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Stairway to (Secrecy) Heaven : Market Attitudes towards Secrecy Shopping

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Abstract

We study asset price reactions to news on firms' decisions to acquire affiliates located in known secrecy havens. Our sample consists of data on the S&P 500 companies in the period 2007 to 2014. We find that acquisitions of secrecy havens are associated with a negative market reaction, particularly for firms with an existing network of secrecy haven affiliates. The market reaction to acquisitions of secrecy havens is particularly negative during the financial crisis years, since additional secrecy was likely undesirable during times of economic distress. The negative reaction is particularly strong in the retail sector, where reputational concerns should matter most. Investors react less negatively to secrecy haven acquisitions if the parent firm is well-governed and if the secrecy haven is located in a country with higher standard of living. Investors also react less negatively to acquisitions of secrecy havens with a low corporate tax rate, which indicates that they consider the potential future tax savings as positive news. Investors react positively to enforcement of tax information exchange agreements, which increase the transparency of the corporate structure to domestic authorities and investors without impacting the tax bill. The findings suggest that investors are concerned about firms' secrecy; however, potential future tax planning opportunities mitigate these concerns.

JEL classification: G12, G32, H26

Keywords: event study, secrecy, tax haven

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... the letter that auditors Grant Thornton SpA used to confirm the existence of the fake Bonlat account was created using low-tech scissors to cut out a Bank of America logo.

Court documents say former Chief Financial Officer Fausto Tonna has admitted the logo was scanned into a computer and used to produce counterfeit letterhead. Company officials faxed it to the auditors, making billions appear where none existed.

David McHugh, *The Seattle Times*, 2004

1 Introduction

In 2016 the political world of many countries was rocked by the contents of the leaked Panama Papers. In over 11.5 million documents it was revealed how companies and individuals use complex corporate structures in order to avoid paying taxes and keep secret about it. Similarly, the common tenet between high-profile fraud cases like Enron, Parmalat and Olympus was the existence of a constellation of shell companies through which losses of the parent were hidden. Complex corporate structures involving affiliates in offshore jurisdictions can signal for existence of both tax planning strategies, as well as managerial fraud strategies. As such complex corporate structures are popular among multinational firms, it is reasonable to assume that rational risk-averse investors would also become more cautious.

In this paper we examine the concerns associated with tax avoidance and secrecy by inspecting the mirror of company's reputation: the stock market. In light of the fraud cases involving complex corporate structures and offshore companies, we want to examine whether investors are cautious when multinational firms acquire affiliates in known secrecy havens.¹ We examine the reaction of a company's stock price following acquisition of an affiliate, distinguishing between affiliates in secrecy havens and other countries. We use the Financial Secrecy Index provided by Tax Justice Network (2015) in order to define a secrecy haven. These are jurisdictions that provide low tax rates to avoid or evade tax laws, as well as secrecy to allow for creation of private information to hide away assets, to imitate the existence of assets and even to evade responsibility for crimes. Tax avoidance facilitates managerial rent extraction and bad news hoarding activities for extended periods by providing tools, masks, and justifications for these opportunistic behaviours (Kim *et al.*, 2011). Even managers themselves seem to be cognizant of the double interpretation by investors of having affiliates in havens (Akamah *et al.*, 2016).

We hypothesize that the acquisition of an affiliate in a secrecy jurisdiction will seem to outsiders as providing opportunities for managerial fraud and should lead to a reduction in the stock price. The market reaction should be strongest for firms with an existing network of secrecy haven affiliates. As with previous high-profile fraud cases, a complex organizational structure involving offshore secrecy jurisdictions decreases the probability of detection of managerial fraud by authorities or shareholders. This effect should be especially pronounced in the retail sector due to potential consumer or taxpayer backlash to indication of bad corporate citizenship (Hanlon & Slemrod, 2009). This reaction has been recently exemplified by Starbucks in the United Kingdom.² Yet, the negative effects could be offset by cash reserves and

¹We use terms *haven*, *secrecy haven* and *tax haven* interchangeably.

²In 2012 it was revealed that Starbucks had not paid corporate tax since its entry in the United Kingdom. The firm was implicated in funnelling its revenues offshore, to a Dutch affiliate. These revelations resulted in a consumer boycott, which led to lower revenues for the Starbucks in 2012 and 2013.

potential future tax savings that can be seen as valuable by investors.

To test our hypotheses, we use proprietary data on historical ownership at the firm-level from the Orbis database from 2007 to 2014, merged with data on acquisition deals from the Zephyr database for the S&P 500 firms. We link the acquisition events to an event window of stock market prices and look at the share price reaction to acquiring an affiliate in a haven jurisdiction as opposed to an affiliate in a non-haven jurisdiction.

We find a significant negative stock price reaction following acquisition deals in secrecy havens, as compared to acquisition deals in non-haven countries. Our results seem to imply that increased secrecy does raise concerns among investors. The negative reaction increases with the proportion of secrecy haven affiliates the firm has, as well as the average secrecy score of the firm. The negative market reaction is particularly strong during the financial crisis years, since additional secrecy is likely viewed as negative news during times of financial distress. The negative effect is also stronger in the retail sector, where reputational effects are particularly important due to potential consumer backlash.

Nevertheless, investors react less negatively to acquisitions of secrecy havens if the parent firm is well-governed and if the secrecy haven is located in a country with higher productivity and standard of living. Higher governance minimizes agency problems on the side of the manager by increasing the probability of detection, consistent with Desai *et al.* (2007). Also Kim *et al.* (2011) find that the positive relation between tax avoidance and crash risk is attenuated when firms have strong external monitoring mechanisms such as high institutional ownership, high analyst coverage, and greater takeover threat from corporate control markets.

Moreover, our findings show that investors react less negatively to acquisitions of secrecy havens with low corporate tax rates, suggesting that investors view the potential future tax saving opportunities as positive news. Also, investors react positively to enforcement of tax information exchange agreements, which increase the transparency of the corporate structure to domestic authorities and investors without impacting the tax bill.

We interpret our findings as evidence that investors dislike the reduced transparency resulting from a more complex corporate structure, which is in line with previous studies (Graham *et al.* (2013); Hanlon & Slemrod (2009)). Meanwhile, the potential future tax savings are considered as positive news and mitigate the negative stock price effect of secrecy shopping.

1.1 Related literature

We contribute to the literature that has asserted that tax planning may occur in combination with managerial opportunism. Desai *et al.* (2007) note that the corporate tax in the United States was inaugurated in the beginning of the last century with the idea that auditing by tax authorities can serve as a certification service for minority shareholders. Yet, the existence of secrecy jurisdictions and the impediments they pose to shareholders, analysts and authorities, serve to obfuscate the true financial state of a firm and, ultimately, to cast the shadow of fraud on it. Not only that, but it reputation-wise lumps together entrepreneurs with drug lords who launder money. As Schjelderup (2016) notes, the beneficial owners and annual reports of companies in secrecy jurisdictions can remain non-public. This leads to moral hazard problems for management and to greater obfuscation of companies' true financial state and liability for investigating tax- or law-enforcement authorities. Kim *et al.* (2011) use firm-level data to show that firms with higher tax-sheltering capabilities are more likely to experience future stock price crashes. The complex structure arising from affiliates in many jurisdictions gives opportunistic managers the opportunity to stockpile negative news until a tipping point. We expect that such an effect can be achieved only if secrecy allows managers to maintain private

information, and therefore secrecy is instrumental to managerial diversion. Hence, an investor might become cautious when a firm acquires an affiliate in a secrecy haven. Even though such affiliates likely provide opportunities for tax planning and future tax savings, they are also characterized by the veil of secrecy and potential managerial opportunism.

Recent literature has shown that managers seem to be sensitive about engaging in tax planning. Evidence by Graham *et al.* (2013) shows that 69 percent of surveyed executives do not engage in tax planning due to reputational concerns. The reputational concerns themselves remain a black box and the result of the survey seems to be at odds with the behaviour of big companies. Dyreng *et al.* (2016) find evidence on how public scrutiny of affiliate location has led to changes in tax avoidance behaviour of large firms in the United Kingdom, possibly underpinning some of the reputational concerns of executives surveyed by Graham *et al.* (2013). Furthermore, Akamah *et al.* (2016) hypothesize that such reputational concerns can cause managers to hide their haven affiliates in the guise of the more general geographic area (i.e. a subsidiary in Luxembourg would be reported as being in Europe). Akamah *et al.* (2016) find that there is indeed a reporting avoidance behaviour when tax and secrecy havens are implicated. Hence, the market reaction to secrecy haven acquisitions might be especially negative for firms within the retail sector. Retail firms can be more affected by reputational concerns due to the potential consumer and taxpayer backlash.

There is recent literature that studies the provision of secrecy of tax havens. One strand of studies looks at the reaction of events that suddenly decrease secrecy such as the Panama papers. O'Donovan *et al.* (2018) find evidence that the Panama Papers led to a decrease in the market value of 400 big firms, which were exposed to using offshore vehicles to finance corruption and aggressively avoid taxes. Another strand of studies explores the reaction to tax information exchange agreements (TIEAs). Bennedsen & Zeume (2017) explore the shareholders' reactions to increased transparency by virtue of TIEAs, finding a 2.5% increase in the value of affected firms. They find evidence for some companies switching to new tax havens once a TIEA is established, likely because their motive is to exploit the secrecy offered by the haven. Braun & Weichenrieder (2015) find a decrease in the number of affiliates of German firms in tax havens once the secrecy is shut off by TIEAs, offering a similar conclusion that tax havens are of interest to firms not only because of the low tax rate, but also because of the offered secrecy. These findings are consistent with our expectations and findings. Similarly, Delaloye *et al.* (2012) examine the negative stock price reactions of Swiss banks to information exchange treaties between Switzerland and other countries. They find that the loss of banking secrecy accounts for a large share of the stock pricing of Swiss private banks. We investigate the same type of events from the perspective of the (unknown) consumers of secrecy, instead of the providing banks. We find that consumers generally dislike the veil of secrecy and react positively to tax information exchange agreements with secrecy haven countries.

