Bankruptcy Lawyers and Credit Recovery*

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Abstract

I study how bankruptcy law firm advertisements affect credit recovery of households in financial distress. Exploiting the border discontinuity strategy associated with the geographic unit in which local TV advertisements are sold, I empirically uncover bankruptcy filings and credit recovery related to exogenous variations in bankruptcy law firm advertisements. I first document a significant advertising effect on filing rates and show that advertising-induced filers are similar to existing filers. I then find a positive effect of advertisements on credit outcomes including credit score, new homeownership, and foreclosure. I interpret these findings as evidence that lawyers address information frictions in households' assessment of the bankruptcy option.

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1 Introduction

Household financial distress is severe and pervasive. In 2019, around 9 percent of consumers in the US reported some debt in collections, and total delinquent household debt amounted to $670 billion.[1] Despite significant implications of financial distress on households,[2] the debate on intervention approaches remains open. The discussion on curing household financial distress spans across topics such as debt forgiveness and forbearance policies, education in financial literacy and personal finance, as well as creditor regulation (e.g., predatory lending).

Personal bankruptcy represents the most significant debt relief option for households in financial distress,[3] and debt discharged from bankruptcy generates significant positive effects on households' labor, credit, and health (Dobbie & Song 2015, Dobbie, Goldsmith-Pinkham & Yang 2017). Despite substantial benefits from bankruptcy, prior work has documented the missing bankruptcies "puzzle," an observation that the vast majority of households who could financially gain from bankruptcy do not file (White 1998). One potential explanation for this "puzzle" describes how informational frictions are central for households deferring or ignoring the bankruptcy option (Bernstein, Colonnelli, Iverson & Hoffman 2022). However, the existing evidence of information frictions in bankruptcy are survey-based, and there is no academic study on information interventions in bankruptcy that uses real outcomes related to bankruptcy with administrative data.

This paper leverages bankruptcy lawyers, in particular local TV advertisements by bankruptcy law firms, as a laboratory to study how information intervention causally affects personal bankruptcies. Two key features of bankruptcy law firm advertisements offer notable advantages worth a discussion.

[1] Federal Reserve Bank of New York, Quarterly Report on Household Debt and Credit, 2019Q4 (https://www.newyorkfed.org/medialibrary/Interactives/householdcredit/data/pdf/HHDC_2019Q4.pdf).

[2] Prior work has argued that financial distress can adversely affect households' economic behavior (Haushofer & Fehr 2014, Banerjee, Karlan, Trachtman & Udry 2020, Kaur, Mullainathan, Oh & Schilbach 2021) and health (Bridges & Disney 2010, Sweet, Nandi, Adam & McDade 2013, Olafsson 2016).

[3] The median debt relief from bankruptcy discharge in 2013–2019 is around $80,000 according to Federal Judicial Center data.

First, bankruptcy lawyers play a significant role in designing and delivering information to households. No other information source delivers bankruptcy-related information at the scale of bankruptcy law firms. Specifically, bankruptcy law firms (1) raise awareness for bankruptcy with their media outreach and marketing to potential clients, and (2) they offer consultations to explain bankruptcy and its potential value for credit recovery. I argue that by extension, advertising from bankruptcy law firms can be interpreted as an information intervention for households in distress. Therefore, relating households' filing decision and credit recovery to bankruptcy law firm advertisements can be akin to estimating the effect of an information intervention on marginal bankruptcy filers.[4]

Second, an exogenous variation is essential for a causal interpretation of information's effect on bankruptcy, but any real-world information intervention would be theoretically motivated by anticipated household financial distress. I argue that the institutional features of local TV advertisements provide a plausibly exogenous variation in information related to bankruptcy, allowing for identification of its causal impact. Specifically, I exploit the feature of local TV advertisements which requires ads to be sold at the geographic media market unit called Designated Market Areas (DMA). Following Shapiro (2018), I focus on the borders of DMAs, which generally include similar counties (i.e., in terms of observable economic variables) distant from major cities, and I argue that the discontinuity in bankruptcy law firm advertisements is exogenous with respect to economic variables at these borders.

Utilizing these advantages of the local TV advertisement setting, this paper combines credit bureau data with advertisement data and tests whether bankruptcy law firm advertisements causally increase bankruptcy filings. It subsequently examines whether ad-induced filers are better off from filing for bankruptcy by inspecting variables related to their credit health.

[4] Bang, L'Heude, Postlewaite & Sieg (2023) shows that low-skill and minority individuals face higher exposure to local news (and hence local TV advertisements), which strengthens the validity of this setting given that financial distress is more common for these individuals.

I begin by documenting a statistically and economically significant causal impact of bankruptcy law firm local TV advertisements on the bankruptcy filing rate. The estimate suggests a 0.007 percentage point increase in the bankruptcy filing rate (approximately 3 percent of the median) per 1,000 annual local TV ads. This effect is comparable to the effect of a $1,000 rise in debt relief generosity of bankruptcy documented in Indarte (2023). This estimate is robust across time and space, and it is unaffected by controlling for other industries' advertisements. The significance of this effect is the first essential step in identifying the role of information frictions in the household bankruptcy decision.

In order to test whether ad-induced filers are better off from bankruptcy, I first show that exposure to bankruptcy law firms' advertisements does not significantly affect the profile of the average bankruptcy filer. I estimate little-to-no effect of advertising on the average filer's credit and balance sheet variables. Further examination of filer composition shows no difference in Chapter 7 share, successful discharge rate, or *pro se* filing (i.e., self-filing) rate associated with advertisements.

Next, I examine credit recovery associated with exposure to advertisements from bankruptcy law firms. The analysis is performed in two parts. First, I estimate the advertising effect on the average bankruptcy filer's future credit outcomes. These results shed light on how ad-induced marginal filers' credit recovers relative to existing filers. Second, I also construct a counterfactual non-filer group by using observable credit variables to match with bankruptcy filers. Intuitively, augmenting the first analysis with this group allows for approximating the non-bankruptcy path that the ad-induced marginal filer would have followed absent advertisements.

The first analysis shows that Equifax Risk Scores[5] are higher (i.e., better) in the years following bankruptcy for an average filer with more exposure to bankruptcy law firm advertisements. In other words, ad-induced marginal filers exhibit stronger Risk Score

[5]The Equifax Risk Score (Risk Score) is a proprietary credit score that assesses an individual's default risk using factors including payment history, outstanding debt, credit history length, new account openings, and types of credit used (Board of Governors of the Federal Reserve System 2007).

recoveries relative to existing filers. I also examine new homeownership and foreclosure, which are potentially important variables for household welfare. I document that filers with higher exposure to advertisements report higher new homeownership and less foreclosure events in the years following bankruptcy. Assuming that existing filers rationally decide to file, I interpret these results as ad-induced filers receiving sufficient benefits from bankruptcy to justify the cost of filing.

The second analysis shows that matched non-filers' Risk Scores are not significantly affected by advertisements. In other words, ad-induced marginal filers switching out of the non-filer sample does not lead to a deterioration of the non-filer group, indicating that these filers would have performed similarly to existing non-filers had they not filed. I similarly find no advertising effect on new homeownership or foreclosure for the matched non-filers.

I collectively interpret the results on the average filer and the matched non-filers as evidence that credit recovery improves for marginal bankruptcy filers induced by advertisements. Further combining these results with the causal impact of ads on filings, I interpret my findings as concrete empirical evidence for an information friction-driven explanation of the missing bankruptcies "puzzle".

Finally, I offer supportive evidence for this interpretation. First, I investigate the nature of information frictions in bankruptcy by analyzing text data from publicly available client reviews of bankruptcy law firms. By using word lists acknowledging psychological costs and lawyers' roles in intervention, I show that substantial information frictions exist in the form of psychological costs, and that lawyers may help reduce these costs. Second, I provide additional evidence of the informational purpose of bankruptcy law firms' advertisements by manually reviewing websites of bankruptcy law firms. I document that the overwhelming majority of bankruptcy law firms offer significant materials of an informational nature (e.g., radio show, podcast, blog, video series, frequently asked questions page) on their website.

Related Literature. This paper relates to multiple strands of literature. The first is the literature on the drivers of the personal bankruptcy decision. This literature has primarily focused on strategic versus liquidity motives (Fay, Hurst & White 2002, Gross & Souleles 2002, Gross, Notowidigdo & Wang 2014, Mikhed & Scholnick 2016, Indarte 2023).[6] More broadly, this literature has also explored the role of peer effects (Agarwal, Mikhed & Scholnick 2020, Kleiner, Stoffman & Yonker 2021), race and gender (Agarwal, He, Sing & Zhang 2018, Morrison, Pang & Uettwiller 2020), health insurance (Gross & Notowidigdo 2011, Mahoney 2015), and prior experience (Gopalan, Gormley & Kalda 2021).

Second, this paper also relates to the literature on institutional features of personal bankruptcy, which spans policy reforms (Li, White & Zhu 2011, Albanesi & Nosal 2018, Chakrabarti & Pattison 2019, Gross, Kluender, Liu, Notowidigdo & Wang 2021), bankruptcy court judge leniency (Dobbie & Song 2015, Dobbie et al. 2017, Argyle, Indarte, Iverson & Palmer 2023), credit report impact (Dobbie, Goldsmith-Pinkham, Mahoney & Song 2020), bankruptcy trustees (Antill 2020), and geographic variations in filings (Keys, Mahoney & Yang 2022).

Third, this paper relates to studies on advertising and other forms of informational campaigns in consumer finance. Prior works have focused on consumer loans (Bertrand, Karlan, Mullainathan, Shafir & Zinman 2010), mortgages (Gurun, Matvos & Seru 2016, Agarwal & Ambrose 2018), banking (Honka, Hortaçsu & Vitorino 2017), tax benefits (Bhargava & Manoli 2015), and auto insurance (Tsai & Honka 2021).

My paper contributes to the intersection of these literature strands. Specifically, I provide a novel test for information frictions in personal bankruptcy by leveraging the information intervention capacity of bankruptcy law firms. To the best of my knowledge, I offer the first study in the financial economics literature featuring a real-world information intervention experiment related to personal bankruptcy with real outcomes using administrative data.

[6] Notable works on strategic versus liquidity default include Guiso, Sapienza & Zingales (2013), Mayer, Morrison, Piskorski & Gupta (2014), Ganong & Noel (2023).

My paper also relates to the literature studying experts and intermediaries in consumer finance, which includes asset managers (Chen, Goldstein & Jiang 2010, Greenwood & Scharfstein 2013), financial advisers (Gennaioli, Shleifer & Vishny 2015, Egan, Matvos & Seru 2019), and housing market intermediaries (Piskorski, Seru & Witkin 2015, Agarwal, Amromin, Ben-David, Chomsisengphet, Piskorski & Seru 2017, Robles-Garcia 2022), among others. Hunt (2007) studies the credit counseling industry, which may assist distressed households to navigate alternative financial options instead of bankruptcy. This literature is silent on personal bankruptcy lawyers,[7] and I add to this literature by introducing bankruptcy lawyers as understudied but important financial intermediaries.

Finally, my paper discusses the nature of frictions that induce deviations from households' optimal bankruptcy decision, with a particular focus on psychological costs. This mechanism is similar to the frictions illuminated in mortgage refinancing (e.g., Keys, Pope & Pope 2016, Agarwal et al. 2017, Andersen, Campbell, Nielsen & Ramadorai 2020, Agarwal, Amromin, Chomsisengphet, Landvoigt, Piskorski, Seru & Yao 2020) such as inattention. For additional examples of household financial mistakes, see Campbell (2016). My paper adds to this literature by inspecting psychological costs in bankruptcy and their pervasiveness.

Overview. The rest of the paper is organized as follows. Section 2 discusses the institutional background related to personal bankruptcy and local TV advertisements; it also describes the data used in my paper. Section 3 explains my empirical strategy. Section 4 discusses the effect of bankruptcy law firm advertisements on bankruptcy filings, and Section 5 discusses the advertising effect on credit recovery. Section 6 offers supportive evidence for information frictions in the bankruptcy decision and for information intervention by lawyers. Finally, Section 7 concludes.

[7] Legal literature on bankruptcy lawyers includes LoPucki (1989), Braucher, Cohen & Lawless (2012), and Foohey, Lawless, Porter & Thorne (2016). A recent paper by Goyal, Madsen & Wang (2020) studies how prior connections between bankruptcy lawyers and judges can affect corporate bankruptcy cases.

2 Institutional Background and Data

2.1 Personal Bankruptcy

Around 1 million individuals file for personal bankruptcy in the US each year.[8] Personal bankruptcy offers an important *de facto* insurance against excessive debt for households in financial distress. The bankruptcy process differs from other financial instruments in that it is a legal process, not a financial transaction. Bankruptcy courts are units of the US district courts, which implies that the bankruptcy infrastructure is largely governed by federal law (i.e., "the Bankruptcy Code"). However, asset exemption laws are subject to state-level variation. There are two main options for personal bankruptcy: Chapter 7 (liquidation) and Chapter 13 (reorganization). In a Chapter 7 case, any non-exempt assets can be surrendered towards the filer's outstanding debt, and the rest of dischargeable debt is relieved. A typical Chapter 7 case takes about four months according to the Federal Judicial Center (FJC) data. A Chapter 13 case can protect the household's non-exempt assets, but instead requires the debtor must pledge a portion of their future income for three to five years. A failure to make a monthly payment can lead to a dismissal of the case. Most bankruptcy filers choose Chapter 7 (63.4% during the period 2013–2019)[9] but an individual must pass a means test (generally speaking, income below the state median) to qualify for Chapter 7.

The main benefit of filing for bankruptcy is discharging eligible unsecured debt.[10] In addition, filing for bankruptcy immediately triggers "automatic stay", which suspends all debt collection activities including wage garnishment. On the cost side, the first component is the detailed disclosure of the household's finances.[11] Other costs of bankruptcy

[8] Judiciary Data and Analysis Office (JDAO) of the US Courts and the annual BAPCPA report (https://www.uscourts.gov/news/2018/03/07/just-facts-consumer-bankruptcy-filings-2006-2017).

[9] Based on the author's calculation using the FJC data.

[10] Non-dischargeable debt includes student debt, alimony, child support, and unpaid income taxes.

[11] The official bankruptcy filing process requires over 20 forms that amount to around 70 pages of legal and financial information spanning the household's property, debt, income, expenses, contracts, and leases (US Courts, https://www.uscourts.gov/forms/bankruptcy-forms). Additional paperwork is required if a debtor is filing jointly or self-filing, or has an ongoing eviction case.

include possibility of surrendering non-exempt assets, court appearance for the 341 meeting of creditors,[12] court fees of around $300, completing a "debtor education" course, and having the bankruptcy filer flag on the credit report. In summary, net financial benefits of filing for bankruptcy are substantial, but the filing process can be complex, intimidating, and overwhelming.

Another important feature of the bankruptcy infrastructure concerns the court officials (i.e., judges and trustees) who examine the case and potentially issue dismissal. The most common reasons for a case dismissal can be characterized into two types: (1) bankruptcy fraud or (2) compliance or administrative issues (e.g., failure to pay court fees or appear at the 341 meeting, missing forms, incomplete credit counseling education course).

2.2 Bankruptcy Lawyers

An individual can file for bankruptcy *pro se* (i.e., self-file) or with lawyer representation. According to the FJC data, around 91% of personal bankruptcy cases were filed with a lawyer during 2013–2019. Typically, a lawyer is automatically granted admission to practice for the bankruptcy court once they are admitted to practice before the District Court. The main tasks for the lawyer include: consultation, collecting information from the household, preparing the paperwork on their behalf, and representing them in court events. Most lawyers offer related services such as representation in lawsuits from creditors. For 2013–2019, the FJC data report that successful discharge rate with versus without lawyer was 97% and 65% for Chapter 7 cases. For Chapter 13 cases, the corresponding rates were 39% and 2%. Applying the differences in the expected rate of successful discharge rate to the expected financial benefit of a discharge (i.e., the median discharge amount

[12] In the 341 meeting of creditors, the trustee reviews the filer's "conduct, property, liabilities, financial condition, and any other matter that may affect the administration of the case or the debtor's right to discharge" in person. Creditors are allowed to (but not required to) attend the meeting and also ask questions related to the case. The usual meeting lasts around 15 minutes but may last longer at the discretion of the trustee (US Bankruptcy Court, The Northern District of California, https://www.canb.uscourts.gov/faq/general-bankruptcy/what-341a-meeting-creditors).

around $80,000), the expected value of having lawyer representation can be non-trivial.

Bankruptcy lawyers are paid on a per-case basis.[13] In 2012, the average Chapter 7 attorney fee was around $1200 and $2600 for Chapter 13 cases (Lupica 2012). For Chapter 7, the lawyer fee is generally paid upfront whereas fees are paid out in installments over the course of several years for Chapter 13 (thus lawyers face default risk).[14] Fees can vary across regions due to laws as well as demand and supply. For Chapter 13, each court district publishes its "presumptively reasonable" fee which ranged from $1500 in the Ohio Northern District and $5000 in the California Northern District in 2012 (Lupica 2012). If a lawyer charges a fee higher than the presumptively reasonable fee, the judge can request an explanation for the fee charge. Lawyer fees can also be higher with other aspects that complicate the case (e.g., joint filing, unusual assets, ongoing eviction case, repossession, or creditor lawsuit).

With respect to advertising content, Rule 7.1 of the American Bar Association (ABA) Model Rules of Professional Conduct require that lawyers "shall not make a false or misleading communication about [their] services".[15] Rule 7.2 describes in further detail what types of statements are prohibited in lawyer advertisements. These rules may affect the nature and content of advertisements in theory, but without the ability to examine the enforcement (e.g., detection and punishment for violations) of ABA rules, it is difficult to ascertain exactly how much lawyer advertisements are shaped by these rules.

[13] In Appendix A.1, I introduce a theoretical framework illustrating the interaction between lawyers' fee incentives and information frictions in the household bankruptcy decision environment.

[14] Given the fee difference, some argue that lawyers disproportionately nudge their clients toward Chapter 13, especially in a discriminatory fashion (Braucher et al. 2012). In contrast, Morrison et al. (2020) suggest that any apparent "nudge" may not be related to fee incentives but instead is driven by certain filers having a preference for Chapter 13.

[15] https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/.

2.3 Local TV Advertisements

Local TV advertisements represent the overwhelming majority of advertising spending in the bankruptcy lawyer industry.[16] Unlike national TV advertisements, firms purchase advertising airtime from local TV stations at the level of the geographic unit known as the Designated Market Area (DMA). A DMA is a collection of counties centered around a major city, similar to the metro area concept. The DMA classifications were established in 1955 by the marketing research company AC Nielsen, and the classification scheme was mainly related to the broadcast reach for TV stations. Importantly, households within the same DMA receive the same amount of the same local TV advertisements. Regulations prohibit satellite or cable operators from providing broadcast signals from outside household DMA. In 2018, only around 14% of households used over-the-air TV,[17] and this proportion is expected to be much smaller at DMA borders where signals are naturally less reliable. The price for local TV advertising space is affected by volume and type of viewership, and firms can purchase ad space in either the upfront or spot market. More technical details of the local TV advertising market can be found in Shapiro (2018).

