THE REPUTATION COSTS OF TAX AVOIDANCE OF FINANCIAL INSTITUTIONS

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RESUMO

This paper empirically investigates whether financial institutions face reputation costs by practicing tax avoidance, especially during the protest period. For this purpose, we use a sample of 20,129 firm-years of U.S. public financial firms obtained from Compustat, Capital IQ, CRSP and I/B/E/S. We use two measures of tax avoidance: GAAP ETR and CASH ETR. As proxies for reputation costs, we employ cumulative abnormal stock return, analysts' recommendations, and credit rating. The results confirm both hypotheses stating that financial institutions have reputation costs when practicing tax avoidance, and during the protest period these costs are higher. The results also show that financial institutions that practice tax avoidance suffer a negative impact of 11.18% in their cumulative abnormal stock return. We also find that tax avoidance negatively affects analysts' recommendations by in 2.5%, and during the protest period this effect is 5.9%. Furthermore, the results of sensitivity testing with quantile regression indicate that a higher level of tax avoidance is associated with higher reputation costs. This paper contributes both to the financial and tax avoidance literature, especially with respect to the reputation costs of tax avoidance for financial institutions. This is one of the first studies to empirically investigate the reputation costs of financial institutions when practicing tax avoidance.

Keywords: Tax Avoidance; Financial Institutions; Reputational Cost; Protest Period.

CUSTOS DE REPUTAÇÃO DA EVASÃO FISCAL DE INSTITUIÇÕES FINANCEIRAS

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RESUMO

Este artigo empiricamente investiga se as instituições financeiras enfrentam custos de reputação pela prática de evasão fiscal, especialmente durante o período de protesto. Por esta razão, utilizou-se uma amostra de 20.129 observações de empresa/anos de firmas financeiras públicas dos E.U.A. obtidas de Compustat, Capital IQ, CRSP e I/B/E/S. Utilizou-se duas medidas de evasão fiscal: GAAP ETR e CASH ETR. Como indicadores para custos de reputação, usamos retorno anormal acumulado das ações, recomendações de analistas, e classificação de crédito. Os resultados confirmam ambas as hipóteses afirmando que as instituições financeiras possuem custos de reputação ao praticarem evasão fiscal, e durante os períodos de protesto, estes custos são mais altos. Os resultados mostram que as instituições financeiras que praticam evasão fiscal sofrem um impacto negativo de 11,18% em seu retorno anormal acumulado das ações. Também descobrimos que a evasão fiscal afeta negativamente as recomendações dos analistas em 2,5%, e durante o período de protesto, este efeito é de 5,9%. Além disso, os resultados do teste de sensibilidade com regressão quantílica indica que um nível mais alto de evasão fiscal está associado com custos de reputação mais altos. Este trabalho contribui tanto com a literatura de evasão financeira quanto fiscal, especialmente no que diz respeito aos custos de reputação de evasão fiscal para instituições financeiras. Este é um dos primeiros estudos a empiricamente investigar os custos de reputação de instituições financeiras ao praticar evasão fiscal.

Palavras-Chave: Evasão Fiscal; Instituições Financeiras; Custo Reputacional; Período de Protesto.

1 INTRODUCTION

In this paper, we empirically verify whether financial institutions have reputation costs when practicing tax avoidance. According to Liu et al. (2023), chief executive officers (CEOs) could use tax avoidance to reduce costs and hence increase profits. However, the reputation of the firm can be harmed. They investigated the firms' engagement in tax avoidance using CEOs' flying hobby measured by the pilot certificate. They found that CEOs with a student, private, or airline transport pilot licenses were more likely to engage in corporate tax avoidance while CEOs with a commercial pilot certificate were less likely to engage in avoidance. We hypothesized that financial institutions incur reputation costs especially from aggressive tax avoidance. Normally, financial institutions are large companies and according to Zimmerman (1983), large firms receive more attention from regulators, which can imply higher reputation costs.

Some studies have investigated the effects of tax avoidance on firms' reputation (Austin & Wilson, 2017; Drake, Lusch, & Stekelberg, 2017; Gallemore, Maydew, & Thornock, 2014), while others have focused in CEOs' reputation (Chyz & Gaertner, 2018; Lanis, Richardson, Liu, & Mcclure, 2019). However, most of them have analyzed this effect in nonfinancial firms. Agyei,

Marfo-Yiadom, Ansong, & Idun (2019) investigated the impact of tax avoidance on banks' reputation in Ghana. Thus, here we contribute both to the banking and the tax avoidance literature by examining whether financial institutions have reputation costs when practicing tax avoidance.

We use a sample of 20,129 firm-year observations of U.S. public financial companies, with data from Compustat, Compustat - Capital IQ, CRSP and I/B/E/S in the period 2000-2018, finding evidence of the existence of reputation costs for financial institutions when practicing tax avoidance and that during the protest period, the level of tax avoidance is greater. This result is obtained by using control variables documented in the literature: R&D, leverage, foreign operations, size, NOL, intangibles, ROA, and market-to-book (M/B).

As the financial crisis that began in the summer of 2007 amply demonstrated, banks differ in several characteristics from nonbanking firms, such as industrial firms. In particular, the structure and composition of banks' balance sheets, their central functions in the economy, as well as their regulatory environment, set them apart from other companies. We provide cautious evidence that banks have significantly higher cash ETRs than nonbanks.

Banks play a crucial role in a country's economy, and taxes on the banking sector can distort banks' decision-making processes (Lobo, 2017). Furthermore, taxes are an expense item that decreases banks' available cash, resulting in less funds that can be invested or lent. Although banks are an integral part of the economy, tax evasion studies generally exclude them from their samples.

This paper contributes to the literature in several ways by focusing on financial institutions. In general, the results improve understanding about financial institutions and tax avoidance. According to Lobo (2017), there are three reasons why it is very important to investigate banks. First, the banking industry is essential to national and global economies. Fields, Fraser & Wilkins (2004) found that in the United States, financial institutions accounted for 20% of the total public equity market. Also, Lobo (2017) highlighted that financial companies have a different governance structure than nonfinancial companies. Moreover, financial institutions operate with higher levels of information asymmetry than other firms, due to their complex transactions and products. Finally, financial institutions are highly regulated and attract more attention from government and society.