Our empirical strategy is similar to the one by Hanlon & Slemrod (2009), who use news articles to create an event-based sample. By first selecting the firms and then looking at events, we have both a natural treatment and a control group of events - the former, when a firm acquires an affiliate in a secrecy jurisdiction, and the latter for acquisitions in other jurisdictions. This allows us to construct the counterfactual trend to the events that we study. In addition, we have a higher number of acquisition observations and we are better able to observe the existing structure of the firm.

The paper proceeds as follows. In section 2 we describe our data collection process and provide descriptive statistics on acquisition deals. In section 3 we explain our identification strategy. Section 4 shows our results and section 5 concludes.

2 Data and variable construction

We explore the stock price reaction to acquisition deal news of the S&P 500 companies, involving secrecy havens. We obtain subsidiary and financial data of the S&P 500 firms from 2007 to 2014 in Bureau van Dijk's Orbis database. Market data is obtained from *Yahoo! Finance*, Datastream and Orbis. We additionally rely on data from BNY Mellon, KPMG, Property Rights Alliance, PRS Group, RepRisk, Transparency International and the World Bank, among others. We focus on the main variables of interest and provide a complete list with variable definitions in Table A.1.

2.1 Exposure to secrecy havens

Tax Justice Network (2015) has developed the Financial Secrecy Index (FSI), which is a politically neutral ranking and ranks jurisdictions according to their secrecy and the scale of their offshore financial activities. We extract the secrecy score for each country and use a rating of 60 and higher as a cut-off to define a secrecy haven. Table A.2 shows the countries in our sample and their secrecy scores, according to the FSI. Our first key variable of interest, *Acquisition of secrecy haven*, indicates whether the firm acquires an affiliate in a secrecy haven country (1) or a non-haven country (0). Further, *Proportion of secrecy havens* indicates whether a firm has an above-median exposure to secrecy havens in terms of proportion of firm's affiliates in secrecy havens (1) or a below-median exposure to secrecy havens (0). Finally, *Average secrecy score* indicates whether a firm has an above-median exposure to secrecy havens in terms of the average secrecy score of firm's affiliates (1) or a below-median exposure to secrecy havens (0).

2.2 Measures of firm value

To measure the impact of secrecy haven acquisitions on firm value, we use daily returns for $[-1; 3]$ event window around the acquisition date, since markets often need time to digest new information. We obtain daily data on adjusted closing prices (adjusted for dividends and splits) on S&P 500 companies from *Yahoo! Finance* from 2007 to 2014. Further, to control for exposure of the S&P 500 firms to specific havens over time, we obtain historical ownership data on these firms from Orbis Historical database, provided by Bureau van Dijk. We merge this data with data on acquisitions from the Zephyr database, provided by Bureau van Dijk. We obtain data on rumour, announcement and completion dates of deals between acquirer firms and target firms, where the acquirer firm is the S&P 500 company.

2.3 Deal characteristics

Rumour date is the date on which the deal was first mentioned, as far as Zephyr researchers can ascertain. The unconfirmed rumour report may be in the press, in a company press release or elsewhere. Announcement date is the date when details of the deal have been provided, when a formal offer has been made or when one of the companies involved in the deal has confirmed that the deal is to go ahead. Completion date is the date when the deal has been announced as completed or in certain circumstances has received all approvals to go ahead. This information is obtained from advisor submissions, company annual reports and accounts, and company websites. Withdrawn date is the date when the parties involved in a rumour decide to discontinue negotiations, or state that a deal will definitely not go ahead.

Deal length is the length of the deal from its rumour date to the completion date. *Deal in 1 day* is a dummy variable equal to one if the deal was rumoured, announced and completed on the same day. *Shell company* is a dummy variable equal to one if the target firm has ten or fewer employees.

2.4 Other firm characteristics

We construct measures of firms' tax rates, corporate citizenship and the potential for firm- and country-level expropriation.

We predict that the market reacts differently to acquisitions of secrecy havens with low or high statutory corporate tax rates. Investors are likely to react less negatively to acquisitions of secrecy havens with a low corporate tax rate, since such acquisitions might occur for the main purpose of tax savings. Further, investors are likely to react more negatively to acquisitions of secrecy havens with a high corporate tax rate, since such acquisitions might occur for the main purpose of secrecy shopping. We obtain the worldwide statutory corporate tax rates from the corporate tax rates table provided by KPMG (2018), and create variable *Tax rate* equal to the country's corporate tax rate. We then split the tax rate into four tax bins and create a dummy variable *Tax bin* equal to one if the country's tax rate is within the specific tax bin. Tax bin 1 covers tax rates from 0 to 16.5%, tax bin 2 covers tax rates from 16.5% to 20%, tax bin 3 from 20% to 25% and tax bin 4 from 25% to 55%.³

We predict that firms which are more vulnerable to public perceptions of corporate citizenship could be more negatively affected after secrecy haven acquisitions because consumers might react to the firm not being a good corporate citizen. Therefore, we predict that firms in the retail industry that deal directly with consumers will have a more negative reaction than other firms. Retail firms may be more susceptible to being publicly perceived and penalized for being unconscionable or unpatriotic, since consumers might decide to boycott firms' products.⁴ We set an indicator variable *Retailer* equal to one if the firm operates within the retail sector.

At the firm level, we use measures of firm governance to capture the degree to which monitoring affects conflicts of interest between principals and shareholders. We use the *Foreign Institutional Ownership*, which is the firm-level fraction of foreign direct or total investment, to measure firm-level governance. As other firm-level governance measures, we capture exposure to the US regulations and potential enforcement actions arising from having any US subsidiaries through *Has US subsidiary* dummy. Further, we use the *RepRisk index score* provided by RepRisk (2017) that dynamically captures and quantifies a company's exposure to environmental, social and governance (ESG) and business conduct risks. The higher the RepRisk index, the higher the risk exposure. Furthermore, we obtain cross-listings from BNY Mellon (2017), which subject firms to US regulations, and we split American depositary receipts (ADRs) into those that are unsponsored (*Has unsponsored ADR*) and subject to less stringent regulatory requirements and those that are sponsored (*Has sponsored ADR*) and subject to more stringent requirements. For each index, except the RepRisk index, the higher the value, the lower the firm-level expropriation risk.

Engagement in secrecy planning can be facilitated by weak institutions and by lack of monitoring. At the country level, we measure this with commonly used indices, including

³Such tax rate distribution within the tax bins has been used in order to achieve an equal number of observations per each tax bin.

⁴In 2012 it was revealed that Starbucks had not paid corporate tax since its entry in the United Kingdom (UK). The firm was implicated in funnelling its revenues offshore, to a Dutch affiliate. These revelations resulted in a consumer boycott, which led to lower revenues for the Starbucks in 2012 and 2013.

Protection of minority shareholders (The World Bank, 2017), *Protection of property rights* (Property Rights Alliance, 2017), *Country risk ratings* (PRS Group, 2017), and the *Rule of law* (La Porta *et al.*, 1998). These measures capture the extent to which individuals are protected from expropriation by the government and insiders. For each index, we construct a dummy variable equal to one if a country ranks above the median (has high expropriation risk). Further, *Corruption exposure* is a dummy variable that is equal to one if the target firm’s country is included in the most perceptively corrupt tercile of countries using the Corruption Perception Index by Transparency International (2016). Finally, we also measure the country’s productivity and standard of living via the *GDP per capita* variable, obtained from Orbis.

2.5 Tax information exchange agreements

Data on tax information exchange agreements (TIEAs) and double tax conventions (DTCs) were obtained from the Exchange of Tax Information Portal initiated by the Global Forum on Transparency and Exchange of Information for Tax Purposes (2016). We obtained the enforcement date of both types of exchange of information agreements (TIEAs and DTCs) between the United States and other countries worldwide. The agreements are summarised in Table A.3.

2.6 Descriptive statistics

In Table 1 we present summary statistics, distinguishing between acquisitions of non-havens and secrecy havens, where deals are defined as the unit of observation. The p-value column shows the p-value for a t-test for difference in means between the acquisitions of non-havens and acquisitions of havens.

In Panel A, we look at deal characteristics and observe that deal value is higher for acquisitions of non-havens, and these acquisitions also take more days from rumour to completion, as compared to haven acquisitions. Secrecy haven acquisitions are more likely to be rumoured, announced and completed on one day. These are usually deals for which there was no advance information, and therefore the three events were coded in the same day. Hence, haven deals not only take a shorter time from rumour to completion, the multinational firms also provide less advance information for these deals, compared to non-haven deals. This is in line with our expectations of reputational concerns - firms are afraid of the potential negative reaction of investors; therefore, they are unwilling to advertise their decision to acquire yet another haven affiliate. Finally, there is no statistically significant difference in means regarding not completed deals or withdrawn deals.

Panels B and C examine acquiror firm characteristics. Acquisitions of secrecy havens tend to be implemented by larger firms with more affiliates and an already existing network of secrecy haven affiliates. Also, firms that acquire secrecy haven affiliates seem to be slightly better governed than other firms.

Further, Panels D to F examine target firm characteristics. The acquired secrecy haven firms are less likely to be shell companies (have fewer than 10 employees) than non-haven firms, they have a lower corporate tax rate and a higher secrecy score than non-haven acquisitions. These firms have a significantly higher firm-level governance. These firms are more likely to have a US subsidiary and hence be subject to US laws and regulations. They have a larger fraction of foreign investment and are also more likely to own American Depositary Receipts, which again exposes them to the stringent US regulations. Nevertheless, their RepRisk index is significantly higher than for non-haven acquisitions, which implies that these firms have a higher exposure to environmental, social and governance (ESG) and business conduct risks.

