model 1. The DD relative to 2010 are substantially small and statistically insignificant just before the reference year and become large and statistically significant for the four years following the adoption of FATCA. The larger coefficients for model 2 are the result of including the US – the second largest destination for cross-border deposits and debt security holdings after the United Kingdom – among non-havens, which increases the group mean for non-havens. Moreover, the US also grew more than twice as fast as the average group member during the post-treatment period (52 vs. 24 percent between 2010 and 2014). As a result, the coefficients for the years 2011 to 2013 become statistically significant at the 0.05 level, whereas the coefficient for 2014 becomes statistically significant at the 0.1 level. This implies that FATCA's redistributive impact increases when including the US among non-havens,

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Table 2 Difference-in-differences to reference year 2010

	Model 1 (excl. US)		Model 2 (incl. US)		Model 3 (excl. US)		Model 4 (incl. US)	
Tax haven (year)	(arithmetic mean) liabilities		(arithmetic mean) liabilities		(geometric mean) exp. coefficient		(geometric mean) exp. coefficient	
2005	-8,733	(33,333)	325	(34,700)	1.37*	(0.25)	1.36*	(0.24)
2006	−6,238	(25,634)	−4,604	(25,702)	1.30*	(0.20)	1.28*	(0.18)
2007	−4,413	(15,527)	−10,400	(16,378)	1.25	(0.17)	1.23	(0.16)
2008	−9,336	(15,595)	−21,446	(19,392)	1.08	(0.14)	1.07	(0.13)
2009	4,833	(7,828)	5,210	(7,559)	1.10	(0.08)	1.10	(0.08)
2011	−23,542*	(12,029)	−27,197**	(13,004)	0.85**	(0.06)	0.85***	(0.05)
2012	−44,286*	(23,404)	−49,856**	(24,370)	0.77**	(0.08)	0.78**	(0.08)
2013	−42,947*	(25,128)	−52,938**	(26,991)	0.75**	(0.11)	0.75**	(0.10)
2014	−44,048	(27,257)	−61,052*	(32,059)	0.68**	(0.13)	0.68**	(0.12)
2015	−36,771	(33,476)	−52,963	(36,947)	0.71	(0.15)	0.71*	(0.15)
Constant	153,074***	(43,450)	171,218***	(46,537)	48,575***	(13,159)	52,221***	(14,735)
Country fixed effects	Yes		Yes		Yes		Yes	
Time fixed effects	Yes		Yes		Yes		Yes	
Obs.	429		440		429		440	
R^2	0.13		0.15		0.27		0.27	

*$P < 0.10$;
**$P < 0.05$;
***$P < 0.01$. Standard errors in parentheses. US, United States.

and strongly suggests that the country's refusal to reciprocate the AEI increases its attractiveness for capital that had formerly been hidden in jurisdictions making up the tax haven group.[9]

As only a few countries hold the lion's share of worldwide liabilities, there is a concern that the regression results may be driven by these extreme cases. To address this, we also use the logarithm of liabilities as a dependent variable, and run the DD analysis on the transformed values. Taking the logarithm of the liability values pulls the distribution together and gives smaller countries a stronger weight in the regression. The corresponding results are presented in Table 2 as models 3 and 4. In order to facilitate interpretation, we report the exponentiated form of the estimated coefficients, which is the ratio of percentage changes in the geometric means of liabilities incurred in tax havens and non-havens between a given year and the base year 2010. Between the years 2010 and 2012, for instance, the geometric mean of liabilities in tax havens grew by 1 percent (i.e. the 2012 value was 101 percent of the 2010 value). In the same period, the geometric mean of liabilities in non-havens (including the US) grew by 30 percent (i.e. the 2012 value was 130 percent of the 2010 value). The ratio of the percentage growth in the two groups is therefore 101/130 = 0.78. More generally, a value smaller than 1 indicates that growth rates in tax havens lagged behind those in non-havens, whereas a value above 1 indicates a stronger development in tax havens. Given that the exponentiated coefficients for the four years following 2010 are consistently below zero and statistically significant at the 0.05 or 0.01 level, we can conclude that FATCA had the expected effect across tax havens and non-havens, independent of their share in the distribution of total liabilities.

