Life After Death: A Field Experiment with Small Businesses on Information Frictions, Stigma, and Bankruptcy*

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Abstract

In an RCT with US small businesses, we document that a large share of firms are not well-informed about bankruptcy. Many assume that bankruptcy necessarily entails the death of a business and do not know about Chapter 11 bankruptcy, where debts are renegotiated so that the business can continue operating. Small businesses are also unaware of a recent major reform that lowered the costs of bankruptcy procedures to enhance their protection. Firms also exhibit large degrees of stigma, believing that bankruptcy is embarrassing, a sign of failure, and a negative signal to employees and customers. Randomly providing short educational videos that address information or stigma gaps leads to increased firm knowledge about bankruptcy and decreases perceptions of stigma, both immediately and durably over 4 months. The videos also increase reported interest in using Chapter 11 bankruptcy and increase firms’ intended debt and investment.

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1 Introduction

Corporate bankruptcy is a cornerstone of modern financial markets. Without it, financial distress could lead to the unnecessary dissolution of many firms, and entrepreneurs and capital providers may be unwilling to make important investments in the first place. While large firms often view bankruptcy as a strategic option when facing distress, small firms use bankruptcy much more sparingly. The COVID-19 pandemic created large disruptions for many small firms, forcing many to close their doors, but bankruptcy remains rare (Wang et al., 2021). Even during normal times, Greenwood et al. (2020) estimate that less than 10% of all firm closures occur within bankruptcy, meaning that many businesses do not make use of the bankruptcy system before failing. Though research on bankruptcy often focuses on objective costs and benefits, it is possible that more “behavioral” factors are at play, particularly given the growing body of research related to behavioral firms (DellaVigna and Gentzkow, 2019; Goldfarb and Xiao, 2011; Hortaçsu et al., 2019).

One potential explanation for small firms’ low use of bankruptcy is lack of information. People often use the phrase “going bankrupt” as synonymous with shutting down one’s business. While lawyers at United Airlines certainly know the differences between Chapter 7 (liquidation) and Chapter 11 (reorganization) bankruptcy, it is possible that many small business owners may not even be aware that there is a possibility for a business to continue after bankruptcy, which can be used as a protection while negotiating with creditors. On the other hand, we would expect business owners to be relatively well-informed about bankruptcy given the high rate of firm failure.1 Indeed, recent research suggests that firms have significantly lower information frictions than households (Link et al., 2021; Mikosch et al., 2021). Highlighting the importance of information acquisition is the fact that in February 2020, just before the COVID-19 pandemic in the US began, Congress passed the Small Business Reorganization Act (SBRA), a law which made it less costly for small businesses to use Chapter 11 bankruptcy. However, updates to bankruptcy laws can only impact small businesses if these firms are aware of them. Unfortunately, little is known regarding small firms’ knowledge about bankruptcy.

It is also possible that stigma prevents small businesses from considering bankruptcy. Bankruptcy gives firms the opportunity to reduce or sometimes fully avoid debts. Many cultures and religious

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1 Bureau of Labor Statistics’ Business Employment Dynamics data show that 20% of small businesses fail within one year of founding.
traditions teach that it is shameful to avoid paying debts (Bursztyn et al., 2019). Researchers have considered the possibility that households may attach significant stigma to going bankrupt (Fay et al., 2002; Gross and Souleles, 2002; Dick et al., 2008; Efrat, 2005), but most academic work on corporate bankruptcy assumes that firms view bankruptcy as a strategic option with no negative stigma (see, for example Bulow and Shoven (1978); Gertner and Scharfstein (1991) and White (1989)). If households believe that going bankrupt is embarrassing or shameful, it is possible that small firms would also exhibit stigma (Sutton and Callahan, 1987), but little is known about small business stigma against bankruptcy. Indeed, even for households, it has been difficult to document stigma given limitations in measuring it empirically.