Moreover, secrecy haven affiliates are located in countries with a substantially larger country-level governance risk and corruption.

3 Identification strategy

Our main hypothesis is that the market should react negatively to the secrecy that comes with acquiring an affiliate in a secrecy haven country.

3.1 Acquisitions of secrecy havens

We consider three types of events in our empirical strategy: rumours about a given deal, official announcement and completion of the deal. We estimate the following type of specification:

$$CRR_{it}^{RAC} = \alpha + \beta SecrecyHavenAcquisition_{it} + \mathbf{X}_{it}\gamma + \epsilon_{it}, \quad (1)$$

where CRR_{it}^{RAC} is the cumulative raw return of acquiror firm i at time t . We use daily returns for $[-1;3]$ event window around the acquisition, since markets often need time to digest new information. We include the day prior to the acquisition date to capture any effect of news available to the market before the event and the two days after to provide time for the market to react.⁵ We estimate separate regressions for each Rumour, Announcement and Completion (RAC) dates of the acquisition deal. *SecrecyHavenAcquisition* is an indicator variable for secrecy haven status that takes on the value of 1 if the country where the target firm operates is considered as a secrecy haven, and 0 otherwise. We define a country as a secrecy haven if its secrecy score according to the Financial Secrecy Index is above 60.⁶ With this measure we hope to identify the fraction of the stock price reaction that is due to the deal happening in a country with an active secrecy legislation.

Further, \mathbf{X}_i contains firm and industry fixed effects.⁷ All regressions are weighted by firm's market capitalization. The coefficient of interest, β , captures whether investors react differently to acquisitions of secrecy havens, as compared to acquisitions of firms located in non-haven countries.

3.2 Acquisitions of secrecy havens: Exposure

We hypothesize that a negative effect of secrecy due to haven acquisitions might be especially important for the firms that already have an established network of haven jurisdictions, and a complex corporate structure. Investors are likely to react negatively to increased opacity of the corporate structure if they are concerned about the possibility of fraud arising from many secretive jurisdictions of the MNC. Hence, we modify specification (1) and add an additional interaction term to control for the existing secrecy haven exposure of the MNC. We estimate the following type of specification:

$$CRR_{it}^{RAC} = \alpha + \beta SecrecyHavenAcquisition_{it} \cdot SecrecyHavenExposure_{it} + \delta SecrecyHavenAcquisition_{it} + \zeta SecrecyHavenExposure_{it} + \mathbf{X}_{it}\gamma + \epsilon_{it}. \quad (2)$$

⁵The event window of three days has been used in the previous tax haven event studies as well, see Hanlon & Slemrod (2009) and O'Donovan *et al.* (2018).

⁶We use other threshold specifications in robustness tests.

⁷Other fixed effects specifications are explored in the robustness tests.

SecrecyHavenExposure_{it} is defined as the exposure of firm i to secrecy havens per date t and is measured in two ways. First, *Proportion of secrecy havens* is calculated by dividing the number of haven affiliates of the MNC by the number of total affiliates of the MNC for each date t . Then, *SecrecyHavenExposure_{it}* equals 1 if the firm has above-median proportion of secrecy havens, and it equals 0 otherwise. As an alternative measure of firm’s exposure to secrecy havens, we calculate the average secrecy score of all affiliates of the firm or the *Average secrecy score*. Then, *SecrecyHavenExposure_{it}* equals 1 if the firm has above-median average secrecy score, and it equals 0 otherwise. The interaction term allows us to compare firms with a large exposure to secrecy havens to those with a small exposure.

3.3 Tax information exchange agreement enforcement

In order to verify our hypothesis on the importance of secrecy, we implement an additional test. We examine how firms’ abnormal returns change following enforcement of bilateral tax information exchange agreements with countries where firms have their affiliates. A TIEA between the domestic country (US) and a secrecy jurisdiction increases the transparency of the corporate structure to domestic authorities and investors without impacting the tax bill, and this should lead to an increase in the stock prices of firms exposed to the secrecy jurisdiction. We estimate the following type of specification:

$$CRR_{it} = \alpha + \beta TIEAwithSecrecyHaven_t \cdot SecrecyHavenExposure_{it} + \delta TIEAwithSecrecyHaven_t + \zeta SecrecyHavenExposure_{it} + \mathbf{X}_{it}\gamma + \epsilon_{it}. \quad (3)$$

TIEAwithSecrecyHaven_t is an indicator variable that takes on value of 1 if the country with which the TIEA is enforced is a secrecy haven, and 0 otherwise. *SecrecyHavenExposure_{it}* is defined as the exposure of firm i to secrecy havens per date t and is measured in three ways. First, *Proportion of secrecy havens* is calculated by dividing the number of haven affiliates of the MNC by the number of total affiliates of the MNC for each date t . Second, *Average secrecy score* is the average secrecy score of all affiliates of the firm. Third, *Exposure to TIEA country* is calculated by dividing the number of affiliates the MNC has in the country with which the TIEA was enforced by the number of total affiliates of the MNC for each date t . For each of the three exposure variables, *SecrecyHavenExposure_{it}* equals 1 if the firm has above-median exposure to secrecy havens, and it equals 0 otherwise. The interaction term allows us to compare firms with a large exposure to secrecy havens to those with a small exposure.

4 Market response to acquisitions of secrecy havens

In this section we begin by documenting the baseline effect of secrecy haven acquisitions on firm value, using cumulative raw returns, and provide some additional analyses and robustness tests.

4.1 Main result

In Table 2, we report the results of examination of market reaction to firms’ acquisitions of secrecy haven affiliates. The dependent variable in the regressions is *Cumulative raw return*

around the acquisition completion date.⁸ *Acquisition of secrecy haven* is a dummy variable equal to one if a firm acquires an affiliate located in a secrecy haven. *Proportion of secrecy havens* is a dummy variable equal to one if the firm has an above-median exposure to secrecy havens, measured as the proportion of affiliates the firm has in secrecy haven countries, relative to all affiliates of the firm. *Average secrecy score* is a dummy variable equal to one if the firm has an above-median average secrecy, measured by averaging the secrecy scores of all firm’s affiliates. We also have interaction terms in order to control for firms’ exposure to secrecy havens during the acquisition event. All specifications include parent and industry fixed effects. All specifications are weighted by parent firm’s market capitalization.

We interpret the estimated coefficients as the differential effect of secrecy haven acquisitions with respect to all other acquisitions. The results show that acquisitions of secrecy havens are associated with more negative market reaction than other acquisitions. The cumulative returns are approximately 1.1% lower for such acquisition deals than for acquisition deals of the same parent firm in other countries. Moreover, if the firm has an above-median exposure to secrecy havens, its cumulative raw returns decrease by 1.7% on average. Similarly, if the firm has an above-median average secrecy score, its cumulative raw returns decrease by 2.9% on average. This suggests that a complex corporate structure, consisting of many offshore secrecy jurisdictions, makes managerial fraud difficult to detect. Hence, news on firm’s decision to acquire additional secrecy havens are perceived more negatively for firms with a large existing network of secrecy jurisdictions.⁹

Furthermore, Figure 1 shows the coefficients of regression of firms’ daily raw returns on the acquisition completion dummy.¹⁰ We distinguish between acquisitions of secrecy havens and acquisitions of affiliates located in other countries. The graph shows that acquisitions of non-haven affiliates are associated with small and statistically significant increases in firms’ share prices on the day of acquisition. Acquisitions of secrecy haven affiliates are associated with larger and statistically significant decreases in firms’ share prices on the day following the acquisition. These observations support the regression results that the market dislikes acquisitions in secrecy havens, as compared to acquisitions in other countries.

Overall, the market reacts negatively to acquisitions of secrecy havens, as compared to acquisitions of affiliates in other countries. The effect is even more negative if the firm is already exposed to secrecy to a large extent. The market seems to be penalizing the firm for lack of transparency and opacity. The more secrecy havens the firm has, the more it lacks transparency, so investors dislike that and react negatively to yet another secrecy haven acquisition.

In the further analyses, we use specification (1) of Table 2 as the baseline specification.

4.2 Interaction with tax rates

Secrecy jurisdictions are often used as an alternative term to the more often used term tax havens. These are jurisdictions that use secrecy to attract illicit and illegitimate or abusive financial flows. The secrecy creates opportunities for fraud, tax cheating, escape from financial regulations, embezzlement, insider dealing, bribery, money laundering, and more. Even though

⁸Separate specifications for rumour, announcement and completion dates of the acquisition deal are shown in Table A.4. Since all specifications show similar results for either rumour, announcement or completion of secrecy haven acquisitions, we use the completion date as the baseline specification.

⁹Results are robust to using the actual secrecy haven proportions, instead of indicator variables for an above-median secrecy.

¹⁰Separate figures for rumour, announcement and completion dates of the acquisition deal are shown in Figure A.1.

an acquisition of a secrecy haven signals the potential for managerial fraud, a haven affiliate can also be used for tax avoidance reasons. The negative market reaction to increased secrecy can then be offset by the positive news of potential increase in firm's future after-tax profits.

In Table 3 we examine whether investors react differently to acquisitions of secrecy havens in high- or low-taxed jurisdictions. In specification (2) we interact the secrecy haven acquisition dummy with the acquired affiliate's tax rate. The results show that, the higher the tax rate of the acquired secrecy affiliate, the more negative the market reaction to the acquisition. Similar results are obtained when, instead of a tax rate variable, we include tax bin dummies to control for the tax rate of the acquired affiliate. Tax bin 1 covers tax rates from 0 to 16.5%, tax bin 2 covers tax rates from 16.5% to 20%, tax bin 3 from 20% to 25% and tax bin 4 from 25% to 55%.¹¹ Also these results show that, the higher the tax bin of the acquired variable, the worse the market reaction.