7.2. A counterfactual test

To exclude the possibility that our results are produced by an intervention other than FATCA and the multilateral initiatives it precipitated, we also apply the analysis above to a tax haven activity that is closely related to the management of non-bank deposits and debt securities but unaffected by the AEI: the receipt of deposits and debt securities from foreign banks.[10] The interbank trade has an even larger volume than the trade between banks and non-banks and is unaffected by levels of financial secrecy, given that banks are obliged to disclose their full balance sheet to shareholders and have many legal means available to avoid profit taxes. Their activities should therefore be unaffected by increased financial transparency. On the other hand, the interbank trade is sensitive to changes in the

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Table 3 Difference-in-differences to reference year 2010 (interbank trade)

	Model 5 Interbank (excl. US)		Model 6 Interbank (incl. US)		Model 7 Interbank (excl. US)		Model 8 Interbank (incl. US)	
Tax haven (year)	(arithmetic mean) liabilities		(arithmetic mean) liabilities		(geometric mean) exp. coefficient		(geometric mean) exp. coefficient	
2005	81,177**	(37,504)	119,470**	(53,186)	1.04	(0.28)	1.03	(0.28)
2006	67,540**	(32,543)	89,976**	(38,748)	0.93	(0.23)	0.93	(0.22)
2007	16,741	(65,271)	23,097	(63,989)	1.07	(0.21)	1.06	(0.21)
2008	−34,018	(63,234)	−28,342	(62,388)	1.08	(0.13)	1.08	(0.13)
2009	12,416	(22,326)	18,759	(22,438)	1.10	(0.09)	1.10	(0.09)
2011	4,672	(16,962)	−8,964	(22,014)	0.98	(0.06)	0.98	(0.06)
2012	−10,706	(23,414)	−8,432	(23,705)	0.94	(0.10)	0.95	(0.09)
2013	18,008	(33,427)	13,417	(33,856)	0.94	(0.15)	0.94	(0.14)
2014	12,338	(40,071)	−3,908	(43,817)	0.81	(0.15)	0.81	(0.14)
2015	39,422	(52,477)	31,799	(53,119)	0.88	(0.25)	0.88	(0.24)
Constant	341,689***	(98,582)	410,760***	(120,700)	112,998***	(34,087)	124,293***	(38,783)
Country fixed effects	Yes		Yes		Yes		Yes	
Time fixed effects	Yes		Yes		Yes		Yes	
Obs.	352		363		352		363	
R^2	0.12		0.13		0.23		0.23	

*$P < 0.10$;
**$P < 0.05$;
***$P < 0.01$. Standard errors in parentheses. US, United States.