This paper addresses three questions. First, do small businesses exhibit lack of information and stigma about bankruptcy? Second, if so, is it possible to reduce lack of information and stigma, both immediately and in the longer run? Third, what are the implications for firms of reducing information unawareness and stigma? To do so, we conduct a large-scale randomized controlled trial (RCT) with U.S. small businesses. To our knowledge, ours is the first RCT on firm bankruptcy.² It is also one of the first to consider the importance of information unawareness and stigma for firms (instead of households), and the first to separately measure information unawareness and stigma in an experimental setting.

Our partner in the RCT is SCORE, the leading US organization dedicated to mentoring small business owners. As such, it has a large network of small business owners at different stages of firm development, across a wide range of industries, which broadly mirrors the overall US population of small businesses. In fall 2020, about 1,500 firms agreed to participate in a survey related to small businesses. A few minutes into the survey, firms are shown different videos. In the Control condition, business owners view a 2-minute video about a hypothetical small business owner who is struggling with financial issues, and a few options for the owner are mentioned. In the Information only condition, business owners are shown a video that is initially identical to the Control condition video, but that contains an additional two minutes with information about bankruptcy protection, covering differences between Chapter 7 and Chapter 11 bankruptcy, and explaining the new Small Business Reorganization Act (SBRA). In the Information + Stigma condition, subjects watch a

²Antill and Hunter (2021) is a recent experimental study on how consumer demand reacts to information regarding a firm bankruptcy and its financial health.
video that is identical to the Information condition, but that contains an additional minute of content that tries to address stigma related to bankruptcy. The video highlights all the large, successful US corporations that have used bankruptcy as an avenue to restructure. It also highlights that bankruptcy protection is fundamental to US law and is part of the US Constitution, while also stressing the challenges posed by current business conditions.

After the videos, small business owners are asked various questions to evaluate their knowledge about bankruptcy and their attitudes towards it. They are then asked about their interest in bankruptcy, intended risk-taking, intended investment, and other financial expectations. Four months later, firms answer an additional survey collecting information on knowledge of the bankruptcy system, stigma surrounding bankruptcy, as well actual financial outcomes during the last 4 months.

Section 5.1 shows that firms exhibit substantial information unawareness about bankruptcy, both immediately and durably over 4 months, but that the treatments vastly reduce information unawareness. In the Control group who received videos with no information, almost half of firms are unaware that firms can continue operating after bankruptcy. The information treatment increases the share of firms recognizing the possibility of “life after death” by 25 percentage points (hereafter, “pp”), reducing information unawareness by half. Less than 40% of firms know that Chapter 11 is the type of bankruptcy that allows firms to reorganize, but the knowledge treatment increases this by 45pp. Only around 10% of firms know that the SBRA makes bankruptcy easier, but the information treatment increases this share by 65pp. At 4 months after treatment, effects become slightly smaller, though they remain large in terms of both economic and statistical significance. For example, 4 months after treatment, the impact on knowledge about “life after death” is 15pp instead of 25pp.

Section 5.2 shows that firms exhibit substantial stigma about bankruptcy, but that the Stigma video reduces stigma, both initially and durably over 4 months. Among firms in the Control group, a large share of firms indicate that bankruptcy is both embarrassing and indicative of failure. In addition, firms worry that declaring bankruptcy sends a negative signal, decreasing interest in the business from clients and potential employees, and firms believe that family and friends will look down on them for declaring bankruptcy. Stigma about bankruptcy appears to be mostly outward-focused instead of inward-focused. Specifically, small business owners in the Control group are
least concerned with whether declaring bankruptcy is unethical, and are more concerned with how a bankruptcy will reflect on them or their business. However, the Stigma video reduces these concerns considerably. Compared to firms in the Control group, firms in the Information+Stigma group have their stigma reduced by 0.29σ overall, with effects on all stigma categories except on whether bankruptcy is ethical, the category which indicated low stigma to start with. The treatment has a long-lasting effect on stigma. Four months later, the overall impact on stigma is −0.26σ, and we cannot reject that these longer-run effects are identical to the initial effect. Moreover, across both surveys, there is little difference between the Information and Control groups in terms of stigma, indicating that it is the specific content of the Information+Stigma video that is reducing stigma.