We also contribute to the literature on tax avoidance by bringing evidence about the reputation costs of financial institutions when practicing tax avoidance. According to Zimmerman (1983), firm size is generally used as a proxy for firms' political costs. Consequently, large companies have higher reputation costs. Several studies have investigated financial institutions' reputation (Barakat et al., 2019; Baselga-Pascual et al., 2018; Fiordelisi, Soana, & Schwizer, 2013; Lee & Masulis, 2011).

This paper is structured as follows: Section 2 presents the literature review; Section 3 describes the sample and research design; Section 4 presents primary empirical analysis; and Section 5 concludes.

2 LITERATURE REVIEW

In 2002, the Sarbanes-Oxley Act was passed, which required accountability, responsibility, and transparency from publicly traded companies (Engel et al.; 2017). Therefore, we hypothesize that this law also affected the tax avoidance practices of the companies. Many studies have investigated how companies in the financial sector operate. However, there is a gap concerning tax avoidance of banks. Thus, our study helps fill this gap.

2.1 Tax avoidance of financial institutions

In this section we present the factors that motivate our first hypothesis. Many studies have focused on financial institutions. For example, Beatty & Liao (2014) reviewed the empirical literature on the banking industry and described several fundamental unresolved theoretical issues in the financial literature.

Bushman (2014) presented new insights about the literature review performed by Beatty & Liao (2014). In addition, Bushman (2014) contributed by showing the role of financial accounting for the banking sector. His discussion focused on the effect of accounting choices on financial institutions' risk decisions. More recently, Lobo (2017) reviewed the accounting research in the banking sector and identified some unsolved questions in the financial literature. However, none of these studies addressed the reputation costs of financial companies when they practice tax avoidance.

Finally, some studies have analyzed the effect of taxes on financial institutions. For example, Milonas (2018) examined how American banks adjusted their capital structure to the changes in taxation of banks. On the other hand, Gallemore, Gipper, & Maydew (2019) provided new evidence about how banks engage in tax planning. Agyei et al. (2019) analyzed 18 commercial banks in Ghana covering the period from 2010 to 2014. They concluded that the presence of non-executive directors, younger bank age and lower liquidity all increased tax avoidance. In contrast, large banks in their final life cycles have no incentive to practice tax avoidance.

One of the most important aspects in the financial industry is reputation. Banks that have a poor reputation are unlikely to survive. Many studies have investigated banks' reputation. Lee & Masulis (2011) examined whether financial intermediaries participating in the initial public offering (IPO) process play a significant role in restricting earnings management. They examined whether earnings management around IPOs was negatively related to the reputation of investment banks and venture capital firms. They found that stronger reduction of earnings management when more reputable investment banks were combined with more respectable venture capital firms, indicating that the reputation of venture capital firms and investment banks are complementary rather than substitutes.

Recently, Barakat et al. (2019) investigated the relationship between operational risk and reputation of financial institutions from the perspective of media tone. For this purpose, they examined the effects of the reputation of financial institutions by analyzing stocks and debt. They concluded that the effect of reputation in the media is highest when there is no quantifiable public information about operational risk.

Only recently has the topic of tax avoidance of financial institutions been investigated. Thus, there are few studies on this topic, so more research is needed to better understand tax avoidance practices of financial institutions. Hasan et al. (2014) analyzed the effect of tax avoidance on the cost of bank loans. They found a positive relation between tax avoidance and bank loan spreads. In addition, they found that companies with a higher level of tax avoidance had more stringent lending terms and preferred bank loans over government bonds. Finally, they found that tax avoidance practices were perceived by banks as decisions that involve risk.

Expanding this analysis, Moore & Xu (2018) examined whether book-tax differences (BTD) and costs of private debt are related. They found that BTDs and costs of private debt were positively related, and this relation decreased for firms with a high level of tax planning. Consistent with this prediction, Beladi et al. (2018) verified the impact of tax avoidance on bank debt contracts in China. Their results showed a positive relation between tax avoidance and loan default. They used agency theory to analyze this relation.

We examine whether financial companies have reputation costs. Our first hypothesis here is based on the argument that large companies have higher reputation costs when practicing tax avoidance. Hence, financial companies with a higher level of tax avoidance should have a higher reputation cost. We discuss this argument in more detail below. One of the proxies used most for political costs is firm size. Zimmerman (1983) examined the relation between size and effective corporate tax rates. By analyzing the largest American companies listed on the New York Stock Exchange, he found a higher effective tax rate for the larger companies than smaller ones.

Chyz & Gaertner (2018) shed light on this topic by examining the impact of taxes on forced CEO turnover. They found a relation between paying taxes and forced turnover. They concluded that forced CEO turnover is more likely when the company pays more taxes compared to other companies in the same industry.

Lanis et al. (2019) studied the effect of tax avoidance on the board of directors and on the reputation of CEOs. They found that both directors and CEOs improve their reputation when companies practice tax evasion. None of these previous studies looked at the reputational cost of tax avoidance of financial companies. Therefore, this study helps fill this gap in the literature. In recent decades, people have increasingly worried about companies' practices, especially about their social responsibility. Therefore, some studies have investigated the relationship between tax avoidance and social responsibility. For example, Benlemlih et al. (2023) investigated the relationship between corporate social responsibility (CSR) and corporate tax

avoidance and the impact of consumer awareness on the constructs. They found that consumer awareness has the effect of decreasing the positive relation between CSR ratings and tax avoidance levels. Abdelmoula et al. (2022) examined the effect of business ethics and governance score on tax avoidance. They found a negative and significant relationship between business ethics and tax avoidance. In addition, governance was negatively and significantly correlated with tax avoidance.

Our first hypothesis, motivated by the discussion above, is:

H1: Practicing tax avoidance incurs reputation costs of financial institutions.