2.4 Data Sources

FRBNY Consumer Credit Panel/Equifax (CCP). My paper's first main data source is the panel data on household credit from the FRBNY Consumer Credit Panel/Equifax (CCP). The CCP data report detailed information on household credit for a nationally representative five percent random sample of anonymized individuals with a credit history. The credit information in the CCP include the number of credit accounts, credit balance, delinquency, bankruptcy and foreclosure event, birth year, state/county/zip-code residence, and Risk Score which is derived from the Equifax credit scoring system.

[16] Using Kantar Media data, I calculate that local TV advertising comprise 89% of total advertising spending by bankruptcy law firms in 2013–2019. The rest is spent across other forms of TV (e.g., cable, network), radio, magazines, newspaper, outdoor, and internet.

[17] The Nielsen Local Watch Report, 2019 (https://www.nielsen.com/us/en/insights/report/2019/nielsen-local-watch-report-the-evolving-ota-home/).

Kantar Media AdSpender. The second main data source for my paper is the advertising data from Kantar Media Adspender. The Kantar data record every local TV ad in the top 101 DMAs in the US.[18] It also records the estimated cost of the ad (i.e., advertising expenditure) for each ad. I also aggregate the Kantar data at the county-year-level and merge them with my other two main datasets. The final merged sample covers the period 2013–2019, the years for which the Kantar data are populated for the category of bankruptcy lawyers. I truncate the sample period in 2019 to focus on the period prior to the COVID-19 pandemic. I exclude any US region outside of the 48 contiguous states.

Federal Judicial Center (FJC). I augment the CCP data with the bankruptcy filing data publicly available from the FJC. The FJC data report detailed snapshot information about each bankruptcy case (e.g., Chapter, docket number, circuit, *pro se* status) and its filer (e.g., assets, liabilities, income) for the universe of bankruptcy filings. For each county-year, I aggregate the number of bankruptcy filings, the average of case- and filer-related variables using the FJC data.

Infogroup. For law firm-level analysis of variables beyond advertising, I obtain the list of bankruptcy law firms and their characteristics (e.g., location, sales, year of establishment, number of employees, number of branches) from Infogroup, which constructs an annual database of businesses from yellow pages data. I primarily identify bankruptcy law firms using the SIC codes provided by Infogroup.[19] I further identify bankruptcy law firms by searching for any law firm whose name appears on the list of lawyers or law firms registered on the National Association of Consumer Bankruptcy Attorneys (NACBA) website.[20] I also code any law firm as a bankruptcy law firm if its name appears on the list of advertisers classified as a bankruptcy law firm in the Kantar data.

Google Reviews data. To explore the underlying information frictions of bankruptcy

[18] These 101 DMAs cover 1991 out of 3108 counties in the CCP data and 87% of the US population (based on the author's calculation).

[19] I code a firm as bankruptcy law firm if it reports both SIC codes 7299-53 "Bankruptcy Service" and 8111-03 "Legal Services-Attorneys".

[20] For common names, I also use the information on location (e.g., city, state) to match the law firm.

filers and examine the nature of clients' interactions with lawyers, I also manually collect publicly available client reviews of bankruptcy law firms on Google. Specifically, for each law firm identified in the Infogroup data, I search for the firm using its name and location on Google. For the firms that return a match, I collect all client reviews, each including text description of experience with the firm and a rating for the firm.

County-level economic and demographic profile. Finally, I merge my data with publicly available data including the county-year-level unemployment rate from the Local Area Unemployment Statistics (LAUS) program of the Bureau of Labor Statistics (BLS) and economic variables (e.g., personal income per capita, population) from by the Bureau of Economic Analysis (BEA).

2.5 Summary Statistics

Table 1 reports the summary statistics for the main data sources in my data at various aggregation levels. Panel A presents the individual-level summary statistics using both the FRBNY Consumer Credit Panel/Equifax (CCP) data and the FJC data. The CCP variables are computed for around 177,000 bankruptcy filers in 2013–2016 and additionally for a similar-size sample of randomly selected non-filers. For filers, I focus on the most recent quarter *before* they report bankruptcy. The FJC variables cover a much larger sample of filers (around 3.4 million during the same time period) but these variables are naturally unavailable for non-filers. The panel shows that bankruptcy filers' credit variables are in worse conditions compared to non-filers. Specifically, the average bankruptcy filer has a Risk Score of 548, significantly lower than the non-filers' average 698. The average filer has around $38,000 in current debt and $36,000 in delinquent debt, compared to $78,000 and $4,500 for non-filers, respectively. Both of these variables are right-skewed. Additionally, around 3% of filers report some foreclosure activity; only 0.3% of non-filers report foreclosure. The FJC variables provide further detail on bankruptcy filers' financial profile. It shows that the average filer has around $96,000 in assets and $148,000 in liabilities,

of which most (i.e., around $144,000) are dischargeable. Both monthly income and expenses for the average filer is around $3,000. I also report bankruptcy filer-level summary statistics separately for Chapter 7 filers and Chapter 13 filers in Appendix Table A1.

Panel B reports the county-level summary statistics separately for the 732 counties at DMA borders and 997 non-border counties.[21] It shows that border counties are smaller in terms of population (by around 20%) and lower-income (by around 10%) on average. The average border county also has a higher unemployment rate (5.5%) compared to the average non-border county (5.1%). The 732 border counties form 131 unique DMA border experiments used in my analysis.

Panel C shows that the average DMA airs around 1,600 local TV ads by bankruptcy law firms in a year. The average ad spending per year at the DMA-level is around $125,000. These two variables are right-skewed. The average DMA has a population of around 2.7 million residents.

In Panel D, I report the summary statistics for the 2,716 bankruptcy law firms in the sample. The median firm resembles a local-focused small business office – it has three employees, $590,000 in annual sales, and one branch. Bankruptcy law firms in my sample nonetheless tend to be old; the median firm age is 26 years. The median firm has an average client rating of 4.8 (out of 5) and 12 reviews. Appendix Figure A1 furthermore reports the geographic variation in client ratings of bankruptcy law firms. The distribution is right-skewed for most of the firm-level variables. As an example, the 95% percentile firm with respect to each variable has 18 employees, $3 million annual sales, and 127 client reviews.

[21] In Subsection 3.2, I explain the distinction between border and non-border counties in detail.

3 Empirical Strategy

3.1 Endogeneity in Advertisements

The classic endogeneity concern in the advertising literature describes how firms may choose when, where, and how much they advertise based on anticipated sales. As a result, data may not be able to distinguish whether advertising causes more sales or future sales cause advertising. In this subsection, I provide evidence of such endogeneity.

To understand how advertising correlates with bankruptcy filing trends over time, Figure 1 plots aggregate bankruptcy filings and bankruptcy law firm advertisements. Both series are unfiltered in Panel A and Panel B presents the series filtered using the Hodrick-Prescott filter. The figure illuminates two key patterns. First, the figure shows that bankruptcy filings and advertising exhibit highly correlated seasonality patterns within a calendar year. Second, during the early months of the COVID-19 crisis, bankruptcy law firm advertising rises to an unprecedented level. I interpret this sharp jump as evidence that bankruptcy law firms increased their advertising in anticipation of demand. As the economy faced extreme uncertainty with most people at risk of indefinitely having no work, it is plausible that bankruptcy law firms anticipated a rise in household financial distress and hence additional demand for bankruptcy. However, when bankruptcy filings in fact *fell* to historically low levels (Wang, Yang, Iverson & Kluender 2021) due to the COVID-19 period's unique policy of mass-scale forbearance, bankruptcy law firms responded by cutting back their advertising.

3.2 Identification: DMA Border Discontinuity

To address the endogeneity concern in advertising, my main empirical identification strategy leverages the institutional features of local TV advertisements described in Subsection 2.3. Specifically, I follow Shapiro (2018) and focus on the discontinuity of bankruptcy law firm advertisements at the borders of DMAs. The DMA border disconti-

nuity identification strategy leverages two main empirical facts: (1) the borders of DMAs are generally distant from the central city of the corresponding DMA, and (2) counties tend to be economically and demographically similar across DMA borders.

To visually illustrate DMA borders, Figure 2 presents the map of Georgia with its three major DMAs: Atlanta (red), Macon (blue), and Savannah (green). The darker-shaded counties represent the border counties within these three DMAs. First, the figure shows that border counties are far from the major cities. DMA classifications generally place the major city in the center of the DMA rather than at a border of the DMA.[22] It is plausible that law firms' DMA-level advertising choice would be primarily based on the major city, which features more salient economic activities and larger population. Given the distance from the major city, I conjecture that border counties' underlying economic environment may not exactly reflect the associated major city's environment, and moreover receive less attention from bankruptcy law firms. Table 1 in Subsection 2.5 provides summary statistics that support this claim. The figure also shows that border counties tend to form a narrow corridor area, suggesting a low probability of dramatic variation in economic activities.

In summary, the DMA border discontinuity identification strategy allows for an isolation of a plausibly exogenous variation in bankruptcy law firm advertisements within border counties that appear otherwise similar with respect to local economic environment factors related to bankruptcy filings. The formal identifying assumptions are as follows: (1) bankruptcy law firms' advertisements are determined by the major city – i.e., the populous center with major economic activities – rather than the border of DMAs, and (2) besides bankruptcy law firm advertisements, no other economic variable significantly related to bankruptcy is correlated with DMA borders.

[22] In general, DMAs associated with a coastal major city generally resemble a truncated circle and the main city only borders the ocean.

3.3 Spatial Evidence

Figure 3 visually illustrates how focusing on the borders may help alleviate the endogeneity concern (i.e., the bankruptcy filing environment is different in high-advertisement areas versus low-advertisement areas). Panel A presents the DMA-level advertising expenditure per capita in the Southeastern US,[23] with darker colors denoting higher advertising spending. In Panel B, which reports the DMA-level bankruptcy filing rate in 2013 (the beginning of my sample period), shows significant spatial correlation between advertising and bankruptcy filing rate at the DMA-level, suggesting the presence of endogeneity in advertising exposure at the DMA-level. However, when non-border counties are removed in Panel C, I find that border counties have much more similar rates of bankruptcy filings, denoted by closer proximity in the color intensity. In other words, while counties in each border experiment receive significantly different levels of advertising across the DMA border, the initial bankruptcy filing rate is far more continuous across that same DMA border.

3.4 Covariate Balance

Furthermore, to strengthen the validity claim of the DMA border discontinuity identification strategy, I test for a smooth continuity of economic variables at the borders. Even if local TV advertising levels were exogenous, any significant systematic differences in economic and demographic profiles across these borders would inhibit the causal interpretation of the advertising effect on bankruptcy filing activities. To that end, Table 2 shows the balance of covariates across bankruptcy law firm advertising levels for the border counties. In the first eight columns, it reports the average bankruptcy filing rate, Chapter 7 share, successful discharge rate, *pro se* filing rate, unemployment rate, and income per capita for each of the eight quantiles of advertising. In the final column, Table 2 reports the standard

[23] I focus on the Southeast to allow for enough scope to view across multiple states while keeping the map small enough to view each county. Appendix Figure A2 shows the version of Figure 3 for the 48 contiguous US states and Washington DC.

deviation across all border counties in the sample for each variable. The main takeaway is that these key variables exhibit a smooth pattern across advertising levels for the border counties, supporting the claim that the economic environment generally does not look dramatically different from one side of a DMA border to another.

3.5 Correlation with Other Industries

Across DMA borders, the most obvious discontinuity potentially related to bankruptcy – besides bankruptcy law firm local TV advertisements – is *local TV advertisements of other firms*. While the DMA map is irrelevant for other forms of advertising,[24] any local TV advertising regardless of advertiser's industry is governed at the DMA-level and thus will be discontinuous at DMA borders. To address this concern, I examine the advertising patterns of selected industries potentially influential for households' bankruptcy decision or more broadly financial distress. Specifically, I test whether bankruptcy law firms' local TV advertising is related to advertising by other industries.

Figure 4 shows the correlation between local TV advertising of bankruptcy law firms and other selected industries (medical doctors, investment managers, mortgages, personal injury lawyers, paycheck services, retirement planning service, and auto loans) for the sample period 2013–2019. It shows that bankruptcy law firm advertisements are not significantly associated with advertisements of these other industries across time and space. The coefficient is indistinguishable from zero for all industries, and in fact the coefficient is precisely zero for all industries except for personal injury lawyers.

4 Advertising Effect on Bankruptcy Filings

In this section, I test whether bankruptcy law firm advertisements cause more filings. In order to relate bankruptcy law firm advertisements to credit recovery of bankruptcy

[24] Appendix Table A2 presents the share of advertising spending across forms of advertisement by industry for selected industries.

filers, it is crucial for my study that advertisements meaningfully and significantly affect bankruptcy filings. Without any extensive margin effect, it would not be possible to measure the implied credit recovery trajectory of marginal filers induced to file by ads.

4.1 Econometric Specification

The first key regression in the paper concerns the effect of advertisements on bankruptcy filings. The formal regression equation is written as

$$\text{Bankruptcy}_{bmt} = \alpha_{bt} + \beta\, \text{Ad exposure}_{mt} + \delta X_{bmt} + \varepsilon_{bmt}, \tag{1}$$

where Bankruptcy_{bmt} is the number of bankruptcy filings per 100 residents in a border-unit (i.e., the m DMA side of border b) in year t, and Ad exposure_{mt} is the number of bankruptcy lawyer ads aired in DMA m in year t.[25] X_{bmt} are time-varying economic and demographic controls at the border-unit-level (e.g., unemployment rate, income per capita), and α_{bt} are the crucial border-year fixed effects that account for the effect of any unobservable local economic forces on bankruptcy filings. The coefficient β of *Ad exposure* represents the effect of bankruptcy law firm advertisements on bankruptcy filing rate, my main estimate of interest. I cluster standard errors at the border-level.

4.2 Advertising Effect on Bankruptcy Filings

Baseline effect. Table 3 reports the results from estimating equation (1), with each column incrementally adding fixed effects and control variables. Column (4), which includes border-year fixed effects, and time-varying economic control variables, represents the preferred specification. Importantly, the main estimate of my interest β, which captures the causal impact of lawyer advertising on bankruptcy filings, is statistically significant at the

[25] In alternate specifications, I estimate equation (1) using different combinations of two versions of the outcome variable: (1) bankruptcy filing rate, and (2) log of total bankruptcy filings, as well as two variations of the explanatory variable: (1) bankruptcy law firm ads, and (2) ad spending per capita. The estimated main effect is similar for all alternative specifications.

one percent level. β is furthermore economically significant. In column (4), the coefficient of *Ad exposure* shows that the estimated impact of a 1,000 advertisement campaign (i.e., airing a local TV advertisement 1,000 times in a year) in a border-unit is a 0.007 percentage point increase in that region's bankruptcy filing rate. For the average border-unit, this impact corresponds to an increase from 0.24 filings per capita to around 0.247, or an increase from 1,120 annual filings to around 1,153 (equivalent to a 2.9% increase). In Table A3, I report the same regressions but collapse all counties at the DMA-level (instead of removing non-border counties and collapsing at the border-unit-level) and find evidence of endogeneity bias related to advertising and bankruptcy filings. Specifically, columns (3)-(4) show that bankruptcy filing rate is not statistically related to *Ad exposure* at the DMA-level after accounting for DMA fixed effects.

To assess how reasonable is the estimate of β, I approximate the cost-benefit analysis for bankruptcy law firm advertisements. As stated earlier, β suggests that for 1,000 ads per year, the expected increase in filings is around 3%. Extrapolating this estimate to all counties in the DMA[26] and applying the estimates to the average DMA (i.e., 5,000 filings per year), I estimate that the marginal revenue associated with running one ad is around $240. Given the average cost of around $100 for a bankruptcy law firm local TV ad, this marginal revenue estimate appears plausibly reasonable after accounting for lawyers' other costs associated with advertising (e.g., production costs) and filing a case (e.g., labor costs, administrative costs).

Dynamics. To understand the dynamic impact of bankruptcy law firm advertisements, I also estimate a modified version of equation (1) with lagged variables and present the results in Table 4. Theoretically, an individual may not immediately respond to a bankruptcy law firm ad but file eventually, if they decide to continue weighing their debt relief options. Nevertheless, I do not find evidence of delayed advertising effect. The table shows that bankruptcy filings in year t are only affected by the current year t. In column (4), my

[26]This exercise could generate a different result if the advertising effect is substantially different between border and non-border counties.

preferred specification, the estimated effect of year t advertising is 0.006 and statistically significant. The corresponding figures for years $t-1$ and $t-2$ are statistically insignificant.

Heterogeneity across time. Motivated by the recent emergence of digital advertising and the concurrent diminishing role of TV advertising,[27] I also examine whether the effect of local TV ads changes throughout my sample period. I re-estimate the main specification in two different sub-periods of the sample (2013–2016 versus 2017–2019) and report the results in Table 5. It shows that the two estimates are similar (0.007 and 0.008, respectively), and both estimates are statistically and economically significant. These results suggest that while the amount and composition of the advertising market may have changed during my sample period, the causal impact of local TV ads may not have been significantly affected by this shift.

Heterogeneity across regions. Finally, I examine the effect of ads on bankruptcy filing rate across regions, motivated by the substantial geographic variation in financial distress and bankruptcy trends documented in Keys et al. (2022). Specifically, I divide the DMA borders in my sample into the four US Census Regions[28] and re-estimate equation (1). Table 6 presents the results of these regressions. It shows that the advertising effect varies across regions in the US. Specifically, the Northeastern and Southern DMA borders exhibit the most economically significant ad effect, followed by the Midwest. The estimated ad effect is 0.023 for Northeastern borders, while the corresponding estimate is 0.011 for the South and 0.007 for the Midwest. Ads do not significantly affect bankruptcy filing rate for the DMA borders in the West. The interpretation of this variation could relate to (1) geographic variation in the household attitude toward bankruptcy lawyer ads or (2) validity of the border discontinuity setting across regions. Western states generally feature much larger counties (by geographic area), and therefore the requisite identifying assumptions

[27] Digital advertising (i.e., desktop, mobile, "connected" TV) revenue grew from half of non-digital advertising in 2015 to surpassing non-digital advertising by 2018 according to the Pew Research (https://www.pewresearch.org/journalism/chart/sotnm-digital-and-non-digital-advertising-revenue/).

[28] The 48 contiguous states classified by the US Census Bureau into Northeast, South, Midwest, and West (https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf).

may be more likely to be violated in this region.

4.3 Robustness Tests

I provide robustness tests in this subsection. I start by repeating equation (1) using FJC data instead of CCP data to construct the measure of bankruptcy filing rate. The FJC data report bankruptcy filings and detailed information related to the case for the universe of filings. In contrast, the CCP data provide bankruptcy-related flags as variables for a random 5% sample of individuals with a credit report. The exercise would reveal significant differences if either of the two sources had systematic issues with respect to reporting bankruptcy. Appendix Table A4 reports the results with FJC data, and shows that the key estimates remain consistent. Importantly, the main coefficient of interest β (i.e., the effect of ads on filing rate) is positive and significant. Furthermore, the estimates for control variables as well as R^2 are similar to those reported in Table 3.