Our results show that small businesses exhibit significant unawareness of bankruptcy and strong stigma against considering it as an option. Information and stigma frictions likely make financial distress appear more costly to small firms, which should affect their investment and risk-taking. We test this by evaluating if the Information and Information+Stigma treatments have an impact on firm’s intentions. Section 5.3 shows that the two treatments led firms to increase their immediate willingness to consider bankruptcy, intended investment, and intended risk-taking. On immediate effects, the Information treatment increases firms’ stated willingness to consider Chapter 11 bankruptcy by 25pp, and the Information+Stigma treatment increases it by an additional 6pp. Likewise, small businesses in the Information treatment state that they are 11pp more likely to intend to increase their investment over the next 12 months, and the Information+Stigma boosted this by an additional 3pp. Treated firms were also more likely to state they they intend to increase debt financing over the next 12 months. Overall, the Information treatment increased a composite score of firms’ riskiness by 0.14σ and the Information+Stigma increased it by 0.21σ. These results indicate that information and stigma are each separately contributing to firms’ intended riskiness, and are consistent with the idea that reducing information unawareness and stigma makes firms more likely to consider bankruptcy, which in turn makes firms more willing to consider making greater investment and taking greater risk.

Turning to actual longer-run outcomes, the picture becomes less clear, and we believe this is for several reasons. Firms in the treatment groups were no more likely to report having considered bankruptcy over the last 4 months or to actually have filed for bankruptcy. In addition, while
firms in the Information group increased their debt, firms in the Information+Stigma group did not. We discuss several possible explanations including (1) that many firms were far from needing to consider bankruptcy, (2) that the video treatments were not large enough to change actual firm behavior, and (3) that there are other critical impediments to bankruptcy other than information unawareness and stigma.

This paper contributes to two strands of literature, the most important one being the literature on business bankruptcy. The literature on business bankruptcy has generally focused on the costs and consequences of different bankruptcy regimes (Hart, 2000; Bris et al., 2006; Davydenko and Franks, 2008; Bernstein et al., 2019a,b) and, as discussed above, has largely considered the problem of bankruptcy choice in terms of objective costs and benefits assuming that firms are fully informed about the various costs and benefits (Bulow and Shoven, 1978; Bolton and Scharfstein, 1996; Antill and Grenadier, 2019). Such an approach is perhaps warranted when considering large, public firms, which are more likely to be informed. These large firms have been the focus of the majority of academic interest in bankruptcy. Instead, we approach the issue of firm bankruptcy from a different angle, focusing on the role of information unawareness and stigma, which are likely to play a significant role in small business decision-making. In consumer bankruptcy, several papers have examined the role that peers play in potentially reducing stigma or providing information about bankruptcy (Dick et al., 2008; Fisher, 2020; Kalda, 2020; Agarwal et al., 2020; Keys et al., 2020). These papers consistently show that peers can influence the personal bankruptcy decision, but evidence is mixed on whether spillovers derive from information transfer, stigma, or other possible mechanisms. A related strand of literature has focused particularly on personal bankruptcy stigma, with some papers arguing that stigma has decreased over time (Fay et al., 1998; Gross and Souleles, 2002; Jones and Zywicki, 1999) while others argue that stigma persists or has even increased (Sousa, 2018; Sullivan et al., 2006). While nearly all of this literature acknowledges that stigma may play a role in the bankruptcy decision, we add to this literature by making use of an RCT to explicitly distinguish between the information and stigma channels. Meanwhile, the role of stigma and information frictions in affecting business bankruptcy has mostly been ignored in the academic literature. One recent exception to this is Gotberg (2021b), who presents qualitative evidence that many small business owners express significant reluctance to consider bankruptcy. On the other hand, small businesses should arguably have more information (Link et al., 2021; Mikosch et al.,
and significantly less stigma than households. We find substantial information unawareness and stigma among small businesses, but also that both can be reduced. This is extremely important for public policy. Even if good laws are passed that make bankruptcy more economically valuable, small firms may not be able to take advantage of the laws if they lack knowledge about bankruptcy or if bankruptcy is stigmatized. Indeed, information and stigma barriers may interact to mutually reinforce each other. Stigma against bankruptcy could prevent a small business owner from obtaining information, and a lack of information could lead individuals to assume that their biases against bankruptcy are likely true. While the video treatments in the RCT were carefully created using professional videographers, they are designed to be highly scalable.