According to Gallemore et al. (2014), reputation is a multifaceted construct that includes the company, its managers, shareholders, customers and tax authorities. However, Walker (2010) pointed out it is difficult to define a companies' reputation because it varies according to the context. Thus, we follow Gallemore et al. (2014) in this study and use the broader concept of reputation: the general perception of stakeholders about the company.

Some studies have investigated the relation between tax avoidance and stock market performance. For instance, Bilicka et al. (2022) investigated the impact of tax avoidance regulations on the stock market behavior of multinational corporations (MNCs). They found that MNCs affected by the Tax Cuts and Jobs Act (TCJA) have higher stock market returns than unaffected MNCs after the reform. Moreover, they found that firms with lower quality of corporate governance and firms with access to tax haven affiliates.

Following these empirical studies, we chose the variables credit rating, analysts' recommendations, and abnormal stock return as reputation cost proxies to test this hypothesis. Below we present these studies, which have investigated the relation between credit rating and reputation from different perspectives. An & Chan (2008) examined the impact of credit ratings on IPO prices. They concluded that credit ratings are a way of transmitting relevant information to reduce uncertainty about the value of issuing companies. Therefore, the credit rating reduces information asymmetry.

In contrast, Chen, Chiu, & Shevlin (2018) analyzed the relation between analysts' recommendations and tax planning from the perspective of analysts. They found that tax planning is affected by analysts. They pointed out that when there is a shock in the coverage of analysts, it alters the cost-benefit relation of tax planning. Recently, Chen et al. (2019) found that the greater the stock liquidity, the less likely a firm is to engage in aggressive tax avoidance practices, which improves stakeholder monitoring.

2.2 Media coverage of corporate taxes and the protest period

According to the literature, media coverage of firms affects their market value. Tetlock (2007) investigated the role the media plays in the stock market. He concluded that pessimism is a sign of pressure, and that pessimism affects stock prices. In the same direction, Engelberg & Parsons (2011)

analyzed the effect of the media on financial markets. They concluded that local media coverage is a sign of local trading.

The protest period generates greater media coverage, which can imply higher reputation costs. King & Soule (2007) analyzed data on activist protests in the United States covering the period from 1962 to 1990 to examine the impact of protests on abnormal stock returns. They stated that the effect of the protests was greatest when they target critical groups, for example, consumers, by attracting more media attention.

According to Barford & Holt (2013), Google, Amazon, and Starbucks are some examples of companies that received negative media coverage for involvement in tax avoidance. For instance, Starbucks had sales of £ 400 million in the UK in 2012 but did not pay any corporate tax. Likewise, Amazon, which had sales in the UK of £ 3.35 billion in 2011, reported only a tax expense of £1.8 million. All these companies suffered negative reputation effects.

Dhaliwal et al. (2022) investigated the incidence, valuation, and management of tax-related reputational costs during 2011, a year of extensive social protest that temporarily increased scrutiny of corporate tax avoidance. They found tax avoidance to be positively associated with negative media sentiment during the protest period. Moreover, they found that firms experiencing the largest reputational costs during the protest period reported higher tax rates in subsequent years. Therefore, the authors concluded that these costs only occur during periods of unusually high scrutiny, which helps explain prior studies' difficulties in providing large-sample evidence of tax-related reputational costs.

That discontent provoked a global wave of protests that hit the United States in 2011. Initial protests included the "Walkerville" and "Bloombergville" occupations in Wisconsin and New York. These protests set the stage for the Occupy Wall Street (OWS) movement, which carried out occupations in more than 460 U.S. cities and attracted more media coverage than any popular movement since the 1960s. All these arguments motivate our second hypothesis:

H2: During protest periods, financial institutions have higher reputation costs when practicing tax avoidance.

The next section presents and discusses the sample selection and research design used to test the hypotheses.

3 SAMPLE AND RESEARCH DESIGN

3.1 Data and sample selection

The sample consists of 20,129 firm-years of U.S. public financial companies, with merged data from Compustat (financial information), Compustat / Capital IQ (credit ratings), CRSP (stock returns) and I/B/E/S (analysts' recommendations), covering the period 2000-2018. Table 1 reports the sample composition after exclusions and tabulates the distribution of observations by year.

Table 1. Sample selection

Panel A: Sample composition	
Description	**No. of observations**
Full sample	83,958
Firms with Total Assets <$1 million	(348)
Missing GAAP ETR values	(25,858)
Missing CASH ETR values	(33,381)
Missing size values	(173)
Missing values leverage values	(155)
Missing intangibles values	(604)
Missing ROA values	(1,288)
Missing market-to-book values	(2,022)
Final Sample	**20,129**

Source: Survey data.

3.2 Research design

In this paper we empirically analyze if financial institutions have reputation costs when practicing tax avoidance, prompting them to be less tax aggressive. The variables that capture it are abnormal stock returns, analysts' recommendations, and credit rating. Below we discuss each measure.

We capture tax avoidance practices by using two measures. According to the literature, large American companies have higher reputation costs because they receive more attention from society and the IRS. In 2011, a wave of economic protests began involving inequality in the United States. These protests attracted strong media coverage. We test whether in 2011 the financial institutions that were more aggressive tax avoidance practitioners had higher reputation costs. These costs are measured by using three proxies for reputation: cumulative abnormal stock returns, credit ratings and analysts' recommendations.

Following Dyreng, Hanlon, & Maydew (2010), we broadly define tax avoidance to cover anything that reduces a company's taxes in relation to pre-tax accounting revenue. For this, we use two proxies for tax avoidance. The first is GAAP ETR. This measure is defined by dividing deferred current tax expense by pre-tax accounting revenue, adjusted for special items. According to Hanlon & Heitzman (2010), the GAAP ETR is the rate that affects accounting earnings. This measure captures the total expense incurred with taxes, both current and deferred. When the company wants to increase its profitability, it tries to reduce the total tax expense. Therefore, this measure is the total expense per dollar of book income (Hanlon & Heitzman, 2010).

$$\text{GAAP ETR} = \frac{\text{Total income tax expense (TXT)}}{\text{Pre-tax book income PI before special items (SPI)}} \quad (1)$$

The second measure is CASH ETR. This measure is calculated by using the company's cash tax paid based on pre-tax accounting revenue, adjusted for special items. Hanlon & Heitzman (2010) stated that the CASH ETR is affected by tax deferral strategies but is not affected by risks of tax accounting accruals. Thus, this measure captures the amount disbursed by

the company to pay taxes. In summary, this measure represents the cash taxes paid per dollar of book income (Hanlon and Heitzman, 2010).