Next, I augment equation (1) with local TV advertisements by other industries (medical doctors, investment managers, mortgages, personal injury lawyers, paycheck services, retirement planning service, and auto loans) to directly control for any discontinuity in exposure to other industries' advertisements. Appendix Table A5 presents the estimation results, which shows that the only statistically significant advertisements for bankruptcy filing rate are by bankruptcy law firms. It also shows that the estimate of β is 0.007, unchanged after including advertisements of other industries.

5 Advertising Effect on Credit Recovery

Section 4 shows that the effect of bankruptcy law firm advertisements on filing rates is statistically and economically significant. Specifically, it documents that advertising causally induces more bankruptcy filings. This section leverages this filing rate increase associated with advertisements and (1) examine how advertising affects the average

bankruptcy filer's credit profile in terms of balance sheet and credit variables, and (2) identifies the main object of interest in the paper, credit recovery of bankruptcy filers induced to file by ads.

5.1 Advertising and Filer Characteristics

Filer financial profile. I explore how bankruptcy lawyer ads affect the average bankruptcy filer's financial profile at the time of filing. Panel A of Table 7 focuses on the credit variables from the CCP, with each column reporting the average age,[29] Equifax Risk Score, and "time-to-file"[30] as the outcome variable. I find that there is no statistically significant difference in the average filer characteristic. Panel B examines the effect of exposure to advertising on balance sheet variables. In terms of assets, liabilities, dischargeable debt, income, and expenses, I do not find statistically significant effect of advertisements. I interpret these results as evidence that ad-induced filers are not significantly different from existing filers at the time of filing.

Case characteristics. Next, I estimate the advertisement effect on the composition of bankruptcy cases in terms of Chapter 7 versus Chapter 13, successful discharge rate, and *pro se* filing share. I additionally test whether advertising affects the review period length (i.e., how long it takes for the case to close). These tests are motivated by how these dimensions can potentially illuminate lawyer influence on filers.

Second, a case dismissal could be detrimental to the filer. Consequently, some studies use dismissal as a main case outcome variable of interest (Argyle et al. 2023). In theory, given that the case outcome could be partially driven by lawyer effort (e.g., paperwork issues), higher dismissal rate could potentially reflect lawyers causing harm to households. Third, it is possible that viewing an ad does not cause an individual to file with a lawyer but merely mobilize them to learn about bankruptcy on their own and subsequently self-

[29] Age is defined as year minus the birth year of the consumer.

[30] I define "time-to-file" as the number of months it takes an individual to file for bankruptcy since their first 90 day delinquency event.

file. Lastly, the review period length may reflect lawyer's influence in terms of (1) how efficiently the lawyer prepared a case, or (2) whether the lawyer is matching with a more lenient trustee (Morrison, Pang & Zytnick 2019). Panel C of Table 7 shows that none of the estimates are statistically significant at the five percent level, suggesting that marginal ad-induced filers' cases are unlikely to differ from existing cases with respect to these potential channels of lawyer influence.

5.2 Marginal Filers and Counterfactual Non-filers

Intuitively, the ideal analysis for this paper would compare a marginal filer – i.e., indifferent between filing and not filing – who is induced to file by lawyer advertisements against that same individual's counterfactual path where they do not receive any advertisement and subsequently do not file.

Empirical challenge. There are two main challenges to simulating the experiment described above. First, it is not possible to match TV viewing history with the CCP data. While I can relate bankruptcy filing rate increases to advertisements, I cannot exactly identify which of the filers were induced to file subsequent to viewing the ads (i.e., those who would not have filed absent advertisements). I can better relate advertising to group-level outcomes, for instance attribute any credit recovery difference of bankruptcy filers to the the extensive margin growth in the filer population. Thus I conduct the analyses in this section aggregating individuals at the border-unit-year-level.

The second issue concerns the *counterfactual non-filing path*, which conceptually serves as the ideal notion of a control subject in my study. If an individual files for bankruptcy in the data, by definition I cannot empirically observe this same person's counterfactual outcome as a non-filer.

Construction of counterfactual non-filers. To address the second challenge, I construct a group of counterfactual non-filers by using CCP variables to derive a propensity score for bankruptcy. Intuitively, I identify the individuals in the data who are statisti-

cally most likely to file for bankruptcy based on observable credit variables, yet continues without filing.

The two main variables I leverage to predict bankruptcy filing probability are Risk Score and delinquent debt. Figure 5 plots the statistical relationship between bankruptcy filing rate and Risk Score (Panel A) as well as delinquent debt (Panel B). Panel A shows that almost no individual with Risk Score above 700 file for bankruptcy. Filing becomes dramatically more likely in the Risk Score region below mid-600s. The filing rate peaks for the individuals with a Risk Score around 600. Panel B similarly shows that bankruptcy filings are rare for individuals without delinquent debt, but rises sharply for individuals with $1000 or more in delinquent debt.

The resulting linear probability regression employs Risk Score, delinquent debt balance, and a vector of other CCP variables (number of trade lines by credit product category – credit cards, auto loans, student loans, mortgages, home equity loans, retail trades, consumer finance loans – and each category's corresponding current balance, age, foreclosure flag, mobility flag using county change). The individual-quarter-level regression includes lags of these variables up to three quarters and the interaction effects using these variables, Risk Score, and age. Finally, I also include zip code- and quarter-fixed effects. Using the predicted likelihood of filing for bankruptcy based on the coefficient estimates from this regression, I classify the individuals that rank in the top 1% – *and* does not file in the next quarter – as the counterfactual non-filers. I focus on filers from 2014–2016 to allow for at least 3 years of data post-bankruptcy. This results in 118,492 filers and 485,901 matched non-filers.

Identification of advertising effect on credit recovery. With a group of matched non-filers, I can simultaneously compare the credit recovery differences in the bankruptcy filer groups across DMA borders *and* compare the differences in the non-filer groups between the same two regions. The combined results from these tests would capture the effect of one individual switching from the non-filer group to the filer group; the former test

would show how the this individual's credit recovery compares to the existing group of filers, and the latter would show the effect of this person leaving the group of non-filers in that same region.

Figure 6 illustrates the intuition related to this test. It plots the trajectory of average Risk Score of bankruptcy filers (solid red) overlaid with the corresponding trajectory of matched non-filers (solid blue).[31] The figure clearly shows that filers and matched non-filers experience similar Risk Score patterns in the years leading up to the bankruptcy filing date. Specifically, Risk Score begins to deteriorate slowly before quickly spiraling downward closer to the filing date. However, there is an immediate separation between filers and non-filers at the time of bankruptcy. The filers' Risk Score jumps immediately[32] (approximately to its pre-distress level) before gradually improving in the subsequent years, while the matched non-filers continue their decline in the short-term followed by incremental recovery over the next years. By five years post-bankruptcy, the two groups' average Risk Scores are at similar levels despite tracking significantly different trajectories.

The Risk Score difference between filers and non-filers itself is an interesting object, and the underlying source of these differences (e.g., the effect of debt discharge for filers, debt renegotiation of non-filers) have received considerable attention in the academic literature. How to interpret and compare the path of a bankruptcy filer and non-filer in terms of household welfare and social policy remains an open question of tremendous importance. However, the focus of this paper's empirical exercise is on how these two trajectories are affected by bankruptcy lawyer advertisements. Specifically, the objective of my exercise is to estimate the effect of an individual exiting the non-filer group as a result of advertising, the effect of that same individual entering the filer group, and compare these two effects against each other.

[31] Appendix Figure A3 furthermore decomposes the matched non-filer group into never-filers (never files for bankruptcy during my sample period) versus eventual filers (does not file at the initial moment of high predicted filing probability, but eventually files at a later time).

[32] This increase is related to the immediate effect of debt discharge. See Jagtiani & Li (2015) for a description of credit patterns following bankruptcy.

5.3 Econometric Specification

With the matched non-filer group constructed, the formal credit recovery tests are performed as follows. First, I regress future credit variables of bankruptcy filers averaged at the border-unit-year-level on bankruptcy law firm advertisements. I then repeat the same regressions using the matched non-filers. I estimate the following equation

$$\text{Y}_{bmg,t+h} = \alpha_{b,t} + \beta_{g,t+h}\,\text{Ad exposure}_{m,t} + \delta X_{bm,t} + \varepsilon_{bmg,t}, \tag{2}$$

where $Y_{bmg,t+h}$ represents the average of credit variable Y in year $t+h$ among group g of individuals (i.e., filers or matched non-filers) in border-unit bm (the m DMA side of border b) in year t. I consider the following variables as outcome variables: (1) Risk Score, (2) homeownership, and (3) foreclosure event. Risk Score captures a broad assessment of financial health, homeownership reflects a real economic effect, and foreclosure reflects an adverse credit event to the individual. For the choice of future horizon h, I consider five future years as well as two previous years relative to filing date. The rest of the variables are defined as in equation (1).

5.4 Advertising Effect on Credit Recovery

Risk Score. I focus on Risk Score as a main summary measure for financial health. The Equifax Risk Score considers a wide range of information relevant for credit health such as payment history, outstanding debt, utilization, new account openings, and credit types. Therefore I rely on this measure to reflect the consumer's underlying economic environment, such as how well the consumer is repaying debt (payment history), receiving access to credit (inquiries and new credit), credit constrained (utilization). In addition, credit score has significant implications for cost of credit (Board of Governors of the Federal Reserve System 2007) and credit access (Dobbie et al. 2020). Negative credit information, which is mechanically related to the credit score, can moreover generate material

impact on labor market outcomes (Bos, Breza & Liberman 2018, Herkenhoff, Phillips & Cohen-Cole 2022). As a result, several papers focus on credit score as the main outcome measure to evaluate consumers' financial health (Dobbie et al. 2017, Aneja & Avenancio-León 2020).

Figure 7 presents the results from estimating equation (2) for Risk Score. It shows the estimated coefficients $\beta_{\text{filers,t+h}}$ and $\beta_{\text{non-filers,t+h}}$. Each red circle point estimate denotes the effect of being exposed to 1,000 ads per year by bankruptcy law firms on the average filer's Risk Score h years relative to bankruptcy. Similarly, the blue triangles report the equivalent effects for the matched non-filers relative to the quarter when their predicted filing probability triggers their classification as a matched non-filer. It shows that in regions with more advertising exposure, the average filer has a higher Risk Score consistently in the years following bankruptcy. Importantly, the figure does not show any negative effect of advertising on the matched non-filers, suggesting that the extensive margin change (i.e., the marginal filer switching from non-filer to filer) does not result in any deterioration of the non-filer group.

Filers and Risk Score: Heterogeneity. Figure 8 reports heterogeneous effects of advertising on Risk Score along two dimensions: chapter choice and case outcome.[33] Panel A shows the differential effect of advertising for Chapter 7 filers and Chapter 13 filers. Prior studies have explored the role of lawyers on chapter choice, in particular how lawyers may differentially steer clients from a certain demographic to Chapter 13 which has a significantly higher dismissal rate (Braucher et al. 2012). To this end, I estimate equation (2) separately for Chapter 7 filers and Chapter 13 filers. First, it shows that the positive advertising effect on Risk Score is driven by Chapter 7 filers. Second, it shows the counterpart effect on Chapter 13 filers is statistically insignificant, suggesting that Risk Score recovery of Chapter 13 filers in high ad exposure regions are no different from Chapter 13 filers

[33]While the advertising effect on the *composition* of chapter choice and case outcome is examined in Subsection 5.1, it does not speak to the statistical relationship between advertising and credit recovery of each filer group.

with low exposure. While this result does not speak to whether lawyers excessively steer certain clients to Chapter 13, it does suggest that advertising does not bring new Chapter 13 clients with worse outcomes relative to existing filers. Panel B performs a similar test that separates the sample into filers receiving discharge versus dismissal. Conditional on filing for bankruptcy, receiving discharge is viewed as strictly preferable to dismissal. Several studies document the positive effect of discharge (Dobbie & Song 2015, Dobbie et al. 2017) and in a similar spirit dismissal is used as an outcome variable representing the adverse outcome (Argyle et al. 2023). The figure shows that Risk Score recovery is positively affected by advertising exposure for filers receiving a discharge. For dismissed filers, the ad exposure effect is largely insignificant. Again, while this test does not quantify the negative effect of dismissal relative to discharge, it does suggest dismissed filers in high ad exposure regions are no different than those with low ad exposure.

Homeownership. New homeownership can potentially reflect significant information related household welfare. To this end, Figure 9 estimates equation (2) for new homeownership. Advertising is positively associated with homeownership over time, and the effect is statistically significant. The interpretation of the implied effect at $t + 5$ is as follows: bankruptcy filers exposed to 1,000 more ads are 1 percentage point more likely to be a new homeowner within five years post-bankruptcy. This effect is also economically significant, representing 3.8% of the sample mean 26%.

Foreclosure. I also examine foreclosure to capture adverse economic events to a household. Figure 10 shows that filers in regions with more exposure to advertising report a significantly lower rate of foreclosure. For instance, $\beta_{\text{filers,t+5}}$ corresponds to 0.18 percentage point lower five-year foreclosure rate per 1,000 ads, which equals 14% of the mean foreclosure rate (i.e., 1.3%) in the sample. Meanwhile, there is no statistically significant effect on the matched non-filers, although the point estimates suggest lower foreclosure rates on average.

In summary, the tests in this subsection compare credit recovery outcomes of

advertising-induced bankruptcy filers against those filing without advertising and reveal the following broad patterns. Advertising-induced filers exhibit (1) better Risk Scores, (2) higher homeownership rates, (3) lower rates of foreclosure, and (4) perform similarly to existing filers with dismissed and Chapter 13 cases. Combining these results together, I interpret my findings as evidence that ad-induced filers experience better credit recovery relative to existing filers, i.e., better off from bankruptcy.

6 Supportive Evidence

This paper argues that the main results in Sections 4 and 5 can be interpreted as evidence that (1) significant information frictions exist among bankruptcy candidates, and (2) bankruptcy law firm advertisements provide information intervention which causes households to be better off by filing for bankruptcy. In this section, I provide supportive evidence for this interpretation. Specifically, Subsection 6.1 explores the nature of information frictions in bankruptcy and Subsection 6.2 presents suggestive evidence for the informational nature of bankruptcy law firm advertisements.

6.1 Psychological Costs and Lawyer Intervention

6.1.1 The Bankruptcy Stigma and Psychological Costs

As is the case with many financial decisions, filing for bankruptcy features non-pecuniary psychological costs (White 1998). The significant role of psychological costs on sub-optimal financial decisions are well-documented in other settings, such as the role of inattention and inertia in mortgage refinancing (Andersen et al. 2020, Keys et al. 2016, Agarwal et al. 2017) and the default effect on savings (Beshears, Choi, Laibson & Madrian 2009). Moreover, unlike most products in the financial market (e.g., housing, auto, investment products) or the legal market (e.g., property law, personal injury),

bankruptcy can also be associated with emotional distress and negative stigma.[34] Adding the stigma aspect to the picture, it is plausible that many individuals would be excessively reluctant to pursue bankruptcy.[35]

In theory, these psychological costs could give rise to the bankruptcy candidate population who need information interventions on bankruptcy. Therefore it is important to understand how significant these costs are to support the informational view of bankruptcy law firm advertisements in this paper. In this subsection, I provide evidence for these frictions using novel text data based on client reviews of bankruptcy law firms.

6.1.2 Client Reviews of Bankruptcy Law Firms

For insight into bankruptcy filers' economic situation, I collect public client reviews of bankruptcy law firms on Google Maps. Specifically, I collect 58,335 unique reviews for the 2,716 bankruptcy law firms in the Infogroup data.[36] Many of these reviews describe in detail the client's (1) financial situation and context leading to financial distress, (2) endorsement or criticism of the law firm, and (3) sentiment related to the overall process. I leverage this self-reported text information to uncover how prevalent psychological costs are among bankruptcy filers.

First, I show that words associated with distress and hesitation are common in client reviews. Specifically, I find that 23 percent of client reviews mention some word or phrase denoting distress and hesitation (e.g., "desperate", "low point", "reluctant", "waited too long")[37] I interpret the use of such word as self-reporting experience with psychological costs. This rate jumps to 37 percent for long reviews of 350+ characters (i.e., top quartile by character count).

[34] There may be another significant source of psychological costs related to culture and religion. In line with how culture and religion affect households' attitude toward financial markets and products (e.g., Guiso, Sapienza & Zingales 2006, D'Acunto, Prokopczuk & Weber 2019), there exist examples of religious attitudes concerning the morality of repaying your creditors.

[35] Celhay, Meyer & Mittag (2022) discuss under-utilization of welfare programs, another domain characterized by significant negative stigma.

[36] Appendix Figure A4 shows how the number of Google reviews have grown over the last decade.

[37] Panel A of Table A6 reports all words and phrases used for identifying such reviews.

Next, I find that 33 percent of client reviews include some word or phrase that potentially acknowledges the lawyer's role in reducing information friction or psychological costs. Such words include "alleviated", "comforted", "explained the process", "helped me understand".[38] For long reviews, this rate increases to 48 percent.

The above exercise suggests that the evidence of psychological costs is commonly found in client reviews. To explore the empirical relationship between these word occurrences and clients' rating of the bankruptcy law firm, I follow the approach in Taddy (2013) and employ Multinomial Inverse Regression (MNIR). Intuitively, MNIR estimates the loading of each word on the rating in a multinomial logistic regression. Appendix Table A7 reports the coefficients for selected words that potentially reflect psychological costs from the regression. Given the nature of my outcome variable (i.e., client's rating of the firm in a 1-5 scale), the interpretation of each word's coefficient is straightforward. Specifically, a positive coefficient suggests a positive association between the word's occurrence in a review and the review's corresponding rating. The table shows that all of the selected words report a positive coefficient, suggesting that clients who express some reflection of psychological costs are more likely to assign a better rating for their law firm.

To summarize, the analysis in this subsection suggests two key takeaways. First, within the self-reported client reviews of bankruptcy law firms, a non-trivial share feature a word or phrase that potentially reflects presence of psychological costs in their bankruptcy decision. Second, a non-trivial share of reviews also allude to the role of lawyers in addressing such psychological costs. This interpretation is strengthened by the MNIR exercise, which suggests occurrences of words reflecting psychological costs are positive associated with review ratings.

[38] Panel B of Table A6 reports the rest of words and phrases on the list.

6.2 Information in Bankruptcy Law Firm Advertisements

Since Chamberlin (1933) introduced the framework of informative versus persuasive advertising, much of the advertising literature has focused on empirical tests to distinguish informative advertising from persuasive advertising. In the context of this paper, it is crucial that advertising serves an informational purpose for bankruptcy law firms. Specifically, informational advertising allows for the theoretical possibility that information frictions cause households to deviate from rational bankruptcy choice, which then bankruptcy law firms can address with information intervention. If however advertising were purely for persuasion in this context, there could not exist any theoretical benefits of advertising to households, thus nullifying the central economic tension of this paper.