The findings suggest that investors are concerned about firms' secrecy; however, potential future tax planning opportunities mitigate these concerns. The market reacts negatively to evidence that the acquisition was done mainly for the secrecy purposes and without the intention to use the acquired secrecy haven for tax avoidance purposes.

4.3 Robustness tests

Table 4 shows the robustness tests of the main specification. First, as specification (2) shows, the main coefficient of interest changes only slightly when we exclude parent and industry fixed effects. Also, when we add year fixed effects to the main specification, the results change only slightly, as specification (3) shows. The results are unchanged when, instead of using NACE industry classification, we use the Fama-French 49 industries in specification (4). Furthermore, we examine whether the market reaction changes when we use another threshold of the secrecy score in order to define a secrecy haven in specifications (5) and (6). Since the baseline specification uses a threshold of 60 to define a haven, we use a threshold of 50 and 70 in the robustness tests. For the threshold of 50, the estimated negative market reaction is smaller, while for the threshold of 70, the reaction is larger. This suggests that the larger the secrecy of the acquired affiliate, the worse the market reaction, since the additional secrecy provides opportunities for managerial fraud.

Furthermore, in specification (7) we examine whether market reaction for firms in the retail sector with potentially heightened reputational concerns is different than for firms in the other industries. Hanlon & Slemrod (2009) find that the reputational concerns of using tax shelters are strongest for companies in the retail sector.¹² Also our results show a large negative market reaction for firms in the retail sector, which might be explained by the potential consumer or taxpayer backlash.

We examine whether the results differ for better governed firms, since, if the firm is well-governed and faces stronger regulations, it is less likely to acquire affiliates for secrecy purposes. We use the fraction of foreign total investment in order to define well-governed firms. We find that better governed firms face a less negative reaction to acquisitions of secrecy havens, as seen in specification (8). Similarly, we examine whether investors react differently to acquisitions of secrecy havens located in countries with high productivity and standard of living in specification (9). Also for this specification we find that, the higher the GDP per capita,

¹¹Such tax rate distribution within the tax bins has been used in order to achieve an equal number of observations per each tax bin.

¹²In our analysis we are looking at the importance of secrecy, rather than the tax bill, so our results are not directly comparable to those of Hanlon & Slemrod (2009).

the less negative the investor reaction to acquisitions of secrecy havens in these countries.¹³ These findings support our hypothesis that investors dislike the firm-wide opacity and secrecy that increases after secrecy haven acquisitions. If the acquisition deal characteristics suggest that the affiliate was not acquired for secrecy purposes, investors react less negatively to such secrecy haven acquisitions.

4.4 Year-by-year analysis

In order to test whether the stock market reaction changes in different time periods, we implement year-by-year analysis and depict results graphically in Figure 2.¹⁴ The results show that the most negative reaction to secrecy haven acquisitions was in years 2007 until 2009, and it started to become more positive after that. The reaction became again more negative in 2012 and 2013. The years 2007 until 2009 were characterized by the financial crisis and the following global economic downturn. It is likely that due to the economic distress, the acquisitions of secrecy havens were perceived as more risky, especially due to the diminished transparency they contributed to. Further, the negative reaction in 2012 and 2013 might be related to the United States debt-ceiling crisis, which led to a downgraded United States Global Credit Rating and an overall negative outlook on the country's credit. Also this might make investors more cautious regarding the secrecy haven acquisitions.

4.5 Tax information exchange agreements

Table 3 shows the examination of market reaction to enforcement of tax information exchange agreements (TIEAs) between the US and other countries worldwide. Specification (1) shows that the market reacts positively to an enforcement of a TIEA with a secrecy haven country, as compared to non-haven countries. Further, the larger the firm's exposure to secrecy havens, the more positive the market reaction, as specification (2) shows. Also, the larger the firm's exposure to the secrecy haven country with which the TIEA was enforced, the more positively the market reacts, as specification (3) shows. Finally, the larger the average secrecy of the firm, the larger the positive market reaction to enforcement of a TIEA with a secrecy haven, as in specification (4).¹⁵

Furthermore, Figure 3 shows the coefficients of regression of firms' daily raw returns on the TIEA enforcement dummy, controlling for firms' exposure to secrecy havens. The graph shows a positive significant market reaction to TIEA enforcement on the agreement day and the following day. We interpret this as evidence that the market values such tax information exchange agreements positively.

Our findings are consistent with the market viewing increased transparency favourably. Likely, in the case of companies exposed to secrecy, the signing of a transparency agreement minimizes agency problems on the side of the manager by increasing the probability of detection. Moreover, a tax information exchange agreement increases the transparency of the corporate structure to domestic authorities and investors without impacting the tax bill. These are good news for investors, since transparency has increased, while firm's future after-tax profits are likely unaffected.

¹³The results are robust to using other governance measures instead.

¹⁴Year-by-year regression analysis is shown in Table A.5.

¹⁵Results are robust to using the actual secrecy haven proportions, instead of indicator variables for an above-median secrecy.

5 Conclusion

In this paper we present evidence that stock market investors are concerned when multinational companies acquire affiliates in secrecy jurisdictions. The negative reaction increases with the proportion of secrecy haven affiliates the firm has, as well as the average secrecy score of the firm. The more secrecy havens the firm has, the harder it becomes to detect managerial fraud; hence, the negative market reaction is especially large when the firm is already very secretive. Investors react less negatively to acquisitions of secrecy havens with a low corporate tax rate, suggesting that they view the potential future tax saving opportunities as positive news. The findings suggest that investors are concerned about firms' secrecy; however, potential future tax planning opportunities mitigate these concerns. This evidence is supported by the positive market reaction to enforcement of tax information exchange agreements between the United States and secrecy haven countries. Such agreements increase the transparency of the corporate structure to domestic authorities and investors without impacting the tax bill.

The negative market reaction is particularly strong during the financial crisis years, since additional secrecy is likely viewed as negative news during times of financial distress. The negative effect is also especially strong in the retail sector, where reputational concerns should matter most due to potential consumer boycott in response to the tax-paying brand. However, investors react less negatively to acquisitions of secrecy havens if the parent firm is well-governed and if the secrecy haven is located in a country with higher productivity and standard of living. Higher governance minimizes agency problems on the side of the manager by increasing the probability of detection. These findings support our hypothesis that investors dislike the firm-wide opacity and secrecy that increases after secrecy haven acquisitions. If the acquisition deal characteristics suggest that the affiliate was not acquired for secrecy purposes, investors react less negatively to such secrecy haven acquisitions.

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Table 1: Descriptive statistics on acquisition deals

	Acquisitions of non-havens	Acquisitions of secrecy havens	Non-havens vs secrecy havens
Variable	Mean	Mean	p-value
Panel A: Deal characteristics			
Deal value (th USD)	1 464 274.00	646 769.00	0.05
Deal length (number of days)	80.78	44.40	0.00
Deal in one day (0/1)	0.39	0.59	0.00
Deal rumoured (0/1)	1.00	1.00	
Deal announced (0/1)	0.91	0.94	0.09
Deal completed (0/1)	0.77	0.81	0.09
Deal withdrawn (0/1)	0.02	0.01	0.37
Panel B: Acquiror characteristics			
Market capitalization (m USD)	66 156.48	81 083.95	0.00
Number of affiliates	598.19	1 063.43	0.00
Proportion of secrecy havens	0.08	0.10	0.00
Retailer (0/1)	0.04	0.01	0.00
Average secrecy score	52.05	51.86	0.43
Panel C: Acquiror firm-level governance			
Has a US subsidiary (0/1)	0.01	0.03	0.06
Fraction of foreign direct investment	0.05	0.03	0.18
Fraction of foreign total investment	0.06	0.05	0.67
RepRisk index	0.04	0.03	0.01
Panel D: Target characteristics			
Shell company (0/1)	0.12	0.05	0.00
Number of employees	22 657.07	16 455.20	0.12
Tax rate	0.35	0.17	0.00
Secrecy score	53.92	65.98	0.00
Panel E: Target firm-level governance			
Has a US subsidiary (0/1)	0.06	0.11	0.00
Fraction of foreign direct investment	0.05	0.18	0.00
Fraction of foreign total investment	0.08	0.23	0.00
Has sponsored ADRs (0/1)	0.03	0.07	0.00
Has unsponsored ADRs (0/1)	0.04	0.13	0.00
RepRisk index	0.02	0.03	0.00

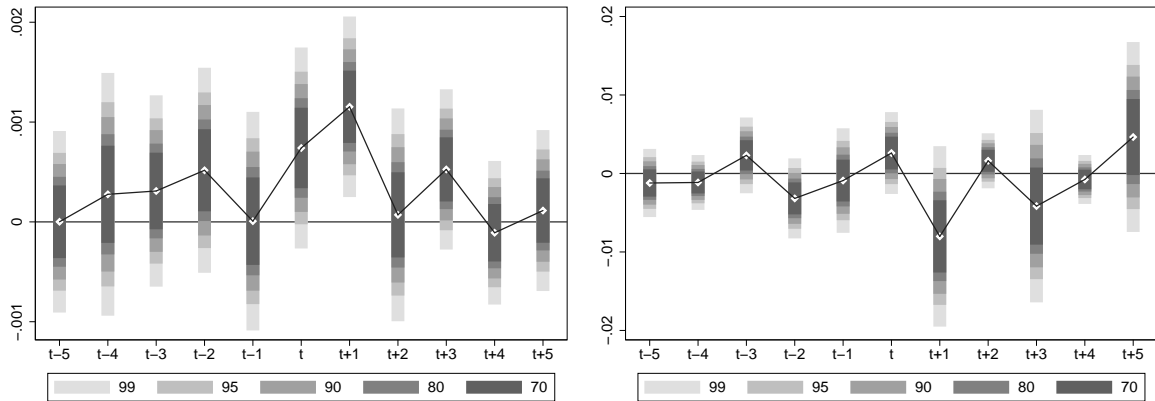
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Table 1: Descriptive statistics on acquisition deals

	Acquisitions of non-havens	Acquisitions of secrecy havens	Non-havens vs secrecy havens
Panel F: Target country-level governance			
Property rights risk (0/1)	0.01	0.07	0.00
Country risk (0/1)	0.01	0.05	0.00
Rule of law risk (0/1)	0.06	0.07	0.68
Minority shareholders risk (0/1)	0.04	0.25	0.00
Corruption (0/1)	0.01	0.03	0.00
GDP per capita (USD)	40 971.83	42 260.51	0.13
Number of deals	7 552	371	

Notes: This table shows the descriptive statistics on acquisition deals, distinguishing between acquisitions of non-havens and secrecy havens. The table is defined over the deals as the unit of observation. *P-value* shows whether the difference in means between the two variables is significant. (0/1) implies that the variable is a dummy variable and only takes values 0 or 1. Table A.1 provides detailed variable definitions.