Hence, by using these two measures we capture tax avoidance from different perspectives.

$$\text{CASH ETR} = \frac{\text{Cash tax paid (TXPD)}}{\text{Pre-tax book income PI before special items (SPI)}} \quad (2)$$

We estimate the following cross-sectional regression and employ control variables used in previous studies, such as leverage, foreign operations, size, intangibles, gross PPE, and market-to-book ratio. To test the first hypothesis (H1), we include in this cross-sectional regression three variables to capture the reputation costs: cumulative abnormal stock returns, credit ratings and analysts' recommendations.

$$\begin{aligned} TaxAvoid_{i,t} = {} & \alpha_0 + \beta_1 REPUTCOST_{i,t} + \beta_2 PROTEST_{i,t} + \beta_3 REPUTCOSTxPROTEST_{i,t} \\ & + \beta_3 R\&D_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 For.Operations_{i,t} + \beta_6 Size_{i,t} \\ & + \beta_7 NOL_{i,t} + \beta_8 Intan_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} MB_{i,t} + \varepsilon_{i,t} \end{aligned}$$

Where TaxAvoidi,t is the tax avoidance measures as presented above; and (1) REPUTCOSTi,t denotes the three different proxies for reputation costs. In the first model, we use cumulative abnormal stock return (AcumStockReturi,t), calculated by using the monthly stock return, value-weighted return and Treasury yields and inflation from the CRSP database. After that, we calculate the cumulative annual return. In the second model, we use credit ratings as a measure for reputation cost (Ratingi,t), based on data from the Compustat / Capital IQ database. Finally, in the third model, we use analysts' recommendations (Recommi,t) for reputation cost, with data from the I/B/E/S database.

Following Dhaliwal et al. (2022), to test our second hypothesis (H2), we include a dummy variable for the year 2011, which is (2) PROTESTi,t. This dummy variable assumes 1 for observations in 2011, and zero otherwise. If financial institutions had higher reputation costs when practicing tax avoidance during the protest period, we expect a positive coefficient of the protest period variable, β2.

(3) R&Di,t denotes research and development expense (XRD) divided by net sales (SALE); when missing, reset to 0; (4) Leveragei,t is defined as the sum of long-term debt (DLTT) and current liabilities (DLC) divided by total assets (TA); (5) For.Operationsi,t is determined when a firm has a non-missing, non-zero value for pre-tax income from foreign operations (PIFO); (6) Sizei,t is the natural log of total assets (TA); (7) NOLi,t is an indicator if the firm has a non-missing value of tax loss carryforwards (TLCF); (8) Intani,t is the ratio of intangible assets (INTANG) to total assets (TA); (9) ROAi,t is operating income before depreciation (OIBDP) scaled by total assets (TA); and (10) MBi,t market value of equity (PRCC_F x CSHO) scaled by book value of equity (CEQ).

We control for firm characteristics as described in the previous literature (Allen et al., 2016; Attig et al., 2013; Barakat et al., 2018; Chen et al., 2019; Chen et al., 2010; Christensen et al., 2016; Chyz & Gaertner, 2018; Dyreng,

Hanlon, & Maydew, 2010; Gallemore et al., 2019; Hasan et al., 2014; Kovermann, 2018; Lanis, Richardson, Liu, & McClure, 2018; Lee & Masulis, 2011; and Milonas, 2018). Continuous variables are winsorized at the 2.5% and 97.5% levels.

4 EMPIRICAL ANALYSIS

Table 2 presents the descriptive statistics for the variables used in the analyses. The mean of GAAP ETR and CASH ETR are very close, 22% and 21% respectively. The mean for Protest is 6%. The average firm had 5% in cumulative stock return during the period from 2000 to 2018. The average for Recom (analysts' recommendations) is 21%. The average firm has Rating of 0.02; R&D of 0.01; and leverage ratio of 0.16; For.Operations equals 0.11; average size is $8.07 million; average NOL is 0.38; Intangible Asset Ratio is 0.06; average ROA is 0.04; and average market-to-book ratio is 1.95.

Table 2. Descriptive statistics

Variables	N	Mean	SD	Min	P25	P50	P75	Max
GAAP ETR	20,129	0.22	0.33	-1.98	-1.62	0.28	0.35	1.18
CASH ETR	20,129	0.21	0.36	-0.93	0.04	0.21	0.33	1.56
Protest	20,129	0.06	0.24	0.00	0.00	0.00	0.00	1.00
Cum. Stock Return	4,797	0.05	0.19	-0.46	-0.01	0.10	0.18	0.30
Recom	20,129	0.21	0.41	0.00	0.00	0.00	0.00	1.00
Rating	20,129	0.02	0.14	0.00	0.00	0.00	0.00	1.00
R&D	20,129	0.01	0.01	0.00	0.00	0.00	0.00	0.04
Leverage	20,129	0.16	0.18	0.00	0.04	0.10	0.20	0.90
For. Operations	20,129	0.11	0.32	0.00	0.00	0.00	0.00	1.00
Size	20,129	8.07	2.69	2.35	6.32	7.52	9.62	14.59
NOL	20,129	0.38	0.48	0.00	0.00	0.00	1.00	1.00
Intang.	20,129	0.06	0.14	0.00	0.00	0.01	0.04	0.71
ROA	20,129	0.04	0.12	-0.20	0.01	0.02	0.05	0.98
MB	20,129	1.95	7.52	0.22	0.88	1.27	1.91	12.86

Source: Survey data.