To that end, I provide suggestive evidence to support the informational interpretation of bankruptcy law firm advertising in this subsection. It is important to note that it does not threaten my analysis if persuasion also significantly drives advertising decisions, as long as persuasion is not the *exclusive* driver and information also plays a role.

One method of assessing the informativeness of advertising content would be to directly view the ad. However, such exercise would be difficult with Kantar data because it only reports at the firm-level, i.e., there is no direct link to an individual advertisement or any reference to the ad content. Given this data limitation, I manually visit the website (if any exists) of bankruptcy law firms to better understand the nature of their online outreach. Specifically, I visit the website of top 50 bankruptcy law firms by ad spending[39] and record how many of them feature some informational content. To be coded as "informational", I look for any effort that publicly provides information about bankruptcy. Examples of content platform include video series, radio show, podcast, blog, and frequently asked questions page. I find that 88% of these firms feature informational content on their website for free.

In the Appendix, I explore alternative drivers of advertising choice. In Appendix Fig-

[39]These top 50 firms' ad spending represents 76% of all ad spending by bankruptcy law firms.

ure A5, I test how advertising spending varies with competition in the local market and show that firms advertise similarly in low-competition markets as in high-competition markets. In Appendix Figure A6, I also present suggestive evidence against significant quality signaling motives behind bankruptcy law firms' advertising choice, using client ratings at the firm-level.

7 Conclusion

In this paper, I study information frictions in personal bankruptcy using an empirical setting novel to the personal bankruptcy literature: bankruptcy law firm advertisements. Specifically, I merge advertisement data with credit bureau data and leverage the borders between media markets to isolate a plausibly exogenous variation in households' exposure to local TV advertisements by bankruptcy law firms.

I first document a statistically and economically significant causal effect of advertisements on bankruptcy filings. I subsequently examine the advertising effect on households' credit recovery in the years following bankruptcy. I show that ad-induced filers exhibit better recovery in Risk Scores, new homeownership, and foreclosure relative to existing filers, suggesting that these individuals are better off from bankruptcy. This result is not driven by any significant difference between ad-induced filers and existing filers in terms of credit and balance sheet variables at the time of filing. I interpret my findings as supportive evidence for households' distorted assessment of the bankruptcy option due to information frictions.

This paper offers the first academic effort in the financial economics literature to document the causal impact of information interventions in personal bankruptcy, the largest debt relief option available to households. The findings in this paper provide policy implications not only related to bankruptcy law firm advertisements, but more broadly the role of information interventions in financial decisions.

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Figure 1: Aggregate Advertising and Bankruptcy Filings over Time

The following figure plots aggregate bankruptcy filings (brown) with aggregate advertisements by bankruptcy law firms (orange) per month. Panel A presents both series unfiltered. In Panel B, both series are filtered using the Hodrick-Prescott filter to account for seasonality patterns. In both panels, the gray dashed line represents 2020 March, when COVID-19 lockdown policies were first announced in the US.
Sources: FJC and Kantar

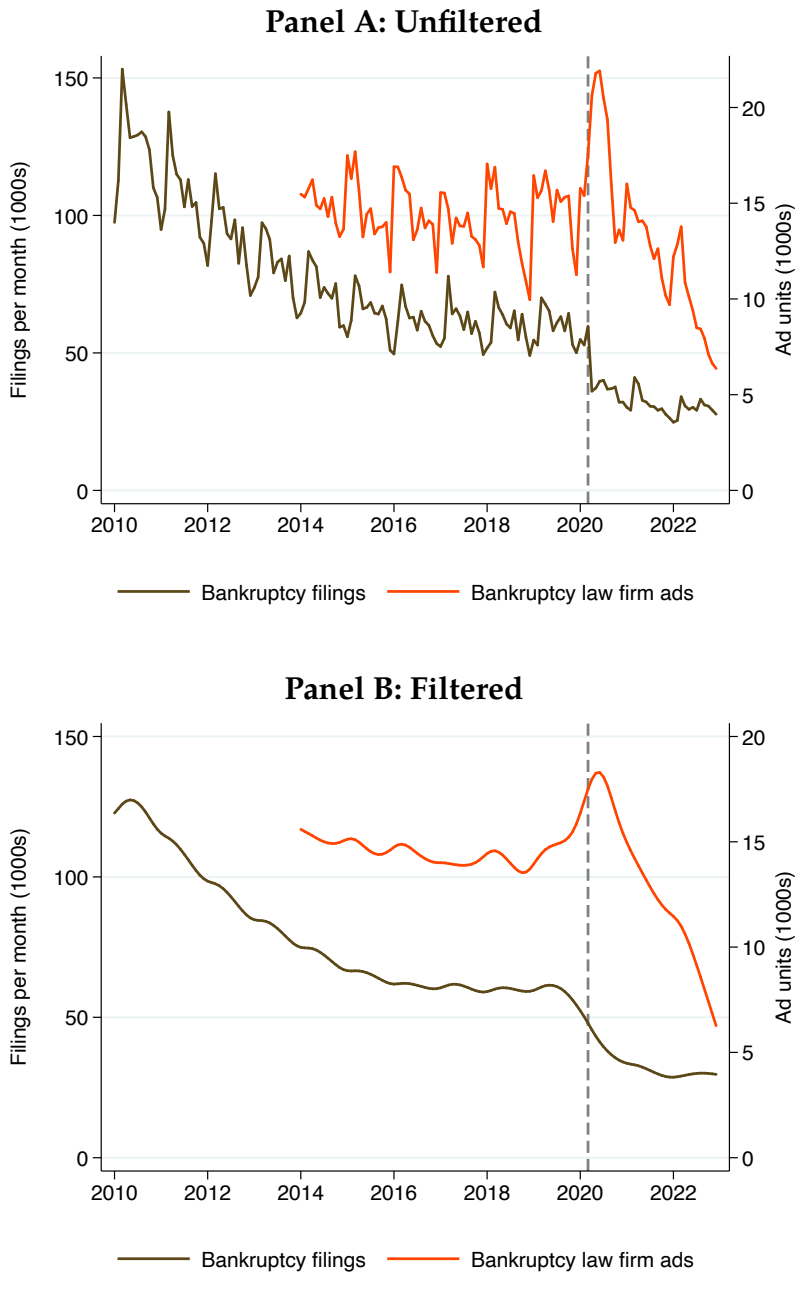


Figure 2: Georgia DMA Borders

The following figure illustrates how the three major Georgia DMAs span across counties. The red counties belong to the Altanta DMA, the blue counties belong to the Macon DMA, and the green counties belong to the Savannah DMA. The border counties are shaded in darker colors. Each major city associated with the DMA is denoted in a circle dot.
Sources: Author's illustration based on DMA maps

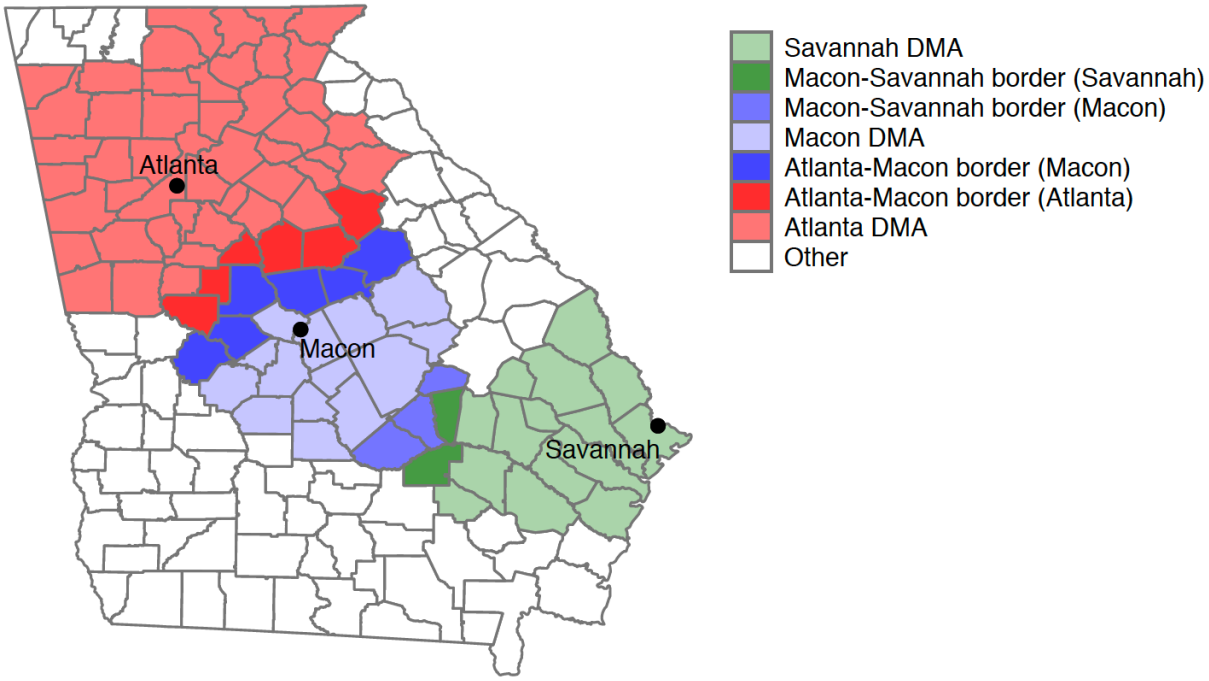
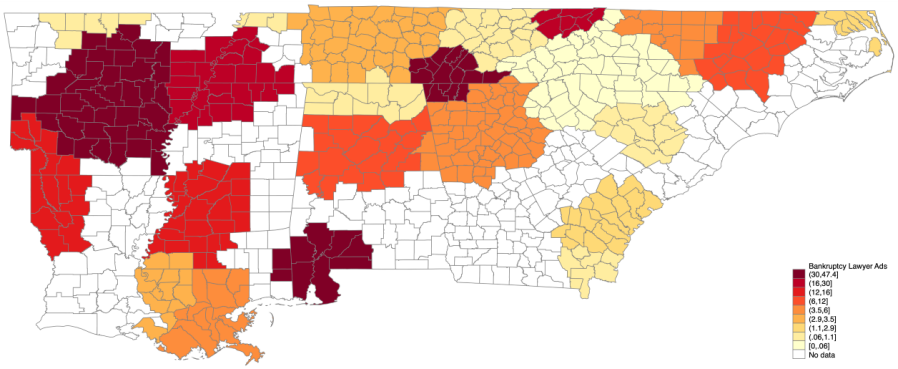


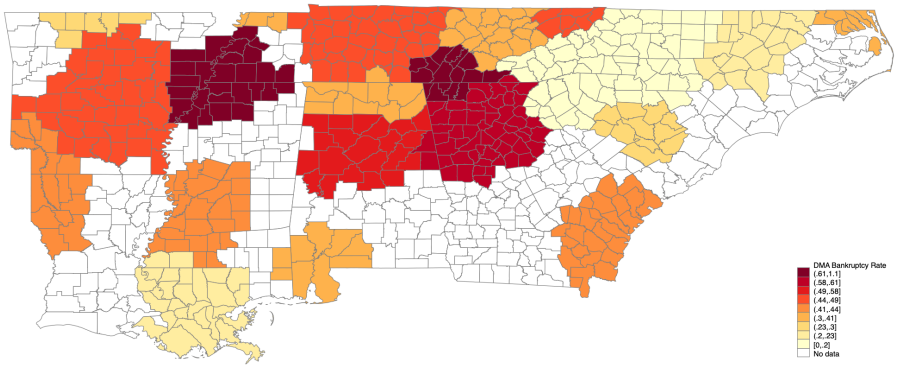
Figure 3: Advertising and Bankruptcy Filing Rate

The following figure illustrates bankruptcy filing rates and bankruptcy lawyer advertisements for the Southeastern US. Panel A shows the average annual DMA-level advertising spending per 100 residents (in dollars), with darker red corresponding to higher spending. Panel B reports the DMA-level average bankruptcy filing rate in 2013 with darker red also corresponding to higher filing rate. Panel C omits the central counties' bankruptcy filing rates and reports the average bankruptcy filing rates for the border counties only.
Sources: FJC and Kantar

Panel A: DMA-level Advertising



Panel B: DMA-level Bankruptcy Filing Rate



Panel C: Bankruptcy Filing Rate at Borders

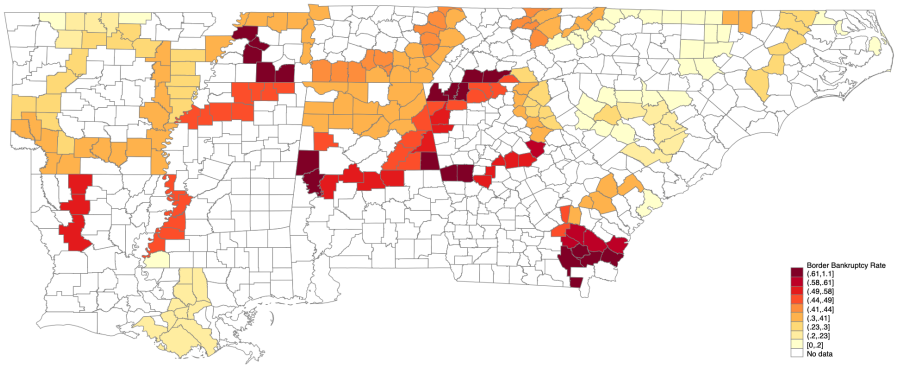


Figure 4: Bankruptcy Lawyer Local TV Advertising versus Other Industries

The following figure illustrates the statistical relationship between advertising by bankruptcy lawyers and other selected industries. The reported coefficients are derived from regressing bankruptcy lawyer advertisements on advertisements by medical doctors, investment managers, mortgages, personal injury lawyers, paycheck services, retirement planning services, and auto loans, aggregated at the DMA-year-level. The bands correspond to the 95% confidence interval. Appendix Table A8 presents the rest of output from the regression.
Sources: Kantar

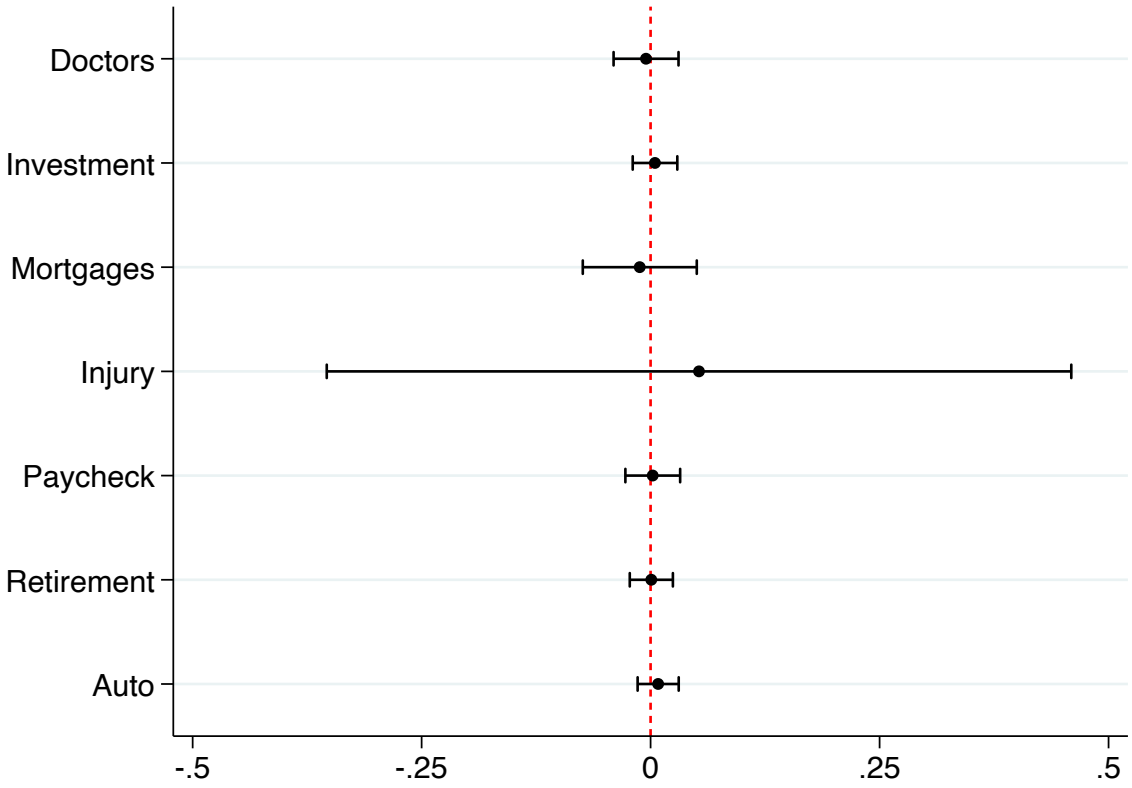


Figure 5: Filing Rate by Risk Score and Delinquent Debt

The following figure illustrates bankruptcy filing rates across Risk Score (Panel A) and the *log*(*delinquent debt* + *1*) (Panel B). For each panel, households are sorted into bins according to the X-axis variable, and each bin's corresponding dot reports the quarterly filing rate for the associated households.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP)

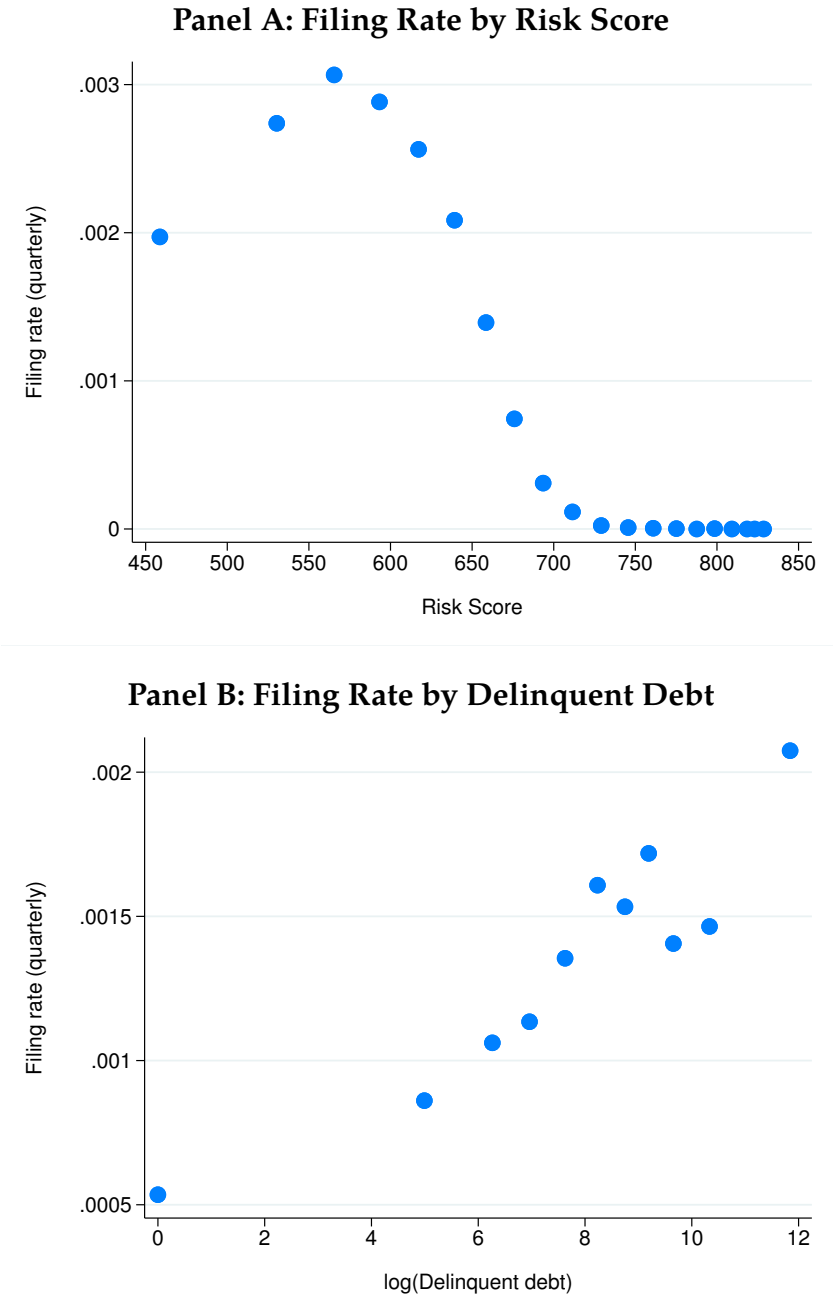


Figure 6: Risk Score Distress and Recovery Trajectory

The following figure illustrates the average Risk Score trajectory for bankruptcy filers (red) and their matched non-filers (blue). The X-axis denotes the year relative to the bankruptcy filing quarter.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP) and Kantar