The other main literature we contribute to is the one on behavioral firms. Empirical behavioral economics has frequently considered the possibility that consumers or employees are behavioral, analyzing how firms react. A small but growing literature on firms takes an alternative perspective that firms themselves may exhibit deviations from “full optimality.” For example, Malmendier and Tate (2015) review the literature on behavioral CEOs and their effects on firms. Deviations from full optimality seem particularly likely in the case of small businesses. We show that firms exhibit both substantial information unawareness and substantial stigma regarding bankruptcy. Our use of detailed surveys embedded within an RCT provides a methodological tool that other researchers can use while studying behavioral issues in firms. We refer to Haaland et al. (2020) and Capozza et al. (2021) for comprehensive reviews of information experiments that share a similar experimental design to ours.

Our paper proceeds as follows. Section 2 briefly introduces the institutional context regarding small business bankruptcy. Section 3 discusses the experimental design. Section 4 provides a descriptive analysis of our data. Section 5 reports the results from our experiments. Section 6 concludes.

Research on behavioral issues in firms often takes a structural estimation approach to examine what behavioral phenomena can best rationalize various patterns of behavior by firms or particular managers (Goldfarb and Xiao, 2011; Hortaçsu et al., 2019). By directly measuring changes in manager knowledge, attitudes, and beliefs, we provide a complementary way of identifying behavioral mechanisms.
2 Bankruptcy Background

Small businesses in the U.S. have two bankruptcy options when faced with financial distress. Under Chapter 7 bankruptcy, the assets of the firm are turned over to a trustee, who sells the assets and liquidates the firm, returning the proceeds to pay off creditors as much as possible. Firms that file for Chapter 7 constitute about 65% of all business bankruptcy filings according to U.S. court filing statistics.

Alternatively, a firm may file for Chapter 11 bankruptcy, which is a bargaining process that aims to restructure the firm and allow it to survive if possible. While reorganization is the goal, many firms that file for Chapter 11 end up being liquidated, either by conversion to Chapter 7, the sale of all assets during the Chapter 11 process, or dismissal from court. This is especially the case for smaller firms. Greenwood, Iverson and Thesmar (2020) estimate that 86% of firms with over $500 million in assets file for Chapter 11 successfully reorganize, while only 33% of firms that enter Chapter 11 with less than $50 million in assets avoid liquidation.

Chapter 11 can be a difficult process for smaller firms due to extensive reporting requirements and lengthy negotiations with creditors, both of which create large legal fees. Partially due to these costs, distressed small firms have predominantly either filed for Chapter 7 or avoided bankruptcy altogether (Greenwood et al., 2020). However, in February 2020—just prior to the COVID-19 pandemic—the Small Business Reorganization Act (SBRA) was passed. The SBRA created a new bankruptcy option for small businesses, known as Subchapter V of Chapter 11. Under Subchapter V, businesses with less than $7.5 million in liabilities can enter a significantly streamlined Chapter 11 process. One key feature of Subchapter V is that small business debtors no longer need to confirm a reorganization plan with consent from their creditors. Instead, the small business works with an assigned trustee to create a plan that allows the firm to continue to operate while repaying creditors as much as possible over the next three to five years. In addition, deadlines for creating the plan are significantly accelerated under Subchapter V, which should reduce the costs of bankruptcy for small businesses.4

While the SBRA should make bankruptcy a much more palatable option for many small businesses, if entrepreneurs do not know of the law change or have strong stigma against using

4We only highlight these two important changes affected by the SBRA. See Gotberg (2021a) for a full description of the SBRA and how it is viewed by small business owners.
bankruptcy then it does not matter how well the law functions. Firms must have a knowledge of the law and be willing to use it for it to have any effect. Our survey and experiment help to demonstrate that knowledge is lacking and stigma is high, but that both of these barriers to using bankruptcy can potentially be reduced.