Table 3 presents our primary results regarding the relation between reputation costs and tax avoidance of financial institutions. We estimate Equation 3 by using ordinary least squares (OLS). Following the literature, we adjust the standard errors for heteroskedasticity, serial and cross-sectional correlation using robust standard errors (Gow, Ormazabal, & Taylor, 2010; Petersen, 2009; Thompson, 2011).

This table shows the existence of reputation costs of financial institutions when practicing tax avoidance. In this OLS regression, we use the Cum. Stock Return variable as a proxy for reputation cost. Protest has a negative coefficient both in the GAAP ETR regression (-0.006) and CASH ETR regression (-0.030), but without statistical significance. Therefore, we did not find evidence that the protest period had a significant effect on tax avoidance. Cum. Stock Return presented a negative coefficient in the two regressions (-0.034) and (-0.118***), but is only significant regarding CASH ETR. Hence, from the CASH ETR perspective, financial firms that practice tax

avoidance suffer a negative impact on their cumulative stock returns of 11.80%.

Table 3. Reputation cost of practicing tax avoidance (cumulative abnormal stock return)

Variables	(1) GAAP ETR	(2) CASH ETR
Protest	-0.006	-0.030
	[-0.342]	[-1.607]
Cum. Stock Return	-0.034	-0.118***
	[-0.938]	[-3.596]
Protest x Cum. Stock	-1.247	2.867
Return	[-1.231]	[0.966]
R&D	-0.020	-1.050**
	[-0.029]	[-2.039]
Leverage	-0.004	0.031
	[-0.105]	[1.163]
For. Operations	0.053***	-0.081***
	[3.076]	[-4.402]
Size	0.008***	0.006***
	[4.470]	[3.539]
NOL	-0.017	0.011
	[-1.415]	[0.802]
Intang.	-0.216***	-0.275***
	[-4.108]	[-4.220]
ROA	0.129	0.125
	[1.446]	[1.349]
MB	-0.001*	-0.002*
	[-1.882]	[-1.849]
Constant	0.173***	0.177***
	[10.020]	[11.156]
Observations	4,797	4,797
Year dummies	Yes	Yes
Firm FE	Yes	Yes
Adjusted R-squared	0.0126	0.0348
R-Squared	0.0148	0.0370

Source: Survey data. Robust t-statistics in brackets ***p<0.01, **p<0.05, *0<0.10

From the standpoint of analysts' recommendations, Table 4 indicates that during the protest period, financial institutions practiced less aggressive tax avoidance and faced higher reputation costs. The Protest variable has a negative and significant coefficient both in the GAAP ETR regression (-0.034***) and CASH ETR regression (-0.017*). Therefore, we find evidence of a negative and significant impact of the protest period on tax avoidance practices. Recom has a negative coefficient in both the GAAP ETR regression and CASH ETR regression, (-0.008) and (-0.025***), but is significant only in the second case. Hence, from the CASH ETR perspective, the engagement of financial firms in tax avoidance affected analysts' recommendations. Moreover, when interacting Protest with Recom (Protest x Recom), we find a negative and significant coefficient in the CASH ETR regression.

Table 4. Reputation cost of practicing tax avoidance (analysts' recommendation)

Variables	(1) GAAP ETR	(2) CASH ETR
Protest	-0.034***	-0.017*
	[-2.752]	[-1.667]
Recom.	-0.008	-0.025***
	[-1.145]	[-3.809]
Protest x Recom.	0.009	-0.059***
	[0.475]	[-3.102]
R&D	-0.385	-0.000
	[-1.626]	[-0.001]
Leverage	-0.043***	-0.083***
	[-2.942]	[-2.669]
For. Operations	-0.008	-0.036***
	[-0.946]	[-4.342]
Size	0.010***	0.010***
	[10.115]	[9.050]
NOL	-0.040***	-0.051***
	[-7.398]	[-8.048]
Intang.	-0.007	-0.020
	[-0.295]	[-0.738]
ROA	0.306***	0.329***
	[3.494]	[3.536]
MB	-0.003***	-0.003***
	[-3.458]	[-3.248]
Constant	0.165***	0.163***
	[20.004]	[18.891]
Observations	20,129	20,129
Year dummies	Yes	Yes
Firm FE	Yes	Yes
Adjusted R-squared	0.0138	0.0169
R-Squared	0.0143	0.0175

Source: Survey data. Robust t-statistics in brackets. ***p<0.01, **p<0.05, *0<0.10

Table 5 presents the reputation costs of tax avoidance by analyzing the recommendation types. From the perspective of CASH ETR, financial institutions that practice tax avoidance receive about 3% fewer buy recommendations (Recom_Buy) and about 2% fewer hold recommendations (Recom_Hold). For the sell recommendation, there is no statistical significance.

Table 5. Reputation cost of practicing tax avoidance (types of recommendation)

Variables	(1) GAAP ETR	(2) CASH ETR
Protest	-0.032***	-0.030***
	[-3.229]	[-3.516]
Recom_Buy	-0.004	-0.030***
	[-0.408]	[-3.373]
Recom_Hold	-0.005	-0.021**
	[-0.710]	[-2.343]
Recom_Sell	-0.075**	-0.052
	[-2.128]	[-1.289]
R&D	-0.388	-0.007
	[-1.639]	[-0.025]
Leverage	-0.043***	-0.082***

	[-2.945]	[-2.627]
For. Operations	-0.008	-0.037***
	[-0.979]	[-4.396]
Size	0.009***	0.010***
	[10.440]	[8.826]
NOL	-0.040***	-0.052***
	[-7.498]	[-8.345]
Intang.	-0.008	-0.026
	[-0.322]	[-0.950]
ROA	0.306***	0.328***
	[3.494]	[3.534]
MB	-0.003***	-0.003***
	[-3.465]	[-3.279]
Constant	0.166***	0.168***
	[20.529]	[19.874]
Observations	20,129	20,129
Year dummies	Yes	Yes
Firm FE	Yes	Yes
Adjusted R-squared	0.0140	0.0164
R-Squared	0.0146	0.0170

Source: Survey data. Robust t-statistics in brackets. ***p<0.01, **p<0.05, *0<0.10

We also analyze the reputation costs of tax avoidance of financial institutions from the perspective of credit rating. Table 6 presents the results.