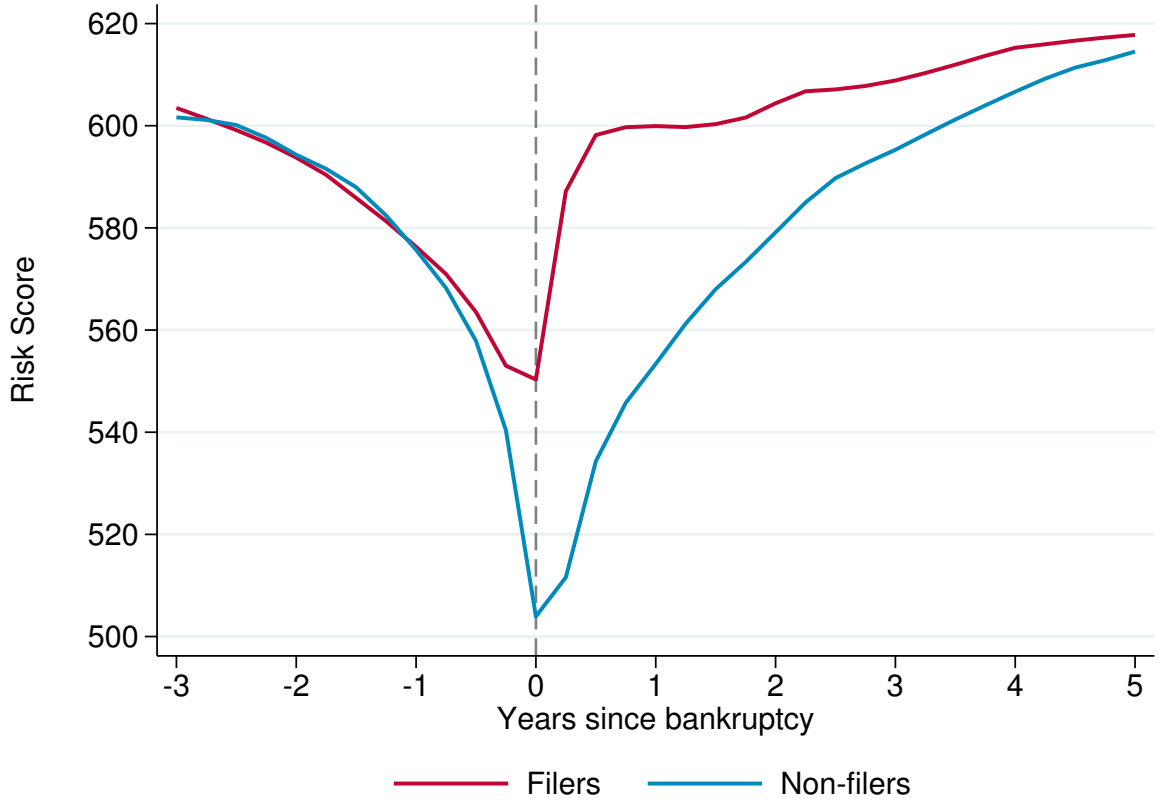


Figure 7: Advertising Effect on Risk Score

The following figure illustrates the effect of advertising exposure on Risk Score change. The red dots report the effect of 1,000 ads per year on the average filer's Risk Score change t years from bankruptcy. Observations are aggregated at the border-unit-year-level. Similarly, the blue triangles report the corresponding effect on the matched non-filers. The bands denote the 90% confidence interval. Appendix Table A9 presents the rest of output from the regression.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

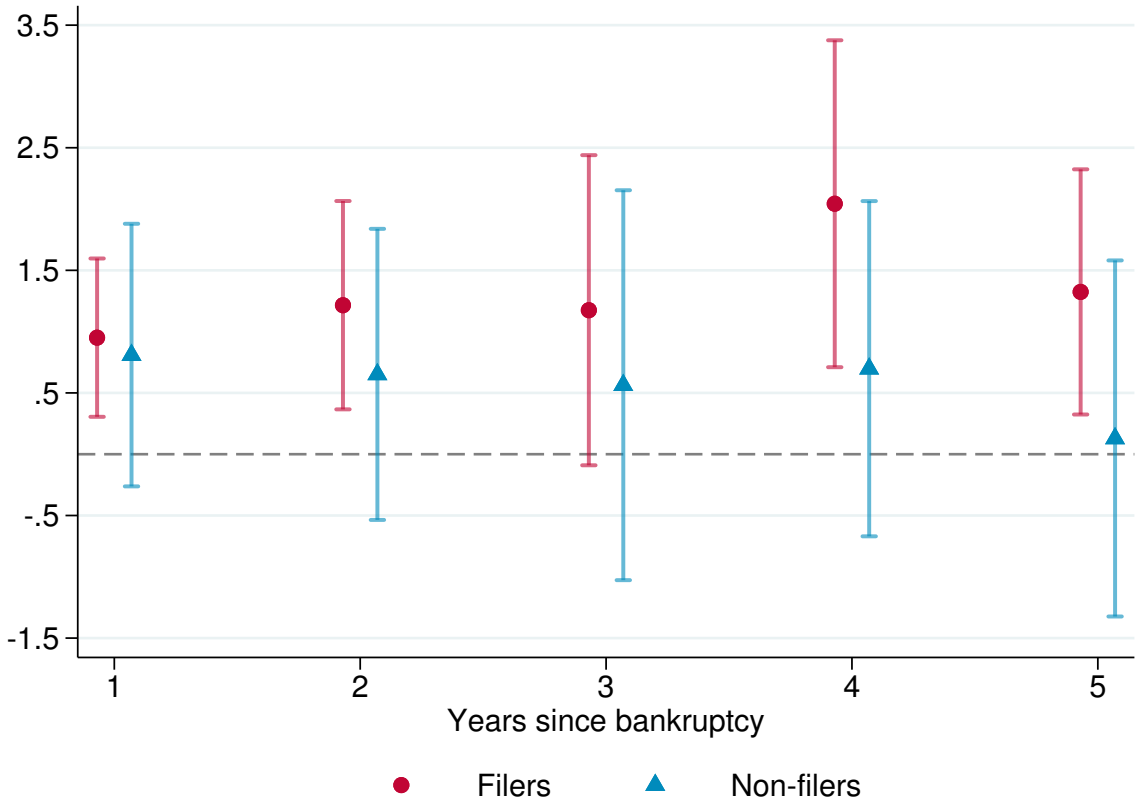
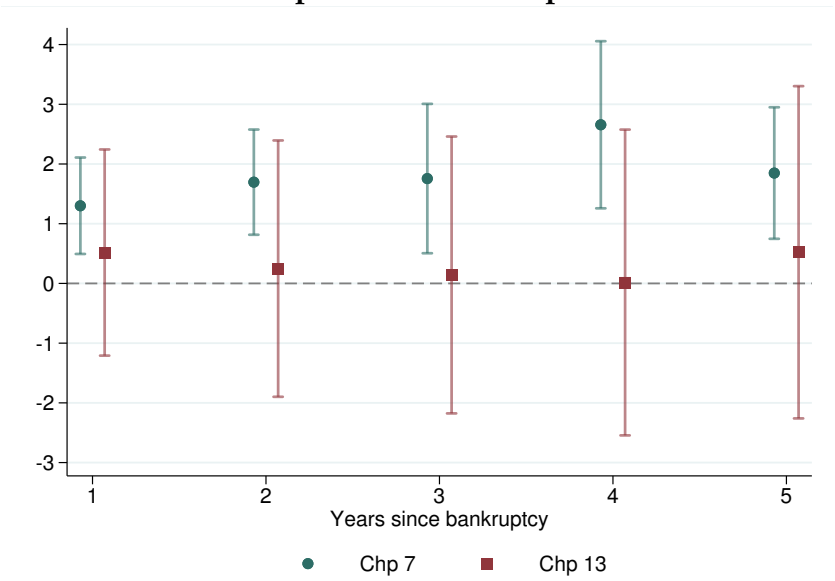


Figure 8: Advertising Effect on Risk Score: Heterogeneity

The following figure illustrates the heterogeneity in the advertising effect on filers' Risk Score. Panel A separates the filer sample into Chapter 7 filers (green circle) and Chapter 13 filers (brown square), and Panel B separates the filer sample by case outcome, discharge (green circle) and dismissal (brown square). In both panels, the Y-axis denotes the estimated coefficient and the X-axis denotes the year relative to the filing date.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

Panel A: Chapter 7 versus Chapter 13 Cases



Panel B: Discharged versus Dismissed Cases

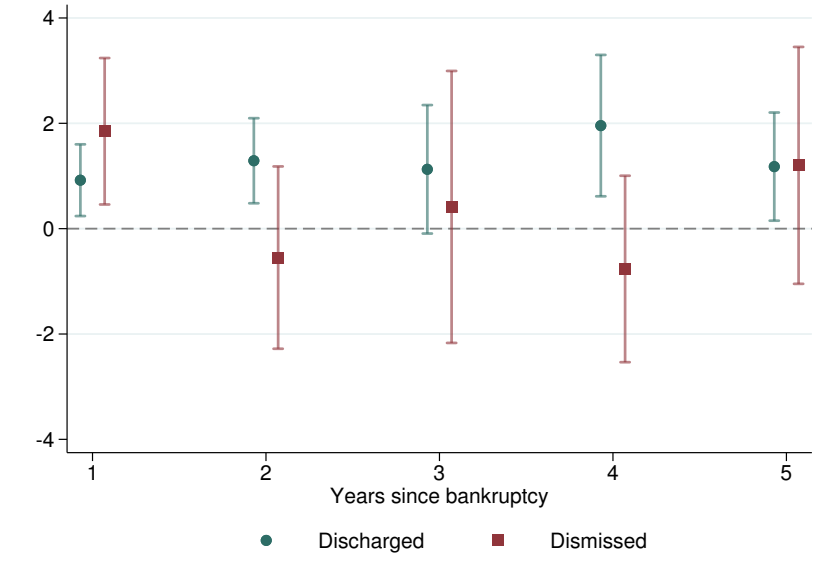


Figure 9: Advertising Effect on New Homeownership

The following figure illustrates the effect of advertising exposure on new homeownership. New homeownership is defined as having a mortgage, home equity installment, or home equity revolving loan and having no such credit product in the prior quarter. The red dots report the effect of 1,000 ads per year on the filers t years from bankruptcy, and the blue triangle denotes the corresponding effect on the matched non-filers. Observations are aggregated at the border-unit-year-level. The bands denote the 90% confidence interval. Appendix Table A10 presents the rest of output from the regression.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

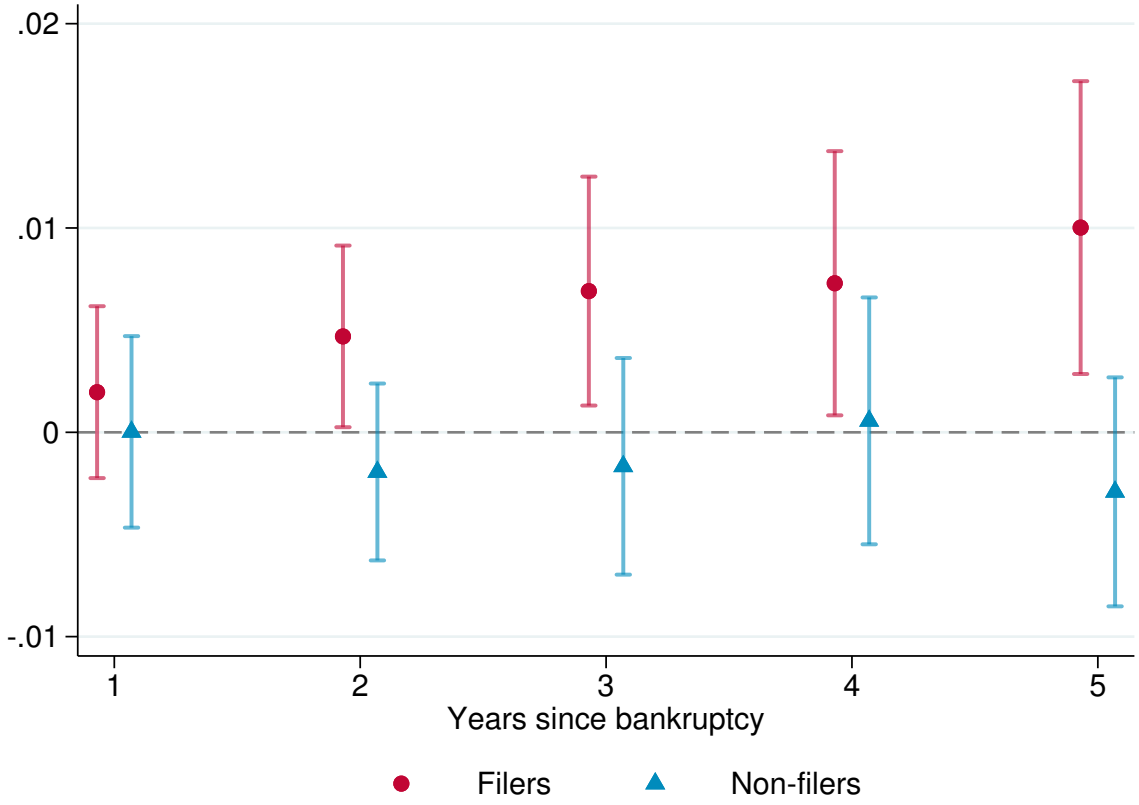


Figure 10: Advertising Effect on Foreclosure

The following figure illustrates the effect of advertising exposure on foreclosure rate. Foreclosure rate is defined as the share of individuals in the border-unit with the foreclosure flag. The red dots report the effect of 1,000 ads per year on the filers t years from bankruptcy, and the blue triangle denotes the corresponding effect on the matched non-filers. Observations are aggregated at the border-unit-year-level. The bands denote the 90% confidence interval. Appendix Table A11 presents the rest of output from the regression.

Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

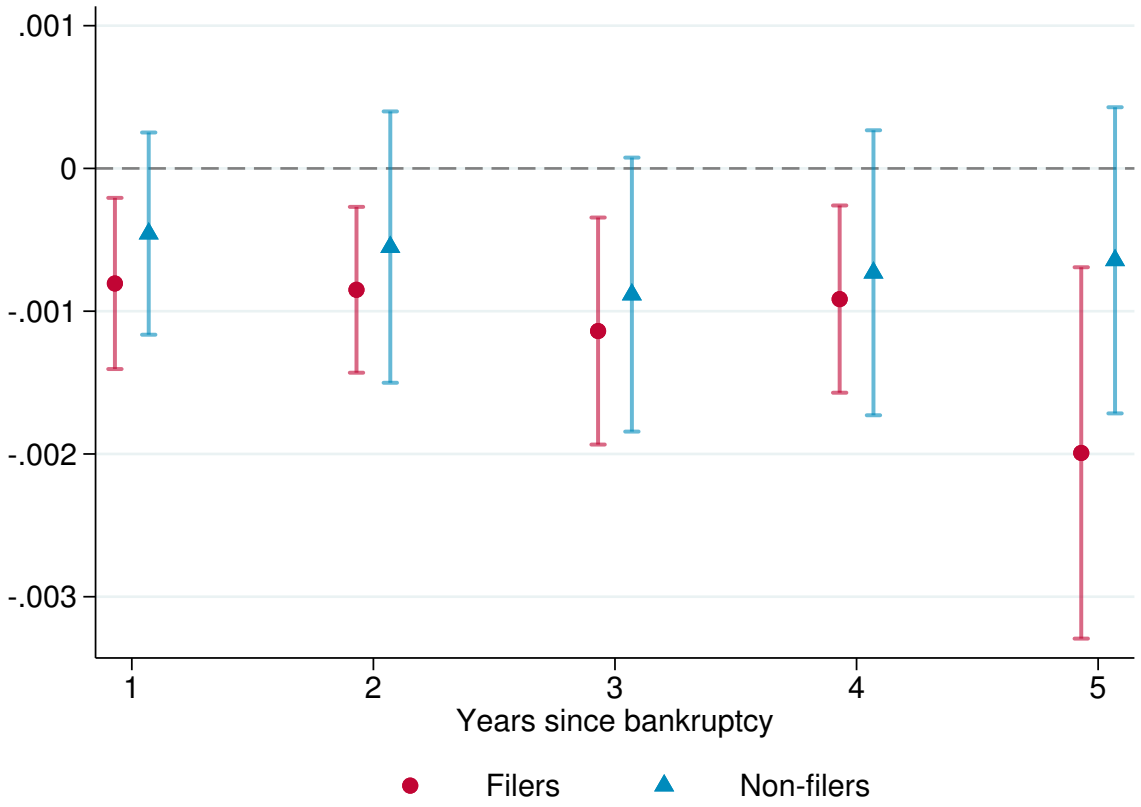


Table 1: Summary Statistics

The following table reports the summary statistics for my data. The sample period covers 2013–2016 for Panel A, 2013–2019 for Panels B and C, and 2019 for Panel D. The "rest of sample" population in Panel A is defined as a random sample of similar size to filers from the non-filer population. The dollar variables in Panel A are reported in thousands. For the FJC variables in Panel A, I exclude the top 0.1% of filers by each variable.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), FJC, BLS, BEA, Kantar, Infogroup, and Google Reviews