Figure 1: Lag and lead analysis



(a) Completion of non-haven acquisition

(b) Completion of secrecy haven acquisition

Notes: The graphs show lag and lead analysis of market reaction to completion of acquisition of either a non-haven or a secrecy haven, controlling for firm's existing exposure to non-havens and secrecy havens. The graphs depict coefficients and confidence intervals from regression of firms' daily returns on acquisition event, controlling for firm and industry fixed effects.

Table 2: Acquisitions of secrecy havens

	(1)	(2)	(3)
Acquisition of secrecy haven	-0.01116*** (0.00419)	0.00227 (0.00475)	0.00606** (0.00275)
Acquisition of secrecy haven · Proportion of secrecy havens		-0.01711** (0.00724)	
Proportion of secrecy havens		0.00398** (0.00190)	
Acquisition of secrecy haven · Average secrecy score			-0.02885*** (0.00829)
Average secrecy score			-0.00263 (0.00310)
Mean(Cumulative raw return)	0.00163	0.00163	0.00163
Elasticity	-0.36265	-0.4261	-0.52322
R^2	0.015	0.016	0.020
Observations	5332	5332	5332

Notes: This table provides cumulative raw returns of the S&P 500 firms around completion of their acquisition deals. The dependent variable is *Cumulative raw return*. Returns are cumulated over days around the acquisition, the event window is [-1;3] with respect to this date. *Acquisition of secrecy haven* indicates whether a firm acquires an affiliate in a secrecy haven country (1) or a non-haven country (0). *Proportion of secrecy havens* indicates whether (1) or not (0) a firm has an above-median exposure to secrecy havens in terms of proportion of firm's affiliates in secrecy havens. *Average secrecy score* indicates whether (1) or not (0) a firm has an above-median exposure to secrecy havens in terms of the average secrecy score of firm's affiliates. *Mean(Cumulative raw return)* is the mean of specification's dependent variable. *Elasticity* is the elasticity of the independent variable of interest with respect to the dependent variable. Table A.1 provides detailed variable definitions. All specifications include firm and industry fixed effects. All specifications are weighted by firm's market capitalization. Standard errors are clustered at the parent level and reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Table 3: Interaction with tax rates

	(1)	(2)	(3)
Acquisition of secrecy haven	-0.01116*** (0.00419)	-0.00463 (0.00816)	0.01368 (0.01469)
Acquisition of secrecy haven · Tax rate		-0.07251* (0.04035)	
Tax rate		-0.03006 (0.02181)	
Acquisition of secrecy haven · Tax bin 2			-0.03571 (0.02176)
Acquisition of secrecy haven · Tax bin 3			-0.03241** (0.01630)
Acquisition of secrecy haven · Tax bin 4			-0.04518*** (0.01728)
Tax bin 2			0.00598 (0.01462)
Tax bin 3			0.00878 (0.01271)
Tax bin 4			0.00654 (0.01246)
Mean(Cumulative raw return)	0.00163	0.00163	0.00163
Elasticity	-0.36265	-0.5423	-0.4264
R^2	0.015	0.021	0.024
Observations	5332	5331	5332

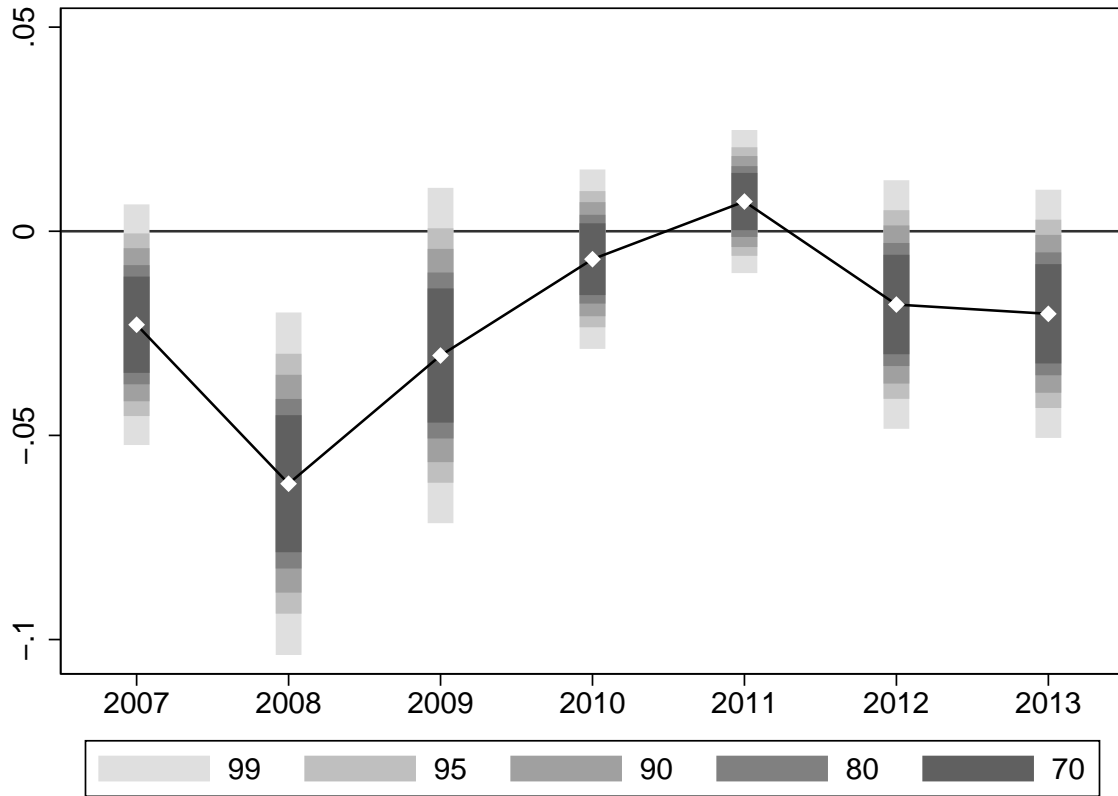
Notes: This table provides the tax rate analysis of cumulative raw returns of the S&P 500 firms around completion of acquisition deals. The dependent variable is *Cumulative raw return*. Returns are cumulated over days around the acquisition, the event window is [-1;3] with respect to this date. *Acquisition of secrecy haven* indicates whether a firm acquires an affiliate in a secrecy haven country (1) or a non-haven country (0). *Tax rate* is the tax rate of the acquired affiliate. Tax bins are dummy variables for the acquired affiliate's tax rate, where tax bin 1 is equal to one if tax rate is from 0% to 16.5%, tax bin 2 is equal to one if tax rate is from 16.5% to 20%, tax bin 3 is equal to one if tax rate is from 20% to 25%, and tax bin 4 is equal to one if tax rate is from 25% to 55%. The results must be interpreted with respect to the omitted tax bin (tax bin 1). *Mean(Cumulative raw return)* is the mean of specification's dependent variable. *Elasticity* is the elasticity of the independent variable of interest with respect to the dependent variable. Table A.1 provides detailed variable definitions. All specifications include firm and industry fixed effects. All specifications are weighted by firm's market capitalization. Standard errors are clustered at the parent level and reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Table 4: Robustness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Acquisition of secrecy haven	-0.01116*** (0.00419)	-0.01259*** (0.00390)	-0.01202*** (0.00419)	-0.01116*** (0.00416)	-0.00544** (0.00258)	-0.02924** (0.01306)	-0.01115*** (0.00419)	-0.01196*** (0.00420)	-0.17038** (0.07771)
Acquisition of secrecy haven · Retailer							-0.03596*** (0.00419)		
Acquisition of secrecy haven · Governance								0.03273*** (0.01275)	
Acquisition of secrecy haven · Ln(GDP)									0.01534** (0.00719)
Ln(GDP)									0.00014 (0.00145)
Constant		0.00179*** (0.00052)							
Mean(Cumulative raw return)	0.00163	0.00163	0.00163	0.00163	0.00163	0.00163	0.00163	0.00163	0.00163
Elasticity	-0.36265	-0.409	-0.39059	-0.36265	-2.35473	-0.4195	-0.00413	0.04885	5.17328
	Baseline	No fixed effects	Year fixed effects	Fama French industries	Secrecy score>50	Secrecy score>70	Retailer	Parent firm's governance	Target country's GDP
R^2	0.015	0.004	0.026	0.026	0.015	0.014	0.021	0.015	0.017
Observations	5332	5350	5332	5332	5332	5332	5332	5332	5332