Table 6. Reputation cost of practicing tax avoidance (credit rating)

Variables	(1) GAAP ETR	(2) CASH ETR
Protest	-0.033***	-0.030***
	[-3.233]	[-3.368]
Rating	-0.007	0.089***
	[-0.543]	[4.576]
Protest x Rating	0.045*	-0.066*
	[1.922]	[-1.683]
R&D	-0.394*	-0.007
	[-1.668]	[-0.024]
Leverage	-0.043***	-0.079**
	[-2.926]	[-2.518]
For. Operations	-0.008	-0.037***
	[-0.940]	[-4.386]
Size	0.009***	0.008***
	[11.339]	[7.725]
NOL	-0.040***	-0.056***
	[-7.678]	[-9.054]
Intang.	-0.011	-0.044
	[-0.434]	[-1.591]
ROA	0.305***	0.329***
	[3.492]	[3.527]
MB	-0.003***	-0.003***
	[-3.479]	[-3.372]
Constant	0.168***	0.180***
	[22.142]	[22.763]
Observations	20,129	20,129
Year dummies	Yes	Yes
Firm FE	Yes	Yes

Adjusted R-squared	0.0138	0.0169
R-Squared	0.0143	0.0175

Source: Survey data. Robust t-statistics in brackets. ***p<0.01, **p<0.05, *0<0.10

Table 7 presents the effect of tax avoidance practices on rating by analyzing the levels of credit rating. The results show a negative and significant coefficient for Investment Rating in the GAAP ETR regression (-0.028**). However, we find a positive and significant coefficient for CASH ETR (0.096***). Additionally, we find positive coefficients both for the GAAP ETR regression (0.143***) and CASH ETR regression (0.021) for Speculative Rating, but it is only statistically significant in the GAAP ETR case.

Table 7. Reputation cost of practicing tax avoidance (types of credit rating)

Variables	(1) GAAP ETR	(2) CASH ETR
Protest	-0.031***	-0.031***
	[-3.156]	[-3.611]
Investment Rating	-0.028**	0.096***
	[-2.238]	[4.650]
Speculative Rating	0.143***	0.021
	[8.106]	[0.682]
R&D	-0.381	-0.013
	[-1.610]	[-0.046]
Leverage	-0.042***	-0.079**
	[-2.903]	[-2.538]
For. Operations	-0.006	-0.037***
	[-0.738]	[-4.472]
Size	0.009***	0.007***
	[11.492]	[7.654]
NOL	-0.041***	-0.055***
	[-7.813]	[-9.016]
Intang.	-0.017	-0.041
	[-0.685]	[-1.473]
ROA	0.305***	0.329***
	[3.494]	[3.526]
MB	-0.003***	-0.003***
	[-3.476]	[-3.373]
Constant	0.167***	0.180***
	[22.011]	[22.796]
Observations	20,129	20,129
Year dummies	Yes	Yes
Firm FE	Yes	Yes
Adjusted R-squared	0.0144	0.0170
R-Squared	0.0149	0.0175

Source: Survey data. Robust t-statistics in brackets. ***p<0.01, **p<0.05, *0<0.10

These results point to the existence of reputation costs for financial institutions when practicing tax avoidance, since costs were higher during the protest period.

4.1 Sensitivity analysis

In this section, we verify the sensitivity of the results by performing quantile and ordinary least squares (OLS) regressions. OLS regression relies on minimizing the least squares of the parameters, while quantile regression involves minimizing the weighted absolute errors. The latter method minimizes the effects of outliers, and when data do not have normal distribution (assumption for regression), it presents better results when estimating the central position of the distribution (Clout, Falta, & Willett, 2015; Koenker, Bassett, & Jan, 2007).

Table 8 presents the quantile regression the results from the perspective of cumulative abnormal stock returns. In quantile 0.10, Cum Stock Return is significant in the CASH ETR regression (0.1123***). In quantile 0.50, the results are mixed: statistical significance in both the GAAP ETR and CASH ETR quantile regressions, but with opposite signs of the coefficients, positive for GAAP ETR (0.0491**) and negative for CASH ETR (-0.0906***). For quantile 0.90, we find a negative and significant coefficient in both regressions, -0.0339** for GAAP ETR and -0.1518*** for CASH ETR. With respect to the Protest variable, we only find a statistically significant result for quantile 0.50 of CASH ETR (0.015**). These results indicate that the more aggressive financial institutions are in tax avoidance, the greater the reputation cost from the perspective of cumulative abnormal stock returns is.

Table 9 presents the results of quantile regression from the standpoint of analysts' recommendations. In quantile 0.10, during the protest period (Protest), financial institutions engaged in less aggressive tax avoidance. We find a negative and significant coefficient for both regressions (-0.0640*** for GAAP ETR and -0.0272** for CASH ETR). In this quantile, financial institutions when practicing tax avoidance receive less optimistic analysts' recommendations (Recom) from the perspective of CASH ETR (-0.0216***). In quantile 0.50, the results show that during the protest period, financial institutions practiced less tax avoidance. We find a negative and significant coefficient for both regressions (-0.0640*** for GAAP ETR and -0.0295*** for CASH ETR). In quantile 0.90, we find a negative coefficient for both regressions (-0.1670* and -0.0295), but only the result for GAAP ETR is significant. Confirming previous results, we find that more aggressive financial institutions receive less optimistic recommendations from analysts in the CASH ETR case.

Finally, Table 10 presents the quantile regression from the perspective of credit rating. We find evidence in all quantile regressions that during the protest period, financial institutions practiced less tax avoidance. Interestingly, the relations between credit rating and the proxies for tax avoidance are positive and significant. In quantile 0.10, in both regressions we find negative and significant coefficients (-0.0584*** for GAAP ETR and -0.0584*** for Protest).