Panel A: Individual-level

	Bankruptcy filers				Rest of sample			
	N	Mean	St Dev	P50	N	Mean	St Dev	P50
CCP variables:								
Risk Score	174,766	550	92	551	170,060	698	102	715
Age	177,194	47	13	46	191,280	51	20	50
N. trades	174,272	6.4	5.1	5.0	171,511	4.5	4.2	3.5
Current debt ($)	163,889	57.9	104.1	16.5	151,026	77.9	153.6	16.4
Delinquent debt ($)	163,890	47.7	118.5	8.0	151,028	4.5	31.3	0.0
Has mortgage	174,272	0.41	0.49	0.00	171,511	0.35	0.48	0.00
Foreclosure	175,743	0.03	0.18	0.00	175,190	0.00	0.06	0.00
FJC variables:								
Total assets ($)	3,353,405	96.73	157.32	29.97	-	-	-	-
Total liabilities ($)	3,353,405	148.04	220.18	84.17	-	-	-	-
Dischargeable debt ($)	3,103,815	143.72	215.93	78.13	-	-	-	-
Avg monthly income ($)	3,174,574	2.99	1.91	2.63	-	-	-	-
Avg monthly expenses ($)	3,172,547	2.92	1.75	2.60	-	-	-	-

Panel B: County-level

	Border counties				Non-border counties			
	N	Mean	St Dev	P50	N	Mean	St Dev	P50
Bankruptcy filings per 100	713	0.28	0.16	0.26	958	0.30	0.17	0.27
Population (1000s)	724	131.17	352.23	35.47	987	165.21	477.85	37.12
Unemployment rate (%)	732	5.47	1.47	5.37	997	5.08	1.60	4.84
Income per capita ($1000s)	724	40.22	10.37	37.75	987	43.62	12.27	41.48

Panel C: DMA-level

	N	Mean	St Dev	P5	P25	P50	P75	P95
Population (1000s)	100	2749	3158	743	1078	1755	3187	7604
N. Ads	100	1599	2696	0	68	524	1991	6761
Ad spending ($1000s)	100	124.73	292.28	0.00	6.76	36.24	121.91	449.07

Panel D: Law Firm-level

	N	Mean	St Dev	P5	P25	P50	P75	P95
Employees	2716	6.57	23.88	1.00	2.00	3.00	5.00	18.00
Sales ($1000s)	2716	1110	4546	141	357	590	974	2983
N. branches	2716	1.66	2.01	1.00	1.00	1.00	2.00	4.00
Age	815	29.68	23.34	4.00	13.00	26.00	39.00	73.00
Rating	2716	4.47	0.74	3.00	4.30	4.80	5.00	5.00
Review count	2716	31.70	63.35	1.00	4.00	12.00	32.00	127.00

Table 2: Balance of Covariates

The following table reports the average of variables related to personal bankruptcy across eight quantiles of bankruptcy lawyer advertising spending at the border-unit-year-level. The rate and share variables are expressed in percentage points, and *Income per capita* is expressed in dollars. The final column shows the standard deviation for the corresponding variable across all observations in the sample.
Sources: FJC, BLS, BEA, and Kantar

	Quantile of bankruptcy law firm advertising								
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	St. Dev.
Filing rate	0.16	0.21	0.20	0.24	0.25	0.26	0.26	0.28	0.12
Chapter 7 share	69.87	73.25	69.49	62.72	71.36	72.07	75.02	67.29	15.84
Discharge rate	74.12	78.45	74.93	72.92	78.28	78.18	78.66	72.16	11.37
Pro Se rate	11.42	4.05	5.77	4.76	4.81	4.17	7.70	8.39	11.81
Unemployment rate	6.17	5.23	5.19	5.03	5.89	4.99	5.82	6.21	1.36
Income per capita	40728	43621	42601	44785	40469	43152	40759	38511	10258

Table 3: Advertising Effect on Bankruptcy Filings

This table reports the results from estimating equation (1). Columns (1)-(4) incrementally include fixed effects and covariates of the specification. The outcome variable is bankruptcy filing rate in all columns. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the border-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

	(1)	(2)	(3)	(4)
Ad exposure	0.011***	0.012***	0.008***	0.007***
	(0.002)	(0.002)	(0.002)	(0.001)
Unemployment rate				0.001
				(0.006)
Income per capita				-0.117***
				(0.037)
Observations	1,834	1,834	1,834	1,834
R^2	0.038	0.164	0.777	0.784
Year FE	No	Yes	No	No
Border-Year FE	No	No	Yes	Yes

Table 4: Advertising Effects Dynamics

This table reports the results from estimating an augmented version of equation (1) with lags of *Ad exposure*. Specifically, *Ad exposure*$_{t-1}$ represents the number of ads (in thousands) in the previous year and *Ad exposure*$_{t-2}$ corresponds to the equivalent figure from two years prior. The outcome variable is bankruptcy filing rate in all columns. *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the border-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

	(1)	(2)	(3)	(4)
Ad exposure	0.006**	0.006**	0.006**	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)
Ad exposure$_{t-1}$	0.001	0.003	0.002	0.003
	(0.002)	(0.003)	(0.002)	(0.003)
Ad exposure$_{t-2}$		-0.002		-0.002
		(0.003)		(0.003)
Unemployment rate			-0.002	-0.003
			(0.006)	(0.007)
Income per capita			-0.120***	-0.115***
			(0.034)	(0.038)
Observations	1,572	1,310	1,572	1,310
R^2	0.767	0.750	0.774	0.758
Border-Year FE	Yes	Yes	Yes	Yes

Table 5: Advertising Effects by Sub-period

This table reports the results from estimating equation (1) separately across three time periods. The first column only includes the observations in years 2013–2016 and column (2) only includes 2017–2019. The outcome variable is bankruptcy filing rate in all columns. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the border-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

	(1)	(2)
	2013-2016	2017-2019
Ad exposure	0.007***	0.008***
	(0.002)	(0.002)
Unemployment rate	0.001	-0.001
	(0.007)	(0.008)
Income per capita	-0.116***	-0.120***
	(0.044)	(0.039)
Observations	1,048	786
R^2	0.770	0.772
Border-Year FE	Yes	Yes

Table 6: Advertising Effects by Census Region

This table reports the results from estimating equation (1) separately across the four Census Regions. The first column only includes the observations in the Northeast. The following three columns correspond to observations in the South, the Midwest, and the West, respectively. The outcome variable is bankruptcy filing rate in all columns. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the border-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

	(1) Northeast	(2) South	(3) Midwest	(4) West
Ad exposure	0.023**	0.011**	0.007***	0.001
	(0.009)	(0.004)	(0.001)	(0.003)
Unemployment rate	0.040*	0.020	0.015	-0.008
	(0.020)	(0.017)	(0.015)	(0.008)
Income per capita	0.027	-0.066	-0.180*	-0.155**
	(0.076)	(0.061)	(0.093)	(0.070)
Observations	308	742	448	336
R^2	0.794	0.783	0.738	0.779
Border-Year FE	Yes	Yes	Yes	Yes

Table 7: Advertising and Filer Characteristics - Credit and Composition

This table regresses bankruptcy filer characteristics on advertising. Outcome variables (column title) are averaged at the border-unit-year-level. Balance sheet variables are in logs and *Time-to-file* denotes the number of months between the filer's first 90 day delinquency event and bankruptcy. Panel C variables are in percentage points except for *Review length*, which measures how many months the case was under review for. Standard errors are clustered at the border-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, Kantar, and FJC

Panel A: Credit variables

	(1) Age	(2) Risk Score	(3) Time-to-file
Ad exposure	-0.066	0.147	3.938
	(0.073)	(0.415)	(3.513)
Unemployment rate	0.636	-4.466	0.141
	(0.464)	(4.795)	(13.167)
Income per capita	0.866	-19.690	36.665
	(1.968)	(21.516)	(98.721)
Observations	1,698	1,698	1,698
R^2	0.563	0.611	0.678
Border-Year FE	Yes	Yes	Yes

Panel B: Balance sheet variables

	(1) Assets	(2) Liabilities	(3) Dischargeable	(4) Income	(5) Expenses
Ad exposure	0.005	0.003	0.003	0.002*	0.001
	(0.004)	(0.003)	(0.003)	(0.001)	(0.001)
Unemployment rate	-0.015	-0.006	-0.007	-0.010***	-0.007***
	(0.024)	(0.017)	(0.016)	(0.003)	(0.002)
Income per capita	0.572***	0.482***	0.381***	0.160***	0.157***
	(0.157)	(0.115)	(0.110)	(0.029)	(0.027)
Observations	1,834	1,834	1,834	1,834	1,834
R^2	0.841	0.837	0.812	0.841	0.872
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Panel C: Case characteristics

	(1) Chp 7	(2) Discharge	(3) Pro se	(4) Review length
Ad exposure	-0.366*	-0.289*	-0.059	3.887*
	(0.210)	(0.168)	(0.144)	(2.139)
Unemployment rate	2.118**	0.844	2.946**	-13.175*
	(0.959)	(0.858)	(1.307)	(6.675)
Income per capita	-3.792	-0.882	-13.450**	40.930
	(5.251)	(4.257)	(6.353)	(42.621)
Observations	1,834	1,834	1,834	1,834
R^2	0.862	0.877	0.861	0.882
Border-Year FE	Yes	Yes	Yes	Yes

A Appendix

A.1 Theoretical Framework

A.1.1 Limitations of Empirical Exercises and Model Purpose

For broader economic interpretation, there are natural limitations of my empirical analysis. First, advertisements are *assumed* to be a reasonable reflection of lawyers, but they are still only a proxy for the theoretical lawyer effect that this paper motivates exploring. I do not directly observe the specific mechanisms within advertisements – importantly, the components associated with their informational role versus fee-maximizing incentives. Additionally, credit score only represents one metric for credit health of households, and it may not speak comprehensively to household welfare. The exact mapping from credit score to welfare is difficult to formulate given the complex trade-offs in bankruptcy (e.g., bankruptcy flag, debt discharge).

In this subsection, I provide a stylized model of household bankruptcy choice with lawyers to address the above limitations. The purpose of my theoretical framework is twofold: (1) to formally crystallize the economics of the bankruptcy lawyer-bankruptcy candidate environment and interpret my empirical results through the lens of a model, and (2) discuss theoretical concepts (e.g., lawyer information effect, household welfare) that are only well-defined within a model and empirically unobservable.

A.1.2 The Model

The baseline model draws from Indarte (2023), which analyzes the moral hazard effect and liquidity effect in the bankruptcy decision. My stylized model is set up similarly with (1) abstraction from exemptions and annuities (i.e., the features necessary for capturing moral hazard versus liquidity) and (2) modifications conducive for illustrating the effect of lawyer advertisements.

Households. Identical households with unit mass live for two periods $t \in \{1, 2\}$. At the

beginning of each period, households realize their income $y_t \sim F(y_t)$. Period one begins with an unsecured debt of amount d_1 with interest rate $r(d_1)$. Also in period one, households decide whether to repay or file for bankruptcy given three different "bankruptcy costs".[40] First, the utility cost of filing χ represents the psychological costs and negative stigma associated with bankruptcy. Second, λ denotes a proportional "tax" on consumption following bankruptcy. This term captures economic consequences of bankruptcy that are inherently difficult to evaluate, such as (1) additional difficulty in securing housing or employment due to the bankruptcy flag on a credit report, or (2) losing the real option of bankruptcy due to the waiting period between filings. I assume that households do not know λ with certainty. Third, the fixed cost of filing ϕ corresponds to lawyer fees.[41] Filing for bankruptcy discharges all of the debt d_t. If the household decides to repay in period one, they also choose their period two borrowing d_2 and they have the bankruptcy option in period two. The resulting budget constraints are:

$$c_1^N = y_1 - r(d_1)d_1 + d_2 \tag{3}$$

$$c_2^N = y_2 - r(d_2)d_2 \tag{4}$$

$$c_1^B = (1-\lambda)(y_1 - \phi) \tag{5}$$

$$c_2^B = (1-\lambda)y_2, \tag{6}$$

where N and B reflects non-filing and bankruptcy states, respectively. In addition, for period two consumption, the first and second superscript denotes the first and second period states, respectively.

Lawyers. Lawyers choose their advertising level A, pay the associated advertising costs $c(A)$, and collect the fee ϕ from bankruptcy filers. ϕ is assumed to be exogenous to resemble the regulatory rigidity related to lawyer fees in the bankruptcy court.[42] Lawyers also

[40] These costs are modeled closely following Livshits, MacGee & Tertilt (2010).

[41] I abstract from other fixed costs such as court fees.

[42] Moreover, I abstract from liquidity constraints in the bankruptcy decision. In other words, I assume ϕ is smaller than the minimum value in $F(y_t)$.

know the true λ, the "tax" on consumption post-bankruptcy. Importantly, lawyer advertisements can both (1) reduce the household's utility cost of filing χ and (2) misrepresent λ as a lower value. The former effect captures the informational role of lawyers – specifically, how lawyers can provide "therapy" and subsequently reduce the household's stigma costs. The latter captures how lawyers may falsely promise higher gains from bankruptcy. Both channels mechanically result in lower costs of bankruptcy to households, thus more filings. There is no labor cost to lawyers.

Households chooses (1) consumption, (2) period two borrowing, and (3) bankruptcy decision to maximize their expected lifetime utility. I assume that $u(\cdot)$ is strictly increasing and strictly concave. Let $\widetilde{y_1}$ denote the y_1 threshold where a household is indifferent between filing and not filing. The resulting value functions in the household problem are written as

$$V_1^N(y_1, d_1) = \max_{d_2} \underbrace{u(c_1^N)}_{t=1 \text{ utility}} + \underbrace{\int_0^\infty V_2^N(y_2, d_2) dF(y_2)}_{\text{expected } t=2 \text{ utility}} \tag{7}$$

$$V_1^B(y_1) = \underbrace{u(c_1^B) - \chi}_{t=1 \text{ utility}} + \underbrace{\int_0^\infty V_2^B(y_2) dF(y_2)}_{\text{expected } t=2 \text{ utility}} \tag{8}$$

for period one. For period two, the value functions are

$$V_2^N(y_2, d_2) = u(c_2^N) \tag{9}$$

$$V_2^B(y_2) = u(c_2^B). \tag{10}$$

The above problems are subject to the budget constraints in (3)-(6).

A.1.3 Lawyer Effects on the Household Bankruptcy Decision

Leveraging the model, I present comparative statics to characterize the effect of lawyer advertisements. Specifically, there are two key objects in the model for mapping my em-

pirical results. The first is the share of bankruptcy filers in period one, $B = F(\widetilde{y}_1)$. The second is $\overline{C}^B$,[43] the bankruptcy filers' average post-bankruptcy consumption. I discuss the parametric scenarios under which the model predicts (1) my filing rate result (i.e., $B'(A) > 0$), and (2) my credit recovery results from Section 5, which suggest that ad-induced bankruptcy filers exhibit higher post-bankruptcy credit health. I assume that higher consumption reflects better credit health.

I assume $\chi(A)$ is a function of lawyer advertisements to allow for the possibility that lawyers can reduce stigma. Additionally, households are uncertain about λ, the "tax" on consumption post-bankruptcy. They form an expectation according to $\mathbb{E}[\lambda] = p\widehat{\lambda}+(1-p)\lambda$, where (1) $\widehat{\lambda}$ represents the λ signal from lawyers, and (2) $p \in [0, 1]$ denotes the weight of the signal on the household's expectation. $p(A)$ is a function of lawyer advertisements, with more advertisements corresponding to higher influence on $\mathbb{E}[\lambda]$ (i.e., $p'(A) > 0$).

Lawyer types. I model two types of lawyers. I model the case of "good" lawyer advertising as $\chi'(A) < 0$, $\widehat{\lambda} = \lambda$. In other words, the it reduces the household's stigma costs, and the lawyer-communicated λ is the true λ. In contrast, the "bad" lawyer advertising is modeled as $\chi'(A) = 0$, $\widehat{\lambda} < \lambda$. There is no stigma cost reduction, and advertising pushes the household's expectation of λ lower than the true λ.

Advertising effect on filings. I first consider the effect of advertisements on filings. The "good" lawyer advertising effect on filings is

$$\frac{\partial B}{\partial A} = f(\widetilde{y}_1)\frac{\partial \widetilde{y}_1}{\partial A}. \tag{11}$$

Implicitly differentiating the indifference condition $V_1^B(\widetilde{y}_1) = V_1^N(\widetilde{y}_1, d_1)$, I can derive $\partial\widetilde{y}_1/\partial A$ as

$$\frac{\partial \widetilde{y}_1}{\partial A} = \frac{\chi'(A)}{(1-\lambda)u'(c_1^{B*}) - u'(c_1^{N*})}. \tag{12}$$

[43] I define $C^B = c_1^B + c_2^B$. In other words, this is the post-bankruptcy total consumption for bankruptcy filers.

Equation (11) is positive since $\chi'(A) < 0$ and $(1-\lambda)u'(c_1^{B^*}) < u'(c_1^{N^*})$[44] (i.e., a marginal dollar is more valuable outside of bankruptcy). The "bad" lawyer advertising effect on the filing threshold is

$$\frac{\partial \widetilde{y_1}}{\partial A} = -\frac{p'(A)(\lambda - \widehat{\lambda})(u'(c_1^{B^*})(\widetilde{y_1} - \phi) + \mathbb{E}[u'(c_2^B)y_2])}{(p(\lambda - \widehat{\lambda}) + (1-\lambda))u'(c_1^{B^*}) - u'(c_1^{N^*})}. \tag{13}$$

The numerator in (13) is positive since $p'(A) > 0$ and $\lambda > \widehat{\lambda}$. The denominator is negative for the same reason as in equation (11). Therefore equation (13) is positive and the model predicts an increase in filings for both "good" and "bad" lawyer advertisements. Still, the two effects have qualitative differences. The only mechanism for the"good" lawyer advertising effect channels through stigma reduction. On the other hand, the "bad" lawyer advertising effect depends on multiple features. Not only does it depend on $p'(A)$, the advertising effect on the "weight" households place on lawyers' signal, and the signal itself $\widehat{\lambda}$, it also depends on household income (i.e., both realized income $y_1 - \phi$ and expected income $\mathbb{E}[y_2]$). Intuitively, marginal filers respond to the changes in expected financial gains from bankruptcy only with "bad" lawyer advertisements.

Advertising effect on consumption and welfare. Next, I derive $\partial \overline{C}^B / \partial A$, the model-predicted effect of advertisements on the average bankruptcy filer's consumption. Specifically, this effect is defined as

$$\frac{\partial}{\partial A}\left(\frac{\int_0^{\widetilde{y}}(c_1^B + c_2^B)dF(y_1)}{B(\widetilde{y})}\right). \tag{14}$$

For "good" lawyer advertising, I can use equation (12) to show

$$\frac{\partial \overline{C}^B}{\partial A} = \Gamma \frac{F(\widetilde{y_1})\Theta(\widetilde{y_1}) - f(\widetilde{y})\mathbb{E}[\Theta(y_1)|y_1 < \widetilde{y_1}]}{F(\widetilde{y_1})^2} > 0, \tag{15}$$

[44] $c_1^{B^*}$ and $c_1^{N^*}$ are defined as the filing and non-filing consumption at the bankruptcy threshold $\widetilde{y_1}$, respectively.

where

$$\Gamma = \frac{\chi'(A)}{(1-\lambda)u'(c_1^{B^*}) - u'(c_1^{N^*})} \tag{16}$$

$$\Theta(y) = (1-\lambda)(y-\phi) + (1-\lambda)\mathbb{E}[y_2]. \tag{17}$$

In other words, "good" lawyer advertising increases the average filer's post-bankruptcy consumption.