Notes: This table provides robustness tests of the baseline specification (1) of cumulative raw returns of the S&P 500 firms around completion of acquisition deals. The dependent variable is *Cumulative raw return*. Returns are cumulated over days around the acquisition, the event window is [-1;3] with respect to this date. Specification (2) excludes any fixed effects, while specification (3) includes year fixed effects. Specification (4) uses Fama-French 49 industry classification, instead of NACE. Specifications (5) and (6) explore other secrecy score thresholds to define a secrecy haven. Specification (7) controls for whether the parent firm is within the retail sector. Specification (8) controls for parent firm's governance, while specification (9) controls for the target country's productivity and standard of living. *Acquisition of secrecy haven* indicates whether a firm acquires an affiliate in a secrecy haven country (1) or a non-haven country (0). *Retailer* is a dummy variable equal to one if the parent firm operates within the retail sector. *Governance* is parent firm-level fraction of foreign total investment, which proxies for firm-level governance. *Ln(GDP)* is the natural logarithm of the acquired affiliate's country GDP per capita. *Mean(Cumulative raw return)* is the mean of specification's dependent variable. *Elasticity* is the elasticity of the independent variable of interest with respect to the dependent variable. Table A.1 provides detailed variable definitions. All specifications include firm and industry fixed effects, instead of specification (2). All specifications are weighted by firm's market capitalization. Standard errors are clustered at the parent level and reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Figure 2: Year-by-year analysis



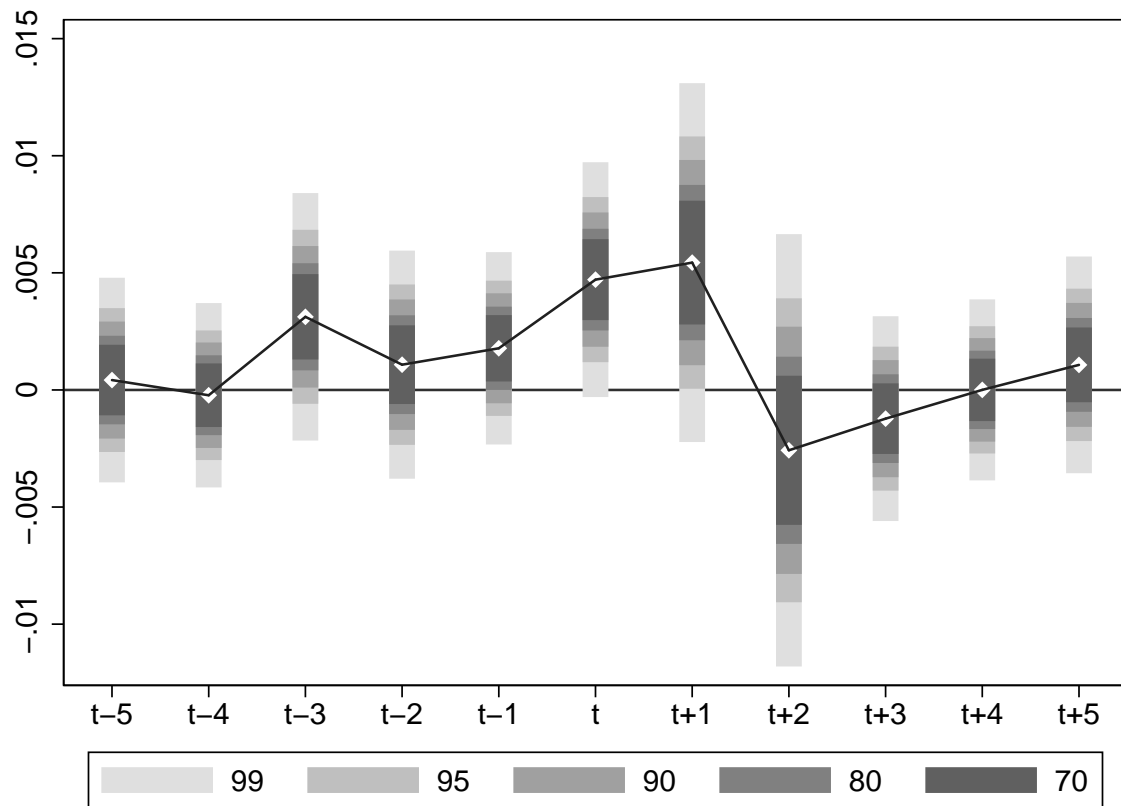
Notes: The graph shows year-by-year analysis of cumulative raw returns of the S&P 500 firms around completion of acquisition deals. The results must be interpreted with respect to the omitted year (2014). The graph depicts coefficients and confidence intervals from regression of firms' cumulative raw returns on acquisition event, controlling for firm and industry fixed effects.

Table 5: Tax information exchange agreement enforcement

	(1)	(2)	(3)	(4)
TIEA with secrecy haven	0.00737*** (0.00221)	0.00570** (0.00244)	0.00570** (0.00244)	0.00262 (0.00309)
TIEA with secrecy haven* Proportion of secrecy havens		0.01854*** (0.00517)		
Proportion of secrecy havens		-0.00794** (0.00310)		
TIEA with secrecy haven* Exposure to TIEA country			0.01851*** (0.00517)	
Exposure to TIEA country			-0.00791** (0.00310)	
TIEA with secrecy haven* Average secrecy score				0.01427*** (0.00346)
Average secrecy score				-0.00509* (0.00263)
Mean(Cumulative raw return)	0.00513	0.00513	0.00513	0.00513
Elasticity	0.7811	0.05659	0.0565	0.59054
R^2	0.060	0.063	0.063	0.066
Observations	7178	7178	7178	7178

Notes: This table provides cumulative raw returns of the S&P 500 firms around enforcement of tax information exchange agreements (TIEAs) between the US and other countries. The dependent variable is *Cumulative raw return*. Returns are cumulated over days around the enforcement date, the event window is [-1;3] with respect to this date. *TIEA with secrecy haven* indicates whether the TIEA is enforced with a secrecy haven country (1) or a non-haven country (0). *Proportion of secrecy havens* indicates whether (1) or not (0) a firm has an above-median exposure to secrecy havens in terms of proportion of firm's affiliates in secrecy havens. *Exposure to TIEA country* indicates whether (1) or not (0) a firm has an above-median exposure to secrecy havens in terms of firm's exposure to the specific country, with which the TIEA was enforced. *Average secrecy score* indicates whether (1) or not (0) a firm has an above-median exposure to secrecy havens in terms of the average secrecy score of firm's affiliates. *Mean(Cumulative raw return)* is the mean of specification's dependent variable. *Elasticity* is the elasticity of the independent variable of interest with respect to the dependent variable. Table A.1 provides detailed variable definitions. All specifications include firm and industry fixed effects. All specifications are weighted by firm's market capitalization. Standard errors are clustered at the parent level and reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Figure 3: Tax information exchange agreement enforcement



Notes: The graph shows lag and lead analysis of market reaction to enforcement of a tax information exchange agreement with a secrecy haven, controlling for firm's existing exposure to secrecy havens. The graph depicts coefficients and confidence intervals from regression of firms' daily returns on TIEA enforcement event, controlling for firm and industry fixed effects.

A Appendix

Table A.1: Data Appendix

Variable	Description	Source
Deal characteristics		
Deal value	The consideration paid for the actual stake acquired (th USD).	Zephyr
Deal length	Number of days from deal rumour to deal completion.	Zephyr
Deal in 1 day	A dummy variable equal to one if the firm rumours, announces and completes the acquisition on the same day.	Zephyr
Withdrawn deal	Deal is withdrawn if the parties involved in a rumour decide to discontinue negotiations, or state that a deal will definitely not go ahead.	Zephyr
Rumour date	The date on which the deal was first mentioned, as far as Zephyr researchers can ascertain. The report may be in the press, in a company press release or elsewhere. The rumour is an unconfirmed report. If the first mention of the deal is when it is officially announced, then that date is entered as Announced with the same date for both the Rumour date and Announced date.	Zephyr
Announced date	The date when details of the deal have been provided, when a formal offer has been made or when one of the companies involved in the deal has confirmed that the deal is to go ahead.	Zephyr
Completion date	The date when the deal has been announced as completed or in certain circumstances has received all approvals to go ahead.	Zephyr
Secrecy haven variables		
Secrecy score	Measurement of financial secrecy in each jurisdiction. We use a threshold of secrecy score of 60 to define a secrecy haven (SH).	Tax Justice Network
Acquisition of secrecy haven	A dummy variable equal to one if the firm acquires an affiliate located in a secrecy haven country.	Orbis
Proportion of SH	A dummy variable equal to one if the firm has an above-median exposure to SHs, measured as number of SH affiliates the firm has, relative to all firm's affiliates.	Orbis
Average secrecy score	A dummy variable equal to one if the firm has an above-median average secrecy score, measured by averaging the secrecy scores of all firm's affiliates.	Orbis
Tax information exchange agreement variables		
TIEA with secrecy haven	A dummy variable equal to one if the US enforces a tax information exchange agreement with a secrecy haven country.	Global Forum on Transparency and Exchange of Information Portal
Exposure to TIEA country	A dummy variable equal to one if the firm has an above-median exposure to the country with which TIEA was enforced, measured as number of TIEA country affiliates the firm has, relative to all firm's affiliates.	Orbis
Measure of firm value		
Cumulative raw returns [a;b]	Cumulative daily stock returns in % from closing on day a-1 to closing on day b relative to the event date.	Datastream, Orbis
Tax measures		
Tax rate	Statutory corporate tax rate of the target firm.	KPMG
Tax bin	A dummy variable equal to one if the target firm belongs to a specific tax bin. Tax bin 1 involves tax rates from 0% to 16.5%. Tax bin 2 involves tax rates from 16.5% to 20%. Tax bin 3 involves tax rates from 20% to 25%. Tax bin 4 involves tax rates from 25% to 55%.	KPMG