For the Rating variable, we find a positive and significant coefficient for the CASH ETR regression (0.0292**). When interacting Protest and Rating (Protest x Rating), we find a positive and significant coefficient (0.2049*) in the GAAP ETR regression. For the quantile 0.50, we find a negative and significant relation between protest period (Protest) and tax avoidance proxies (-0.0292*** for GAAP ETR and -0.0349*** for CASH ETR). In quantile 0.90, we find negative and significant coefficients in both quantile regressions for the Protest variable; (-0114**) for GAAP ETR and -0.0099 for CASH ETR). With

respect the Rating variable, we find a positive coefficient in both quantile regressions, (0.0075) for GAAP ETR and (0.0798**), we find statistical significance for the CASH ETR. Therefore, regards to Rating, our results are inconclusive.

Table 8. Quantile regression: Reputation cost when practicing tax avoidance (cumulative abnormal stock returns)

	GAAP ETR (1)						CASH ETR (2)					
Variables	**Quantile 0.10**		**Quantile 0.50**		**Quantile 0.90**		**Quantile 0.10**		**Quantile 0.50**		**Quantile 0.90**	
	Coef.	**p-value**	**Coef.**	**p-value**	**Coef.**	**p-value**	**Coef.**	**p-value**	**Coef.**	**p-value**	**Coef.**	**p-value**
Protest	-0.1090	0.101	-0.0034	0.695	-0.0139	0.189	-0.0379	0.731	-0.0442	0.015**	0.0188	0.603
Cum. Stock Return	-0.0300	0.351	0.0491	0.003**	-0.0339	0.015**	0.1123	0.000***	-0.0906	0.001***	-0.1518	0.000***
Protest x Cum. Stock Return	-1.5840	0.634	-1.5898	0.247	-1.1994	0.484	-1.0887	0.808	0.8941	0.656	4.5320	0.084*
R&D	0.2682	0.610	-1.9808	0.024**	-0.4399	0.041**	-1.1473	0.494	-2.5881	0.003**	-2.7265	0.000***
Leverage	-0.0361	0.352	0.0226	0.221	0.0278	0.069*	-0.0208	0.179	0.0003	0.990	0.1632	0.022**
For. Operations	-0.0183	0.586	-0.0230	0.001**	0.0667	0.135	-0.0674	0.000***	-0.0301	0.001***	0.0354	0.003**
Size	0.0228	0.000*	0.0020	0.007*	-0.0108	0.000***	0.0098	0.000***	0.0089	0.000***	-0.0115	0.000***
NOL	-0.0253	0.166	0.0008	0.876	-0.0059	0.474	0.0011	0.827	-0.0696	0.000***	-0.0670	0.000***
Intang.	-0.4268	0.157	-0.0104	0.438	0.0081	0.465	0.0692	0.000***	-0.0759	0.050**	-0.1093	0.000***
ROA	0.0705	0.704	0.3141	0.000***	-0.0716	0.000***	0.0639	0.534	0.5493	0.003**	-0.0369	0.426
MB	-0.0003	0.908	-0.0030	0.000***	-0.0004	0.011**	0.0007	0.564	-0.0044	0.022**	-0.0006	0.067*
No. of observations	4,797						No. of observations	4,797				
0.10 Pseudo R2	0.0206						0.10 Pseudo R2	0.0174				
0.50 Pseudo R2	0.0133						0.50 Pseudo R2	0.0373				
0.90 Pseudo R2	0.0146						0.90 Pseudo R2	0.0394				

Source: Survey data. *** p<0.01, ** p<0.05, * p<0.10 *** p<0.01, ** p<0.05, * p<0.10

Table 9. Quantile regression: Reputation cost of practicing tax avoidance (analysts' recommendations)

	GAAP ETR (1)						CASH ETR (2)					
Variables	**Quantile Coef.**	**0.10 p-value**	**Quantile Coef.**	**0.50 p-value**	**Quantile Coef.**	**0.90 p-value**	**Quantile Coef.**	**0.10 p-value**	**Quantile Coef.**	**0.50 p-value**	**Quantile Coef.**	**0.90 p-value**
Protest	-0.0640	0.000***	-0.0322	0.000***	-0.1670	0.083*	-0.0272	0.005**	-0.0295	0.000***	-0.0009	0.892
Recom	-0.0027	0.569	0.0041	0.128	-0.0131	0.000***	-0.0216	0.001***	-0.0085	0.064*	-0.0286	0.000***
Protest x Recomm	0.0114	0.537	0.0013	0.854	0.0111	0.439	-0.0275	0.022**	-0.0074	0.736	-0.0572	0.000***
R&D	-0.6804	0.254	0.3609	0.269	-0.2347	0.138	-0.3752	0.242	-0.1618	0.535	0.8524	0.000***
Leverage	-0.0896	0.000***	-0.0589	0.000***	0.0325	0.003**	-0.0415	0.001***	-0.1146	0.000***	0.0220	0.398
For. Operations	-0.0376	0.001***	-0.0294	0.000***	0.0065	0.363	0.0039	0.443	-0.0218	0.000***	-0.0301	0.000***
Size	0.0197	0.000***	0.0020	0.000***	-0.0071	0.000***	0.0080	0.000***	0.0112	0.000***	0.0011	0.292
NOL	-0.0486	0.000***	-0.0435	0.000***	-0.0013	0.682	-0.0372	0.000***	-0.0726	0.000***	-0.0609	0.000***
Intang	-0.0480	0.011**	0.0026	0.857	0.0421	0.004**	0.0499	0.000***	0.0207	0.194	-0.0287	0.168
ROA	0.2841	0.019**	0.5161	0.000***	-0.0644	0.000***	0.2074	0.000***	0.5616	0.000***	0.1429	0.035**
MB	-0.0026	0.029**	-0.0044	0.000***	-0.0004	0.000***	-0.0016	0.000***	-0.0042	0.016**	-0.0019	0.001***
No. of observations	20,129						No. of observations		20,129			
0.10 Pseudo R2	0.0179						0.10 Pseudo R2		0.0136			
0.50 Pseudo R2	0.0255						0.50 Pseudo R2		0.0393			
0.90 Pseudo R2	0.0090						0.90 Pseudo R2		0.0096			

Source: Survey data. *** p<0.01, ** p<0.05, * p<0.10 *** p<0.01, ** p<0.05, * p<0.10