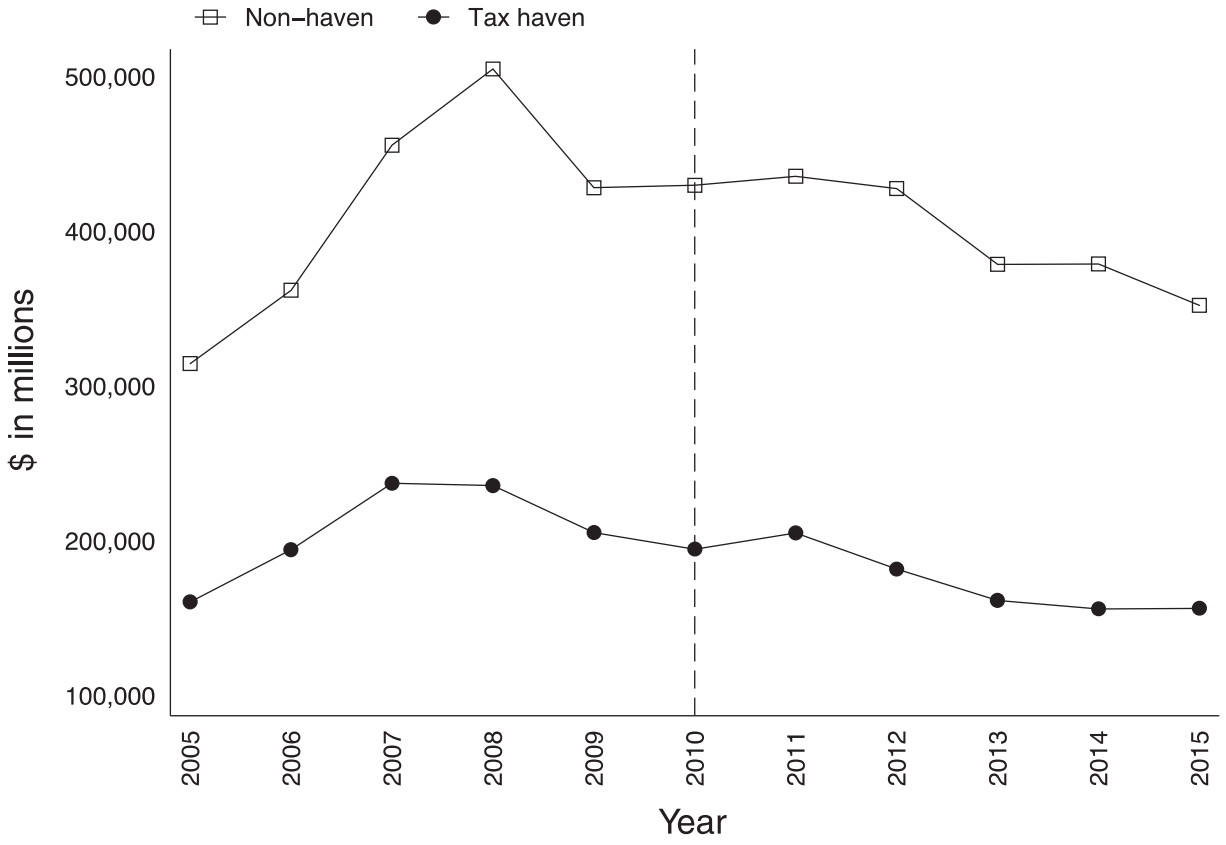

Figure 3 Banks' deposit and debt security liabilities to foreign banks (excl. United States) (mean liabilities per country group). *Data sources*: BIS 2016d.

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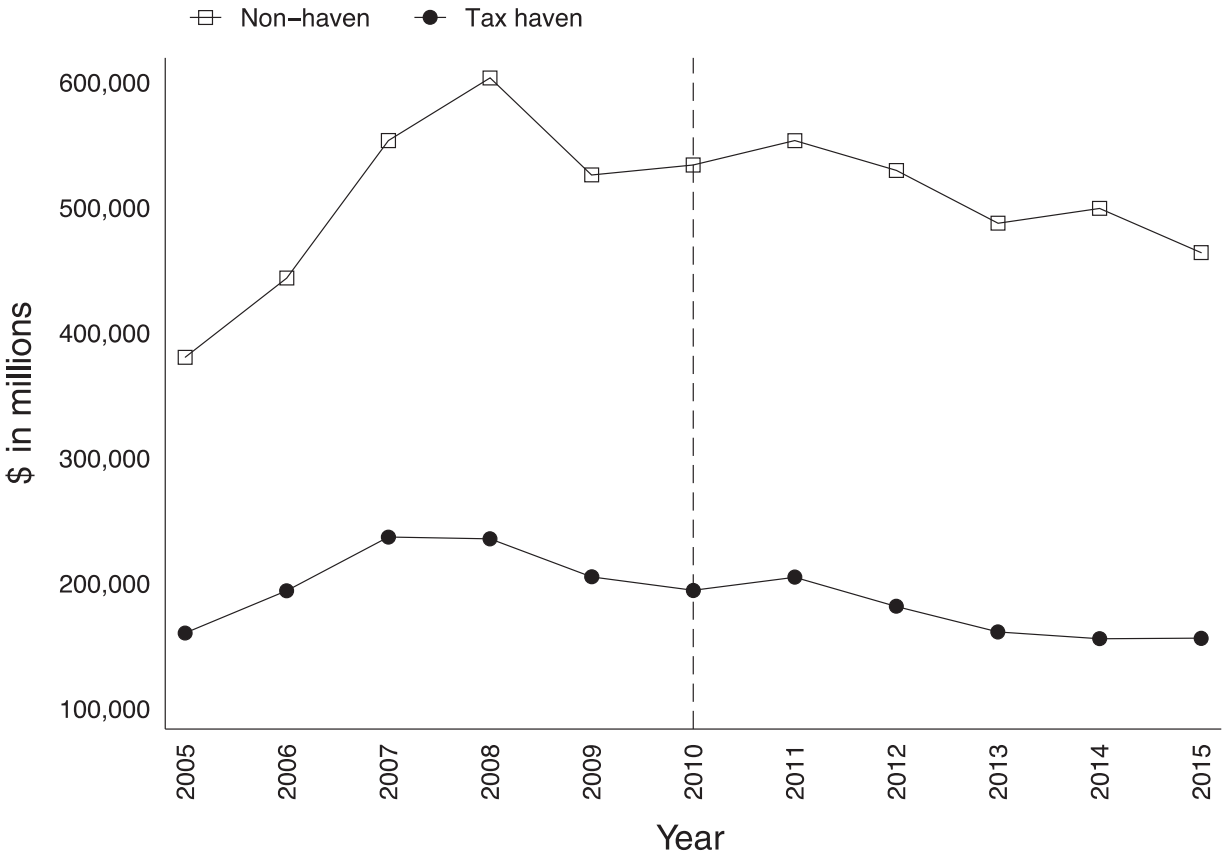

Figure 4 Banks' deposit and debt security liabilities to foreign banks (incl. United States) (mean liabilities per country group). *Data sources*: BIS 2016d.

global business cycle, turmoil in financial markets, domestic conditions in tax havens and non-havens, and any other trend potentially overlapping with the impact of FATCA and multilateral AEI. Therefore, Table 3 reports results for interbank liabilities produced by exactly the same regressions run for liabilities toward non-banks.