Continued on next page

Table A.1: Data Appendix

Variable	Description	Source
Firm-level measures		
Retailer	Dummy variable equal to one if the parent firm operates within the retail sector.	Orbis, Fama French Data Library
Market capitalization	The market value of parent firm's outstanding shares (m USD).	Orbis
Shell company	A dummy variable equal to one if the target firm has 10 or fewer employees.	Orbis
Has US subsidiary	A dummy variable equal to one if the target firm is not headquartered in the US and has a US subsidiary.	Orbis
Foreign institutional ownership	Fraction of shares held by foreign owners in the target firm, calculated in terms of total ownership.	Orbis
RepRisk index score	Score that dynamically captures and quantifies the target company's exposure to environmental, social and governance (ESG) and business conduct risks. The higher the value, the higher the risk exposure.	RepRisk
Has sponsored ADR	A dummy variable equal to one if the target firm is not headquartered in the US and has a sponsored American Depositary Receipt (ADR).	BNY Mellon
Has unsponsored ADR	A dummy variable equal to one if the target firm is not headquartered in the US and has an unsponsored ADR.	BNY Mellon
Country-level measures		
Property rights	An assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state. We use dummy equal to one if target country scores among the 50% of countries with weakest property rights.	Property Rights Alliance
Country risk	Country risk as per the International Country Risk Guide. Takes value between 0 and 100. We use dummy equal to one if target country scores among the 50% of countries with highest country risk.	PRS Group
Rule of law	Rule of Law from La Porta <i>et al.</i> (1998). We use dummy equal to one if target country scores among the 50% of countries with weakest rule of law.	La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV; 1998)
Minority Shareholder Protection index	A measure of the strength of minority shareholder protection against misuse of corporate assets by directors, of shareholder rights, of governance safeguards, and transparency. We use dummy equal to one if target country scores among the 50% of countries with the lowest minority shareholder protection.	The World Bank
Corruption	A dummy variable that is equal to one if the firm is located in one of the most perceptively corrupt tercile of countries.	Orbis, Transparency International
GDP per capita	Country-level GDP per capita. We use the natural logarithm.	Orbis

Table A.2: Financial Secrecy Index - Secrecy haven classification

Secrecy score	Country	SH	Secrecy score	Country	SH
86.64	Vanuatu	1	66.27	Bermuda	1
85.89	Samoa	1	65.24	Cayman Islands	1
82.96	Saint Lucia	1	64.93	Jersey	1
82.89	Liberia	1	64.07	Turkey	1
82.78	Brunei Darussalam	1	64	Montenegro	1
80.96	Antigua and Barbuda	1	63.8	Isle of Man	1
80	Maldives	1	63.56	Guernsey	1
79.48	Marshall Islands	1	63.06	Philippines	1
79.02	Bahamas	1	61.08	Saudi Arabia	1
79	Paraguay	1	60.2	Virgin Islands (British)	1
78.91	Nauru	1	60	United States	0
78.86	Belize	1	57.52	Japan	0
78.76	Lebanon	1	56.36	Germany	0
78.29	Barbados	1	55.11	Luxembourg	0
78.03	Saint Kitts & Nevis Anguilla	1	54.58	Costa Rica	0
77.98	Saint Vincent & Grenadines	1	54.29	China	0
77.44	United Arab Emirates	1	53.92	Chile	0
77	Gambia	1	53.71	Austria	0
77	Tanzania	1	53.56	Russian Federation	0
76.6	Andorra	1	52.76	Israel	0
76.16	Dominica	1	51.84	Brazil	0
76.04	Liechtenstein	1	50.11	Slovak Republic	0
76	Bolivia	1	49.82	Cyprus	0
75.92	Cook Islands	1	49.53	Malta	0
75.89	Grenada	1	48.49	Netherlands	0
75.69	Guatemala	1	46.48	New Zealand	0
75.33	Malaysia	1	45.84	Canada	0
74.36	Monaco	1	45.6	Iceland	0
73.67	Bahrain	1	45.02	Mexico	0
72.6	Switzerland	1	44.67	Latvia	0
72.36	Panama	1	44.24	Estonia	0
72.22	Mauritius	1	44.14	South Korea	0
72	Hong Kong	1	43.47	Australia	0
71.38	Botswana	1	42.54	France	0
71.27	Turks and Caicos Islands	1	41.57	South Africa	0
71.17	Seychelles	1	40.89	Belgium	0
71	Taiwan	1	40.84	Great Britain	0
70.86	Uruguay	1	40.37	Ireland	0
69.84	Macau	1	39.4	Portugal	0
69.56	San Marino	1	39.19	India	0
69.33	Virgin Islands (USA)	1	38.49	Norway	0
69.24	Anguilla	1	36.4	Greece	0
69	Dominican Republic	1	36.29	Poland	0
68.96	Singapore	1	36.02	Sweden	0
68	Venezuela	1	35.93	Hungary	0
67.74	Curaçao	1	35.18	Czech Republic	0
67.71	Aruba	1	35	Italy	0
67.36	Montserrat	1	33.96	Slovenia	0
67.11	Ghana	1	32.69	Spain	0
67.09	Gibraltar	1	31.38	Finland	0
66.4	Macedonia	1	30.87	Denmark	0

Notes: This table shows the countries in our sample with their secrecy scores and whether they are classified as secrecy havens or not. A country is classified as a secrecy haven if its secrecy score exceeds 60. We examine other thresholds in robustness tests. The countries are ordered in an descending order, according to their secrecy scores.

Table A.3: Tax information exchange agreement enforcement dates

Agreement	Date	Country	SH	Agreement	Date	Country	SH
DTC	1 Jan 1953	Greece	0	DTC	19 Dec 1997	Switzerland	1
DTC	29 Nov 1972	Norway	0	DTC	19 Dec 1997	Turkey	1
DTC	1 Jan 1976	Poland	0	DTC	28 Dec 1997	South Africa	0
DTC	12 Sep 1979	Hungary	0	DTC	1 Jan 1998	Ireland	0
DTC	20 Oct 1979	South Korea	0	DTC	1 Feb 1998	Austria	0
DTC	16 Oct 1982	Philippines	1	DTC	30 Dec 1999	Estonia	0
DTC	2 Nov 1983	New Zealand	0	DTC	30 Dec 1999	Venezuela	1
DTC	1 Dec 1983	Australia	0	DTC	1 Jan 2000	Latvia	0
DTC	16 Aug 1984	Canada	0	DTC	20 Dec 2000	Luxembourg	0
TIEA	3 Nov 1984	Barbados	1	DTC	29 Jan 2001	Denmark	0
DTC	31 Dec 1985	Cyprus	0	DTC	22 Jun 2001	Slovenia	0
DTC	28 Feb 1986	Barbados	1	TIEA	10 Feb 2003	Antigua & Barbuda	1
DTC	22 Oct 1986	China	0	DTC	31 Mar 2003	Great Britain	0
TIEA	13 Jul 1987	Grenada	1	DTC	30 Mar 2004	Japan	0
TIEA	9 May 1988	Dominica	1	TIEA	13 Sep 2004	Aruba	1
TIEA	2 Dec 1988	Bermuda	1	TIEA	1 Jan 2006	Bahamas	1
TIEA	12 Oct 1989	Dominican	1	TIEA	1 Jan 2006	Isle of Man	1
TIEA	18 Jan 1990	Mexico	0	TIEA	10 Mar 2006	Cayman Islands	1
DTC	21 Nov 1990	Spain	0	TIEA	10 Mar 2006	Virgin Islands	1
DTC	1 Jan 1991	Finland	0	TIEA	30 Mar 2006	Guernsey	1
DTC	1 Jan 1991	Germany	0	TIEA	26 Jun 2006	Jersey	1
DTC	1 Jan 1991	India	0	TIEA	22 Mar 2007	Curaçao	1
TIEA	12 Feb 1991	Costa Rica	0	DTC	28 Dec 2007	Belgium	0
TIEA	14 Mar 1991	Marshall Islands	1	DTC	15 Dec 2008	Iceland	0
DTC	23 Dec 1993	Czech Republic	0	TIEA	4 Dec 2009	Liechtenstein	1
DTC	30 Dec 1993	Slovak Republic	0	DTC	16 Dec 2009	Italy	0
DTC	1 Jan 1994	Netherlands	0	TIEA	22 Dec 2009	Gibraltar	1
DTC	1 Jan 1994	Russia	0	TIEA	11 Mar 2010	Monaco	1
DTC	1 Jan 1994	Mexico	0	DTC	23 Nov 2010	Malta	0
DTC	1 Jan 1995	Israel	0	TIEA	18 Apr 2011	Panama	1
DTC	26 Oct 1995	Sweden	0	TIEA	19 Mar 2013	Brazil	0
DTC	30 Dec 1995	France	0	TIEA	31 May 2014	Saint Lucia	1
DTC	1 Jan 1996	Portugal	0	TIEA	29 Aug 2014	Mauritius	1

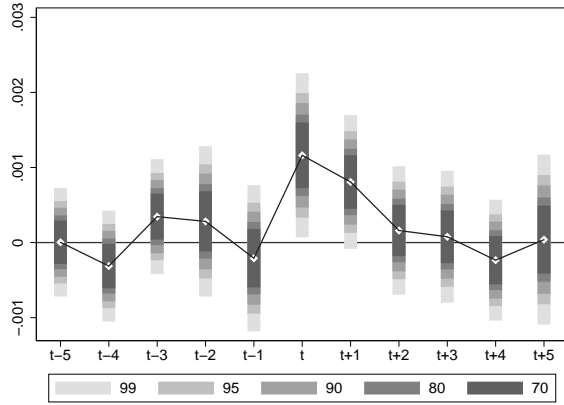
Notes: This table shows the dates of enforcements of tax information exchange agreements (TIEA) and double tax conventions (DTC) between the US and other countries. The column *Secrecy haven (SH)* specifies if the countries are classified as secrecy havens or not. A country is classified as a secrecy haven if its secrecy score exceeds 60. The agreements are ordered in an ascending order, according to enforcement date.