Table 10. Quantile regression: Reputation cost when practicing tax avoidance (credit rating)

	GAAP ETR (1)						CASH ETR (2)					
Variables	**Quantile Coef.**	**0.10 p-value**	**Quantile Coef.**	**0.50 p-value**	**Quantile Coef.**	**0.90 p-value**	**Quantile Coef.**	**0.10 p-value**	**Quantile Coef.**	**0.50 p-value**	**Quantile Coef.**	**0.90 p-value**
Protest	-0.0584	0.000***	-0.0292	0.000***	-0.0114	0.034**	-0.0584	0.000***	-0.0349	0.000***	-0.0099	0.506
Rating	-0.0686	0.306	-0.0006	0.949	0.0075	0.232	0.0292	0.010**	0.0246	0.004***	0.0798	0.022**
Protest x Rating	0.2049	0.007*	0.0686	0.083*	-0.0209	0.310	-0.0494	0.391	0.0789	0.367	-0.0537	0.574
R&D	-0.6626	0.147	0.3724	0.186	-0.2907	0.003**	-0.4033	0.402	-0.1658	0.654	0.6713	0.000***
Leverage	-0.0874	0.000***	-0.0536	0.000***	0.0387	0.000***	-0.0366	0.001***	-0.1147	0.000***	0.0387	0.174
For. Operations	-0.0408	0.000***	-0.0297	0.000***	0.0108	0.095*	0.0094	0.103	-0.0212	0.000***	-0.0389	0.000***
Size	0.0202	0.000***	0.0023	0.021**	-0.0080	0.000***	0.0063	0.000***	0.0100	0.000***	-0.0025	0.003***
NOL	-0.0462	0.000***	-0.043	0.000***	-0.0073	0.016**	-0.0465	0.000***	-0.0734	0.000***	-0.0573	0.000***
Intang	-0.0541	0.017**	0.0055	0.555	0.0337	0.010**	0.0416	0.000***	0.0121	0.570	-0.0399	0.035**
ROA	0.2738	0.029**	0.5218	0.000***	-0.0642	0.000***	0.1988	0.000***	0.5643	0.000***	0.0983	0.101
MB	-0.0025	0.021**	-0.0044	0.000***	-0.0005	0.000***	-0.0015	0.008***	-0.0042	0.000***	-0.0017	0.009***
No. of observations	20,129						No. of observations		20,129			
0.10 Pseudo R2	0.0184						0.10 Pseudo R2		0.0126			
0.50 Pseudo R2	0.0254						0.50 Pseudo R2		0.0392			
0.90 Pseudo R2	0.0085						0.90 Pseudo R2		0.0089			

Source: Survey data. *** p<0.01, ** p<0.05, * p<0.10 *** p<0.01, ** p<0.05, * p<0.10

5 CONCLUSIONS

We examined whether there are reputation costs for financial institutions when practicing tax avoidance, especially during the protest period. We used two measures of tax avoidance: GAAP ETR and CASH ETR, and a sample of 20,129 U.S. public firm-years from Compustat, Compustat (Capital IQ), CRSP and I/B/E/S, covering the period from 2000 to 2018. As proxies for reputation cost, we used cumulative abnormal stock returns, analysts' recommendations, and credit ratings.

The results confirmed the first hypothesis, that there are reputation costs for financial companies that practice tax avoidance. They also confirmed the second hypothesis, that during the protest period, financial institutions had higher reputation costs for aggressive tax avoidance.

To validate the empirical results, we performed sensitivity analysis by using quantile regression. From the perspective of cumulative abnormal stock returns, we found that the reputation cost when practicing tax avoidance was different over the quantiles. As the level of tax avoidance increased, so did the negative impact on stock returns. Hence, during the protest period, the reputation cost of tax avoidance was higher. We found the same result when using analysts' recommendations as a proxy for reputation cost. However, when using credit rating as a proxy for reputation cost, we found a positive and significant relation with tax avoidance.

As the financial crisis that began in the summer of 2007 amply demonstrated, banks differ in several characteristics from non-banking firms, such as industrial firms. In particular, the structure and composition of banks' balance sheets, their central functions in the economy, as well as their regulatory environment, set them apart from other companies. We provide cautious evidence that banks have significantly higher cash ETRs than non-banks.

Banks play a crucial role in a country's economy and taxes on the banking sector can distort banks' decision-making processes. Furthermore, taxes are an expense item that decreases banks' available cash, resulting in less funds that can be invested or lent.

Although banks are an integral part of the economy, tax evasion studies generally exclude them from their sample. Studies that exclude banks seem to be particularly concerned about regulatory differences. Implicitly, these studies assume that regulatory supervision and regulatory requirements cause differences in tax avoidance behavior between banks and non-banks.

Our results are aligned with those of studies from recent decades about the reputation costs of tax avoidance, especially because the society is demanding more social responsibility from companies. Therefore, this study is important for regulators and public policymakers because one way to inhibit tax avoidance practices can be by increasing reputation costs. The government can publicize more the cases of companies that were involved in these practices.

These results contribute to the literature in several ways. In general, studies have excluded financial institutions from the samples. Thus, we contribute to a better understanding of financial institutions. Since the last financial crisis, it has been necessary to study how financial companies work more thoroughly. We also contribute to the literature on tax avoidance by bringing evidence about

reputation costs of financial institutions for engaging in tax avoidance. We contribute to the literature by analyzing the reputation costs of tax avoidance during the protest period in the United States. Other studies are necessary to clarify some aspects of reputation costs of financial institutions when practicing tax avoidance.

It is important to mention some limitations of this study. First, the identification strategy tried to present causality between the tax avoidance practices and the reputation costs. However, this is difficult because there are other factors that can affect these costs. Second, there are other proxies for reputation costs that can be used in future studies. Third, this study is one of the few that have analyze the relationship between tax avoidance and reputation costs. Therefore, other studies should be conducted to provide more evidence about this topic. Finally, our sample was composed of American companies. We have not found studies investigating the Brazilian context, leaving another gap in the literature.

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