As the substantially small and statistically insignificant coefficients for 2011 and 2012 demonstrate, FATCA, or a potential parallel intervention, had no effect on interbank trade. Instead, the evolution of trends for the tax haven and non-haven groups is strikingly parallel for the entire observation period, including the years that show the largest effects for liabilities toward non-banks. Moreover, adding the US to the non-haven group merely increases the size of the coefficient, because of the importance of the US financial market, but does not alter the non-haven trend. In fact, for all but one year during the observation period the reported coefficient is simply enlarged by an almost constant value of between $4 and $5 billion. Common time trends for both country constellations and the entire observation period are also reflected in Figures 3 and 4, plotting group means. The absence of any reaction in the interbank trade suggests that there was no parallel shock affecting financial markets in general. Neither did tax havens lose relative to non-havens, nor did non-havens gain relative to tax havens. Accordingly, the effect observed for non-bank liabilities must, indeed, be driven by households' reaction to increased financial transparency.

8. Conclusion

The credible sanctions threat contained in FATCA and the multilateral process it precipitated had a substantial and statistically significant effect on the international distribution of deposits and debt securities held by foreign non-banks. It reduced the average value of such liabilities reported by tax havens during the three years following the act's adoption, while not affecting growth in non-havens. Moreover, FATCA's redistributive impact grows substantially – and in terms of statistical significance – when including the US among non-havens. Finally, the counterfactual test confirms that the act's effect is entirely attributable to the investment decisions of households hiding capital in tax havens. This strongly

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suggests that the act was not only effective in curbing the evasion of taxes on capital income through the exploitation of financial secrecy in traditional tax havens, it also increased the attractiveness of the US as a destination for hidden capital, as a result of the country's refusal to reciprocate the AEI.

While the intended and achieved outflow of capital from tax havens implies that tax cooperation does not produce joint gains for all parties involved, above-average inflows of foreign capital into the US suggest that governments powerful enough to use coercion will exploit tax cooperation to their own benefit. Norms of state sovereignty, self-determination, or international equity apparently do nothing to hinder them in this respect. The result is consistent with an interpretation of international bargaining in tax matters as redistributive cooperation (Oatley & Nabors 1998). While tax havens benefit at the expense of non-havens under conditions of tax competition, non-havens, and great powers in particular, benefit at the expense of tax havens under conditions of tax cooperation. At a more general level, the results imply that great powers can subject other countries to hypocritical standards that they do not apply themselves. This allows them to redistribute wealth from the rest of the world to their own shores.

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Notes

1 While this is true on average, domestic institutions determine which social groups benefit from incoming capital. A finance curse scenario is equally possible (Christensen *et al.* 2016).
2 For in-depth accounts of the causal link between FATCA and multilateral AEI, see Emmenegger (2017), Hakelberg (2015b), and Palan and Wigan (2014).
3 See Hakelberg (2015b) for a discussion of the double messages the US Treasury Department sent to foreign governments and the American financial industry on reciprocity.
4 Interview with senior European tax advisors, 7 July 2014.
5 Bilateral data is blurred, as the BIS do not look through shell companies to the ultimate owner of an asset.
6 We cannot determine the fraction of deposits and debt securities declared to tax authorities. A US Senate report suggests this fraction is very small: only 1000 out of 20,000 Swiss bank accounts owned by American customers were declared in 2007 (Levin & Coleman 2008, p. 84).
7 The Commission proposed Savings Agreements to dependent or associated territories of EU member states and other third states. Among BIS reporting countries, these included: Bermuda (NA), Cayman Islands (IE), Guernsey (WT), Hong Kong (NA), Jersey (WT), Isle of Man (WT), Macao (NA), Netherlands Antilles (WT), Singapore (NA), and Switzerland (WT). IE, country formally agreed to information exchange, but devised implementing legislation prohibiting actual reporting; NA, no agreement reached; WT, country agreed to apply an anonymous withholding tax (Rixen & Schwarz 2012, p. 156; TJN 2008, p. 1).
8 The concept of leads and lags was introduced by Autor (2003).
9 Given the lack of bilateral data on cross-border deposits and debt security holdings, it is impossible to prove that capital flowing into the US after FATCA came from countries included in the tax haven group. Still, the simultaneity of strong growth in the US and deep losses in the haven group makes this the most likely scenario.
10 This counterfactual test was originally proposed by Johannesen and Zucman (2012).

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