Table A.4: Acquisitions of secrecy havens

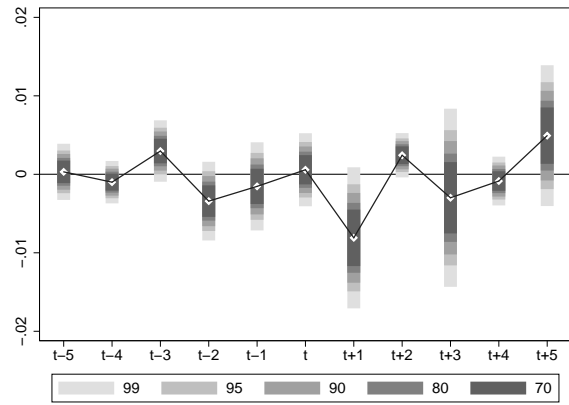
	Rumour			Announcement			Completion		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Acquisition of secrecy haven	-0.01071*** (0.00387)	-0.00185 (0.01095)	0.00093 (0.00772)	-0.01120** (0.00453)	-0.00218 (0.01328)	0.00138 (0.00698)	-0.01116*** (0.00419)	0.00227 (0.00475)	0.00606** (0.00275)
Acquisition of secrecy haven · Proportion of secrecy havens		-0.01181 (0.01140)			-0.01167 (0.01392)			-0.01711** (0.00724)	
Proportion of secrecy havens		0.00779** (0.00345)			0.00839** (0.00400)			0.00398** (0.00190)	
Acquisition of secrecy haven · Average secrecy score			-0.01936* (0.01129)			-0.02155* (0.01110)			-0.02885*** (0.00829)
Average secrecy score			-0.00001 (0.00512)			-0.00300 (0.00365)			-0.00263 (0.00310)
Mean(Cumulative raw return)	0.00179	0.00179	0.00179	0.00198	0.00198	0.00198	0.00163	0.00163	0.00163
Elasticity	-0.30298	-0.25648	-0.30115	-0.28447	-0.22924	-0.28747	-0.36265	-0.4261	-0.52322
R^2	0.020	0.022	0.022	0.020	0.022	0.023	0.015	0.016	0.020
Observations	6700	6700	6700	6219	6219	6219	5332	5332	5332

Notes: This table provides cumulative raw returns of the S&P 500 firms around rumour, announcement and completion of acquisition deals. Specifications (1) to (3) focus on rumour date, specifications (4) to (6) focus on announcement date and specifications (7) to (9) focus on completion date of the acquisition deal. The dependent variable is *Cumulative raw return*. Returns are cumulated over days around the acquisition, the event window is [-1;3] with respect to this date. *Acquisition of secrecy haven* indicates whether a firm acquires an affiliate in a secrecy haven country (1) or a non-haven country (0). *Proportion of secrecy havens* indicates whether (1) or not (0) a firm has an above-median exposure to secrecy havens in terms of proportion of firm's affiliates in secrecy havens. *Average secrecy score* indicates whether (1) or not (0) a firm has an above-median exposure to secrecy havens in terms of the average secrecy score of firm's affiliates. *Mean(Cumulative raw return)* is the mean of specification's dependent variable. *Elasticity* is the elasticity of the independent variable of interest with respect to the dependent variable. Table A.1 provides detailed variable definitions. All specifications include firm and industry fixed effects. All specifications are weighted by firm's market capitalization. Standard errors are clustered at the parent level and reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

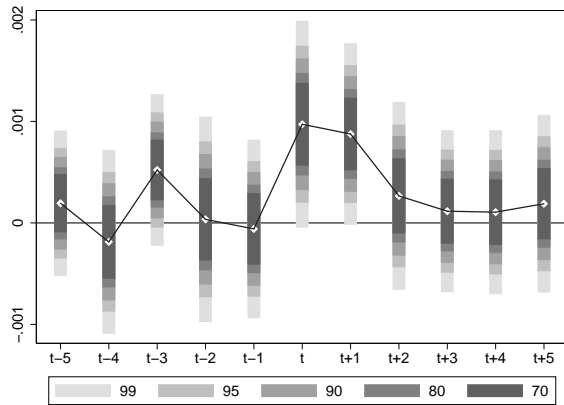
Figure A.1: Lag and lead analysis



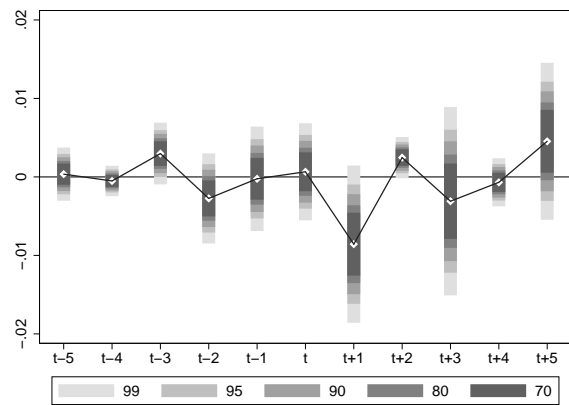
(a) Rumour of non-haven acquisition



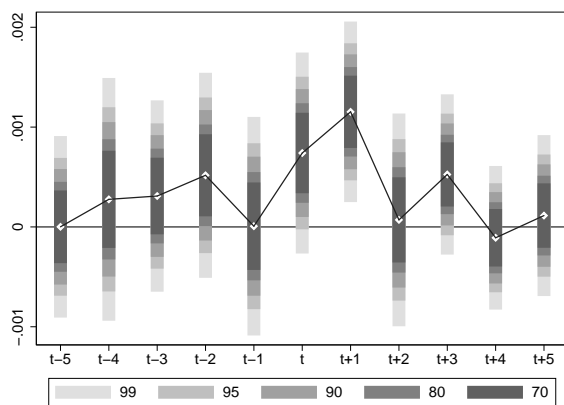
(b) Rumour of secrecy haven acquisition



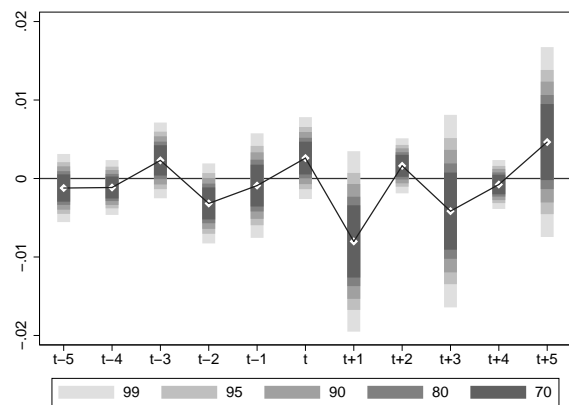
(c) Announcement of non-haven acquisition



(d) Announcement of secrecy haven acquisition



(e) Completion of non-haven acquisition



(f) Completion of secrecy haven acquisition

Notes: The graphs show lag and lead analysis of market reaction to acquisition of either a non-haven or a secrecy haven, controlling for firm's existing exposure to non-havens and secrecy havens. The graphs depict coefficients and confidence intervals from regression of firms' daily returns on acquisition events, controlling for firm and industry fixed effects.

Table A.5: Year-by-year analysis

	(1)	(2)
Acquisition of secrecy haven	-0.01116*** (0.00419)	0.01384 (0.00872)
Acquisition of secrecy haven · Year 2007		-0.02289** (0.01135)
Acquisition of secrecy haven · Year 2008		-0.06183*** (0.01616)
Acquisition of secrecy haven · Year 2009		-0.03043* (0.01582)
Acquisition of secrecy haven · Year 2010		-0.00684 (0.00846)
Acquisition of secrecy haven · Year 2011		0.00728 (0.00675)
Acquisition of secrecy haven · Year 2012		-0.01794 (0.01173)
Acquisition of secrecy haven · Year 2013		-0.02022* (0.01171)
Year 2007		-0.00273 (0.00223)
Year 2008		-0.01278*** (0.00374)
Year 2009		0.00316 (0.00445)
Year 2010		-0.00190 (0.00241)
Year 2011		-0.00132 (0.00311)
Year 2012		0.00394* (0.00214)
Year 2013		0.00136 (0.00269)
Mean(Cumulative raw return)	0.00163	0.00163
Elasticity	-0.36265	-0.36765
R^2	0.015	0.034
Observations	5332	5332

Notes: This table provides the year-by-year analysis of cumulative raw returns of the S&P 500 firms around completion of acquisition deals. The dependent variable is *Cumulative raw return*. Returns are cumulated over days around the acquisition, the event window is [-1;3] with respect to this date. *Acquisition of secrecy haven* indicates whether a firm acquires an affiliate in a secrecy haven country (1) or a non-haven country (0). Year variables are dummies, representing the specific years. The results must be interpreted with respect to the omitted year (2014). *Mean(Cumulative raw return)* is the mean of specification's dependent variable. *Elasticity* is the elasticity of the independent variable of interest with respect to the dependent variable. Table A.1 provides detailed variable definitions. All specifications include firm and industry fixed effects. All specifications are weighted by firm's market capitalization. Standard errors are clustered at the parent level and reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.