Next, I derive the utility value associated with filing for the marginal bankruptcy filer induced to file by "good" lawyer advertisements. Let $V_1^B(\widetilde{y_1}, \chi^L)$ denote the value function from filing for the marginal filer, with the reduced utility cost χ^L where $\chi^L = \chi - \delta$, $\delta > 0$. Then the net value of bankruptcy, $V_1^B(\widetilde{y_1}, \chi^L) - V_1^N(\widetilde{y_1}, d_1)$, can be written as

$$\delta + (1-\lambda)u'(c_1^{B^*}) - u'(c_1^{N^*}). \tag{18}$$

This quantity is positive for sufficiently high levels of δ. In other words, given high enough advertising effect on utility cost reduction, the marginal filer is better off from filing in terms of welfare.

The "bad" lawyer advertising effect on the average post-bankruptcy consumption is derived similarly as in equation (15), and I find that this effect is also positive.[45] However, the welfare effect derivation of "bad lawyer" advertising is different. The marginal filer makes their filing decision based on value functions that depend on $(\widehat{\lambda}, p)$, but their realized value functions of filers are still defined as the baseline $V_1^B(y_1)$, with unchanged utility cost χ and the true consumption "tax" λ. Therefore the net value of bankruptcy for the marginal filer is

$$(1-\lambda)u'(c_1^{B^*}) - u'(c_1^{N^*}), \tag{19}$$

[45] Specifically, it can be found by substituting Γ with equation (13).

which is negative because a marginal dollar has higher value outside of bankruptcy at the filing threshold.

In summary, this theoretical exercise shows that while both "good" and "bad" lawyer advertisements can induce more filings and even higher post-bankruptcy consumption, the welfare effect still theoretically depends on the lawyer type. As a result, this paper does not take an explicit stance on whether the observed increase in credit outcomes for advertising-induced filers should be interpreted as welfare-improving, given that lawyer type, the underlying state variable related to household welfare, is observable in this study.

A.2 Additional Figures and Tables

Figure A1: Bankruptcy Law Firm Ratings: Geographic Variation

The following figure illustrates the geographic variation of bankruptcy law firm ratings at the DMA-level for the 48 contiguous US states. Darker blue corresponds to higher ratings and red corresponds to lower ratings.
Sources: Google Reviews

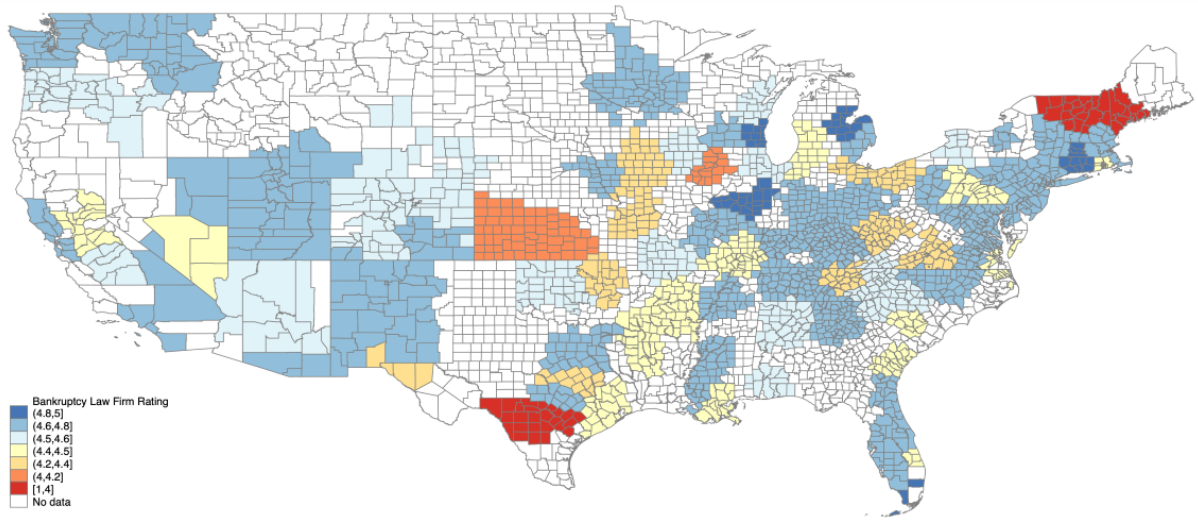
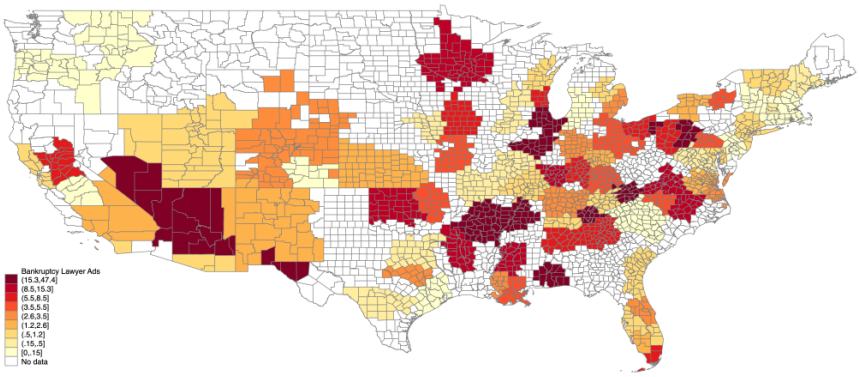


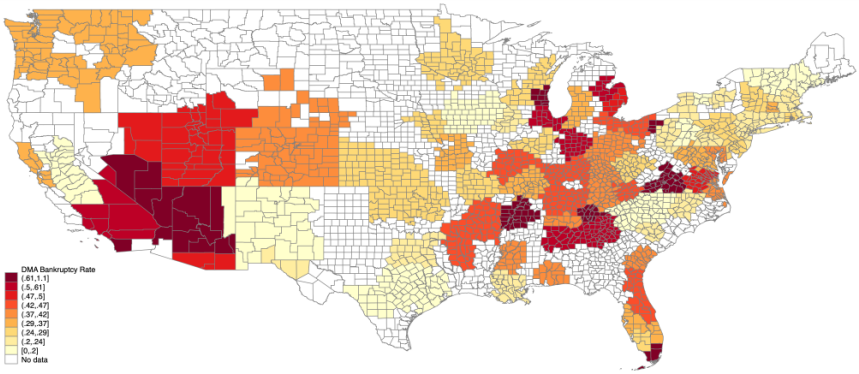
Figure A2: Advertising and Bankruptcy Filing Rate in the US

The following figure repeats Figure 3 for the 48 contiguous US states and Washington DC.
Sources: FJC and Kantar

Panel A: DMA-level Advertising



Panel B: DMA-level Bankruptcy Filing Rate



Panel C: Bankruptcy Filing Rate at Borders

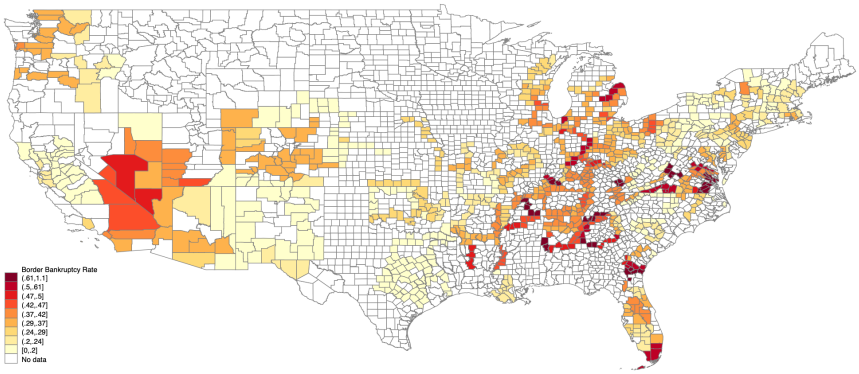


Figure A3: Distress and Recovery Trajectory: Never-filers versus Eventual Filers

The following figure illustrates the Risk Score trajectory of bankruptcy filers (solid red) and matched non-filers, where the non-filer sample is further separated into never-filers (dashed blue) versus eventual filers (dotted green). The X-axis denotes the year relative to the filing date for filing date for filers (for non-filers, the distress date when their predicted filing probability spikes).
Sources: FRBNY Consumer Credit Panel/Equifax (CCP)

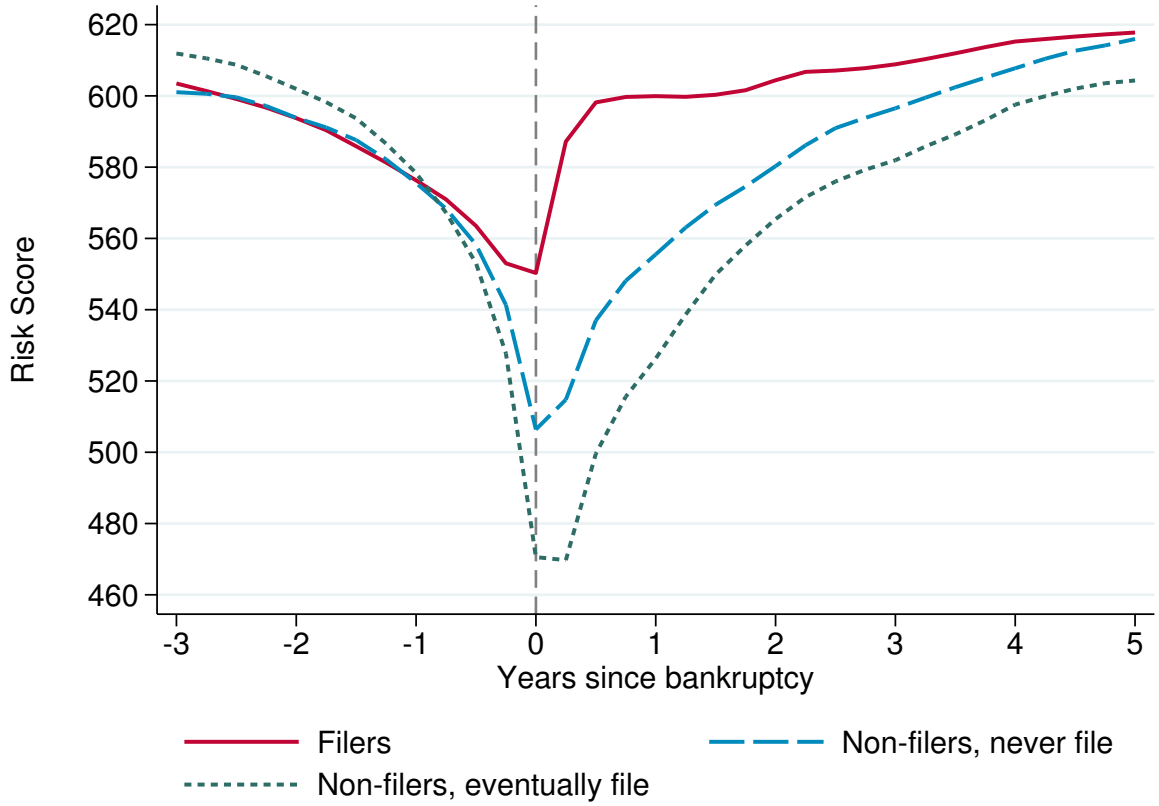


Figure A4: Bankruptcy Law Firm Client Reviews over Time

The following figure illustrates the number of client reviews of bankruptcy law firms on Google (blue solid) and the number of reviews divided by total bankruptcy filings in the corresponding year (red dashed).
Sources: Google Reviews and FJC

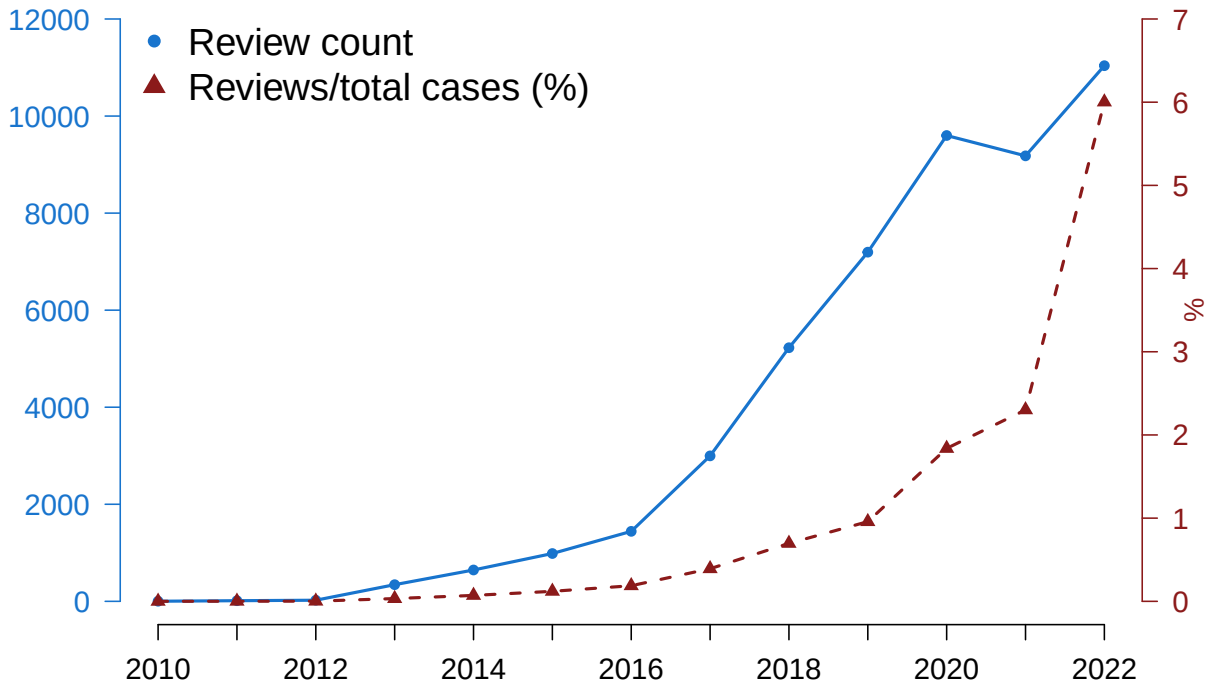
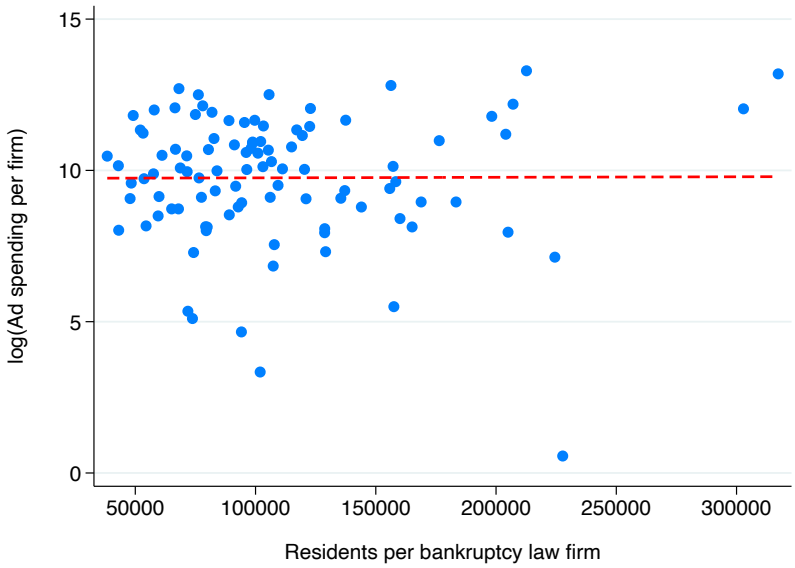


Figure A5: Market Concentration and Advertising

The following figure illustrates the relationship between advertising and concentration for bankruptcy law firms. In Panel A, each DMA's *log*(*annual ad spending per firm* + *1*) is plotted against the number of residents per bankruptcy law firm in the DMA. Panel B repeats the same scatter plot with each DMA's HHI derived using annual sales of firms. In both panels, the red dashed line denotes the OLS-fitted line. Table A12 presents regressions accompanying this Figure.
Sources: BEA and Kantar

Panel A: Residents per Firm and Advertising



Panel B: HHI and Advertising

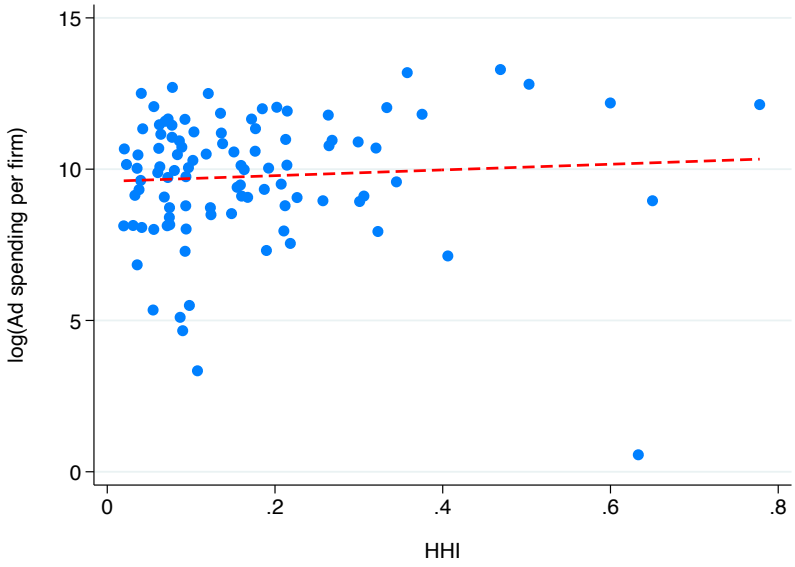


Figure A6: Ratings and Review Count Distribution by Advertiser Status

The following figure illustrates the distribution of Google Review ratings in Panel A and *log*(*review count* + *1*) in Panel B, separately for bankruptcy law firms that advertise (orange) versus never advertise (blue). Table A13 provides a regression of ratings and review count on advertisements using DMA fixed effects and firm size controls.
Sources: Kantar and Google Reviews

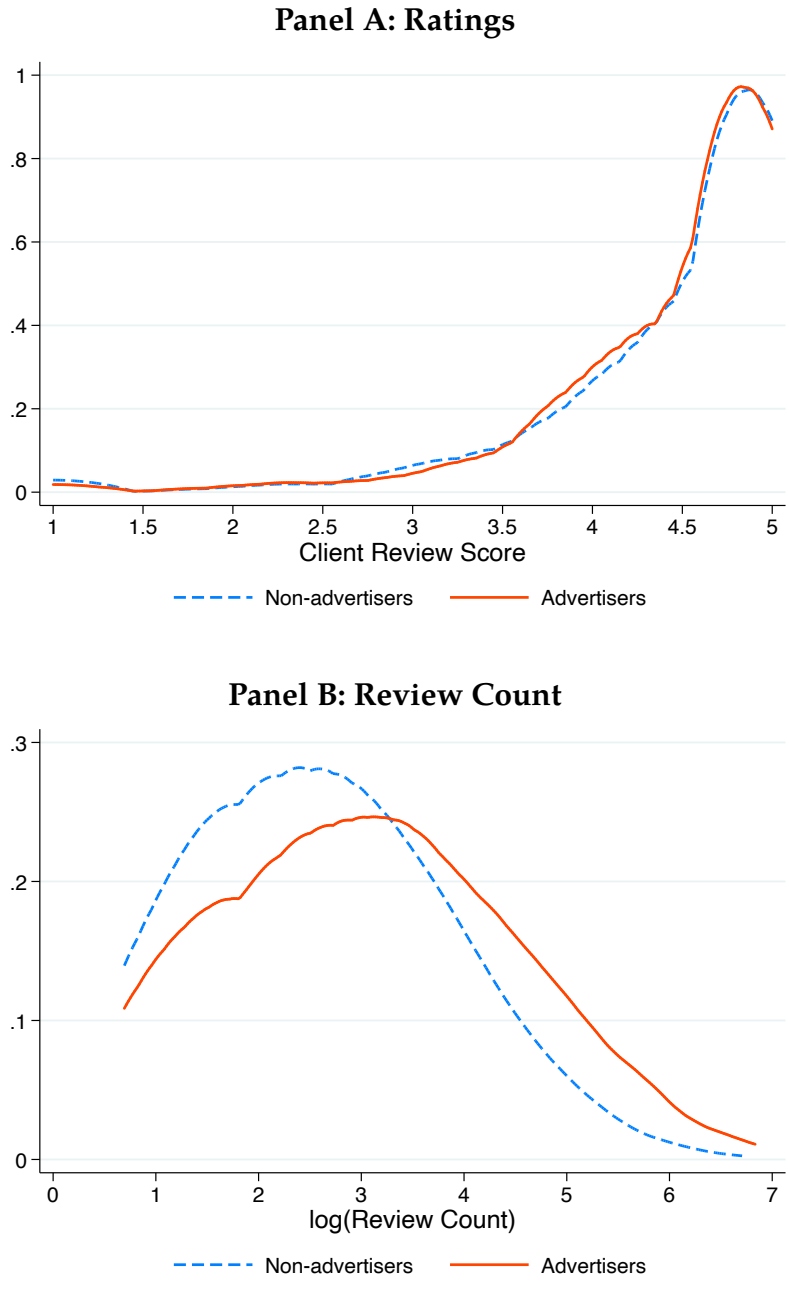


Table A1: Filer-level Summary Statistics by Chapter

The following table repeats the summary statistics for the FJC variables in Panel A of Table 1 separately by Chapter choice. All variables are reported in thousands.
Sources: FJC

Panel A: Chapter 7

	N	Mean	St Dev	P25	P50	P75
Total assets	2,168,837	80.72	133.93	6.27	21.37	113.91
Total liabilities	2,168,837	142.88	226.79	35.14	78.76	180.54
Dischargeable debt	2,048,954	136.88	222.26	32.58	70.51	172.82
Avg monthly income	2,091,593	2.65	1.60	1.62	2.41	3.44
Avg monthly expenses	2,089,711	2.90	1.66	1.82	2.61	3.66

Panel B: Chapter 13

	N	Mean	St Dev	P25	P50	P75
Total assets	1,184,568	126.03	189.45	11.83	65.62	170.65
Total liabilities	1,184,568	157.49	207.19	33.15	96.16	210.59
Dischargeable debt	1,054,861	156.99	202.41	35.53	96.28	206.26
Avg monthly income	1,082,981	3.64	2.26	2.15	3.16	4.60
Avg monthly expenses	1,082,836	2.97	1.90	1.72	2.58	3.78

Table A2: Media Category Share by Industry

This table reports the share of 2013–2019 advertising spending (in percentage points) across media categories for the following industries: medical doctors, investment managers, mortgages, personal injury lawyers, paycheck services, retirement planning service, and auto loans.
Sources: Kantar

	Bankruptcy	Doctor	Investment	Mortgages	Injury	Paycheck	Retirement	Auto
B-to-B Magazines	0	.1	2.7	.1	0	0	1.3	1
Cable TV	.3	0	20.5	22.5	.2	24.1	18.6	16.5
Hispanic Magazines	0	0	0	0	0	0	0	0
Hispanic Newspapers	.3	.8	0	.1	.3	0	0	.3
Internet - Display	1.7	7	21	16	.4	4.2	21.5	11.3
Local Magazines	0	13.5	.4	.2	0	0	.1	0
Local Radio	2.8	7.7	4.2	7.5	.8	8.3	1.3	9.6
Magazines	0	1.1	14.3	2.1	0	0	17.2	2.5
Natl Spot Radio	0	.9	2.5	.9	0	6.1	0	.8
Network Radio	0	0	1.2	.9	0	1.7	0	0
Network TV	0	0	18.5	21.2	0	1.7	26.1	17.2
Newspapers	4.5	44.7	10	12.9	.5	.4	6.6	21.8
Outdoor	.6	9.5	2.1	.6	2.4	3.2	.2	.9
Span Lang Net TV	.3	0	0	.4	3.6	0	0	0
Spot TV	89.4	14.7	1.7	6.7	91.5	31.3	4.9	17.7
Sunday Magazines	0	0	.5	0	0	0	.3	0
Syndication	.2	.1	.5	8	.1	18.9	2	.4

Table A3: Advertising Effect at DMA-level

The following table estimates an alternative version of equation (1) using observations aggregated at the DMA-year-level. Columns (1)-(4) incrementally include fixed effects and covariates of the specification. The outcome variable is bankruptcy filing rate in all columns. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the DMA-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

	(1)	(2)	(3)	(4)
Ad exposure	0.013**	0.015***	0.002	-0.000
	(0.005)	(0.005)	(0.002)	(0.002)
Unemployment rate				0.037***
				(0.008)
Income per capita				-0.351**
				(0.163)
Observations	700	700	700	700
R^2	0.057	0.254	0.904	0.937
Year FE	No	Yes	Yes	Yes
DMA FE	No	No	Yes	Yes

Table A4: Advertising Effect on Bankruptcy Filing Rate: FJC Data

This table estimates equation (1) using the FJC data for deriving the outcome variable, bankruptcy filing rate. Columns (1)-(4) incrementally include fixed effects and covariates of the specification. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the border-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FJC, BLS, BEA, and Kantar

	(1)	(2)	(3)	(4)
Ad exposure	0.009***	0.011***	0.004**	0.004***
	(0.002)	(0.002)	(0.002)	(0.002)
Unemployment rate				-0.005
				(0.005)
Income per capita				-0.078*
				(0.040)
Observations	1,834	1,834	1,834	1,834
R^2	0.045	0.099	0.860	0.864
Year FE	No	Yes	No	No
Border-Year FE	No	No	Yes	Yes

Table A5: Advertising Effect of Other Industries on Bankruptcy Filing Rate

This table estimates equation (1) with local TV advertisements of other industries as additional controls. The outcome variable is bankruptcy filing rate in all columns. Each industry's row corresponds a variable that denotes the number of their ads in thousands. *Unemployment rate* is in percentage points and *Income per capita* is in logs. Standard errors are clustered at the border-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Bankruptcy								0.007***
								(0.001)
Doctor	0.009							0.006
	(0.006)							(0.006)
Investment		0.015						0.012
		(0.013)						(0.011)
Mortgage			0.003					0.002
			(0.002)					(0.002)
Injury				-0.000				-0.000
				(0.000)				(0.000)
Paycheck					0.002			0.001
					(0.001)			(0.001)
Retirement						-0.006		-0.012
						(0.008)		(0.008)
Auto							0.001	0.001
							(0.005)	(0.005)
Unemployment rate	0.004	0.004	0.005	0.004	0.005	0.004	0.004	0.002
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Income per capita	-0.109***	-0.114***	-0.109***	-0.109***	-0.098**	-0.106***	-0.109***	-0.108***
	(0.038)	(0.038)	(0.037)	(0.038)	(0.040)	(0.039)	(0.038)	(0.039)
Observations	1,834	1,834	1,834	1,834	1,834	1,834	1,834	1,834
R^2	0.777	0.776	0.777	0.775	0.776	0.776	0.775	0.787
Border-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table A6: Word List for Psychological Costs and Lawyer Intervention

This table presents the list of words and phrases used to identify (1) client reviews that plausibly reveal some role of psychological costs associated with bankruptcy (Panel A), and (2) reviews that acknowledge some role by lawyers to intervene and reduce psychological costs (Panel B). The full list also includes variations of each word below (e.g., present tense, adjective).

Panel A: Psychological Costs

afraid	agony	anxious	ashamed	apprehensive	burden
concern	depressed	despair	desperate	devastated	difficult situation
dreaded	drowning	embarrassed	guilt	heartbroken	hesitant
horrified	last option	last resort	overwhelmed	regret	reluctant
rock bottom	scared	sleepless	stigma	strain	stress
struggling	terrified	waited too long			

Panel B: Lawyer Intervention

advisor	allayed	alleviated	calmed	comforted	consoled
compassion	dignity	eased	empathetic	explained	felt relief
guided	helped me understand	made it easy	reassured	simplified	stress relief
supportive	sympathetic	walked me through			

Table A7: Review Word Coefficients on Law Firm Rating

This table presents the coefficients for the selected words from a Multinomial Inverse Regression (MNIR) using the review's rating as the outcome variable. The words are selected based on their potential to reflect psychological costs in bankruptcy filers' filing decision. The coefficients of 4,315 words in the corpus are standardized such that the median coefficient is zero, and the standard deviation is 0.819.
Sources: Google Reviews

Word	Coefficient
afraid	0.314
anxieties	0.592
apprehensive	0.615
ashamed	1.993
burden	0.539
despair	0.517
dreading	0.318
drowning	1.213
embarrassed	0.203
fear	0.352
guilty	0.799
overwhelming	0.437
scared	0.243
sleepless	0.469
stigma	0.875
stressful	0.556
struggling	0.253

Table A8: Bankruptcy Lawyer Local TV Advertising versus Other Industries

The following table reports the results graphically presented in Figure 4, i.e., regressing bankruptcy lawyer advertisements (i.e., log of total local TV ads) on log of other industries' local TV ads at the DMA-month-level. Observations are aggregated at the DMA-month-level. Standard errors are clustered at the DMA-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: Kantar

	(1)	(2)
Doctors	0.044	-0.005
	(0.055)	(0.018)
Investment	0.070	0.005
	(0.053)	(0.012)
Mortgages	-0.005	-0.012
	(0.130)	(0.031)
Injury	0.576*	0.053
	(0.325)	(0.205)
Paycheck	0.098*	0.002
	(0.057)	(0.015)
Retirement	-0.018	0.001
	(0.049)	(0.012)
Auto	0.011	0.008
	(0.049)	(0.011)
Observations	7,056	7,056
R^2	0.043	0.877
DMA-Year FE	No	Yes
DMA-Month FE	No	Yes

Table A9: Advertising Effect on Risk Score

This table reports the regression results in Figure 7. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the DMA-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

Panel A: Bankruptcy Filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	0.951**	1.216**	1.175	2.043**	1.324**
	(0.394)	(0.518)	(0.771)	(0.813)	(0.610)
Unemployment rate	-2.288	-2.626	-2.148	-0.996	-3.224
	(1.398)	(1.811)	(2.447)	(3.144)	(2.948)
Income per capita	-7.354	-5.680	-9.746	-7.297	-13.388
	(10.104)	(11.633)	(14.451)	(17.671)	(16.654)
Observations	248	248	248	248	248
R^2	0.579	0.662	0.620	0.615	0.564
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Panel B: Matched Non-filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	0.351	0.166	0.266	0.833*	0.780
	(0.350)	(0.467)	(0.438)	(0.491)	(0.495)
Unemployment rate	-2.215*	-0.470	-1.627	-3.128*	-4.357**
	(1.133)	(1.332)	(1.388)	(1.784)	(1.681)
Income per capita	-3.501	5.892	7.790	-1.612	-11.393
	(6.665)	(7.838)	(7.059)	(7.593)	(9.654)
Observations	262	262	262	262	262
R^2	0.549	0.624	0.686	0.666	0.638
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Panel C: All Marginal Filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	0.360	0.231	0.264	0.769	0.766
	(0.322)	(0.439)	(0.461)	(0.486)	(0.476)
Unemployment rate	-3.182**	-1.644	-2.294	-2.858	-4.393**
	(1.243)	(1.610)	(1.670)	(2.030)	(1.785)
Income per capita	-7.848	0.673	2.359	-2.843	-12.514
	(7.276)	(9.225)	(8.524)	(9.035)	(9.938)
Observations	262	262	262	262	262
R^2	0.575	0.677	0.679	0.657	0.622
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Table A10: Advertising Effect on New Homeownership

This table reports the regression results in Figure 9. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the DMA-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

Panel A: Bankruptcy Filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	0.002	0.005*	0.007**	0.007*	0.010**
	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)
Unemployment rate	-0.019	-0.017	-0.022	-0.023	-0.033**
	(0.017)	(0.016)	(0.015)	(0.014)	(0.015)
Income per capita	0.001	-0.021	-0.057	-0.068	-0.079
	(0.040)	(0.045)	(0.052)	(0.053)	(0.068)
Observations	248	248	248	248	248
R^2	0.537	0.582	0.565	0.559	0.545
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Panel B: Matched Non-filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	0.001	-0.000	0.000	0.001	0.001
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Unemployment rate	-0.003	0.009	0.008	0.009	0.003
	(0.003)	(0.012)	(0.013)	(0.013)	(0.014)
Income per capita	-0.039**	0.039	0.009	-0.031	-0.047
	(0.019)	(0.061)	(0.065)	(0.077)	(0.084)
Observations	262	262	262	262	262
R^2	0.562	0.485	0.444	0.392	0.417
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Panel C: All Marginal Filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	0.000	-0.000	0.000	0.001	0.002
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Unemployment rate	-0.005	0.008	0.007	0.006	0.000
	(0.003)	(0.012)	(0.012)	(0.012)	(0.012)
Income per capita	-0.037**	0.033	0.006	-0.033	-0.047
	(0.014)	(0.058)	(0.061)	(0.072)	(0.074)
Observations	262	262	262	262	262
R^2	0.572	0.493	0.467	0.438	0.465
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Table A11: Advertising Effect on Foreclosure

This table reports the regression results in Figure 10. *Ad exposure* denotes the number of ads in thousands, *Unemployment rate* is in percentage points, and *Income per capita* is in logs. Standard errors are clustered at the DMA-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: FRBNY Consumer Credit Panel/Equifax (CCP), BLS, BEA, and Kantar

Panel A: Bankruptcy Filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	-0.001**	-0.001**	-0.001**	-0.001**	-0.002**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Unemployment rate	0.001	0.001	0.001	0.000	-0.000
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)
Income per capita	0.012	0.010	0.008	0.007	-0.001
	(0.008)	(0.008)	(0.009)	(0.009)	(0.011)
Observations	248	248	248	248	248
R^2	0.487	0.493	0.509	0.500	0.508
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Panel B: Matched Non-filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	0.000	-0.001	-0.000	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Unemployment rate	-0.005	-0.003	-0.003	-0.003	-0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Income per capita	-0.031*	-0.027	-0.027	-0.025	-0.021
	(0.016)	(0.020)	(0.020)	(0.019)	(0.017)
Observations	262	262	262	262	262
R^2	0.588	0.535	0.537	0.575	0.617
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Panel C: All Marginal Filers

	(1) t+1	(2) t+2	(3) t+3	(4) t+4	(5) t+5
Ad exposure	-0.000	-0.001	-0.001	-0.001	-0.001**
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Unemployment rate	-0.002	-0.001	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Income per capita	-0.017	-0.013	-0.013	-0.012	-0.011
	(0.011)	(0.014)	(0.015)	(0.014)	(0.012)
Observations	262	262	262	262	262
R^2	0.562	0.516	0.524	0.562	0.609
Border-Year FE	Yes	Yes	Yes	Yes	Yes

Table A12: Local Market Structure and Advertising

The following table reports the results from regressing advertising on variables related to local market structure at the DMA-level. The outcome variable is *log*(*ad spending per firm* + *1*) in columns (1)-(2) and *Ad rate* – i.e., the share of bankruptcy law firms that advertise – in columns (3)-(4). *Residents per firm* and *DMA population* are in logs. *HHI* is computed using annual sales of bankruptcy law firms. Robust standard errors are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: Kantar, Infogroup, BEA, and Google Reviews

	Ad per firm		Ad rate	
	(1)	(2)	(3)	(4)
Residents per firm	-0.141		0.017	
	(0.602)		(0.041)	
HHI		0.072		0.009
		(0.416)		(0.018)
DMA population	-0.223	-0.174	-0.060***	-0.055***
	(0.251)	(0.275)	(0.018)	(0.019)
Observations	99	99	99	99
R^2	0.007	0.007	0.106	0.107

Table A13: Advertising, Review Count, and Rating

The following table regresses bankruptcy law firm's client review count and rating on advertising. The outcome variable is $log(review\ count + 1)$ in Panel A and normalized rating (i.e., demeaned and normalized by the standard deviation) in Panel B. In both panels, the main explanatory variable is $\mathbb{I}$(advertise) – a dummy variable for whether the firm ever advertises – in columns (1)-(2) and $log(ads)$ in columns (3)-(4). Standard errors are clustered at the DMA-level and reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.
Sources: Kantar, Infogroup, and Google Reviews

Panel A: Review Count

	Extensive margin		Intensive margin	
	(1)	(2)	(3)	(4)
I(advertise)	0.397***	0.359***		
	(0.076)	(0.073)		
Ads			0.127***	0.116***
			(0.028)	(0.031)
Employees		0.112*		0.051
		(0.067)		(0.163)
Sales		0.076		0.168
		(0.050)		(0.149)
N. branches		-0.028*		-0.023
		(0.016)		(0.027)
Observations	2,242	2,242	393	393
R^2	0.087	0.097	0.223	0.236
DMA FE	Yes	Yes	Yes	Yes

Panel B: Rating

	Extensive margin		Intensive margin	
	(1)	(2)	(3)	(4)
I(advertise)	-0.022	-0.004		
	(0.059)	(0.063)		
Ads			-0.031	-0.039*
			(0.019)	(0.021)
Employees		-0.180***		-0.271**
		(0.063)		(0.125)
Sales		0.066		0.151*
		(0.052)		(0.088)
N. branches		-0.004		0.067***
		(0.018)		(0.018)
Observations	2,242	2,242	393	393
R^2	0.044	0.051	0.242	0.270
DMA FE	Yes	Yes	Yes	Yes