3 Experimental Design

In this section, we describe the empirical methodology we adopt. We focus our attention on the specific details of our data collection in Section 3.1, with Section 3.2 providing more information on the structure of the survey and the specific questions we ask. Section 3.3 details the experimental variation we introduce by means of animated videos. In Section 3.4 we briefly outline additional features of the survey that ensure the reliability of the data we collect.

3.1 Data Collection

We conducted our experimental survey in November 2020, in the midst of the COVID-19 crisis when multiple small businesses were struggling to stay afloat.

We designed the surveys using the Qualtrics online platform, and the survey links were then distributed by our research partner SCORE to their proprietary sample of U.S. small businesses. SCORE is supported by the U.S. Small Business Administration and is the largest small business volunteer mentor program in the U.S. We collected a total of 1,386 survey responses. The median time for completion of the survey was 20.25 minutes. To test the persistence of the effects, we also conducted a follow-up survey four months after the original survey, where we were able to reach approximately 36% of the sample for a total of 505 follow-up survey responses.

In Table 1 we report summary statistics of the main characteristics of all the surveyed firms and the socioeconomic background their owners, with each column focusing on a specific subset of the respondents. Going from top to bottom of the table and focusing on the full sample (last column), we can see that 32.9% of the respondent firms less than 3 years old. Half of the firms have some sort of debt, with almost one quarter of these firms having more than $100,000 in debt. While roughly half of the sample reports no official debt, over 85% of the sample has some type of financial obligation. The most common financial obligations are business credit cards or other
business loans (25.0%), with rent or mortgage being the second largest (24.7%). Business owners have personally guaranteed the business debts in 27.0% of firms, creating personal liability for a significant portion of the sample. Meanwhile, 9.81% of business owners think their firms are unlikely to remain open in the next 12 months. In terms of personal characteristics of the business owners, 62.5% of the sample are female and a large share (68.9%) has at least a college degree. The next panel shows that most respondents are between 45 and 64 years old. Finally, slightly more than half the respondents are white, while 18.83% are African American, 8.52% are Hispanic, 5.61% are Asian American, and 1.57% are Native American or First Nation (the remaining respondents prefer not to answer).

3.2 Survey Structure and Measurement

We now provide a brief description of the survey, the structure of which is visually illustrated in Figure 1. After a brief introduction and consent form, the survey asks about basic business characteristics, then displays the animated videos, and then asks questions regarding knowledge of bankruptcy options, stigma regarding business bankruptcy, the main outcome variables, and finally the demographic characteristics of the firm’s owners. We discuss each section of the survey in more details below.

3.2.1 Basic Business Characteristics

The first section asks about basic business characteristics of the firms we surveyed. We collect information on age, outstanding debt, financial obligations, nature of debt guarantees, number of workers, and likelihood of business remaining operational in the future.

3.2.2 Informational Videos

The second section of the survey consists of professionally animated videos, which we created to generate specific sources of experimental variation. The animated videos are discussed in detail in Section 3.3 and screenshots from the videos are displayed in Appendix Figures A1, A2, and A3.
3.2.3 Bankruptcy Knowledge

A central part of our study consists of measuring small firms’ perceptions and awareness of bankruptcy options. In particular, we measure how much small business owners in the U.S know about bankruptcy practices. We measure whether small business owners correctly believe that filing for bankruptcy can be a means to keep the business afloat during times of financial difficulties or whether they incorrectly believe that declaring bankruptcy necessarily entails the death of a firm, i.e., shutting down permanently. We also measure whether businesses are aware of the difference between Chapter 7 (liquidation) and Chapter 11 (reorganization). Finally, we measure awareness of the policy and legal framework, by asking whether respondents are aware that the recent Small Business Reorganization Act (SBRA) makes it easier for small businesses to file for Chapter 11 bankruptcy. We discuss the questions we ask on bankruptcy knowledge and responses among the control group in detail in Section 4.

3.2.4 Bankruptcy Stigma

Another central part of the study is to measure the extent to which small businesses in the U.S perceive the presence of negative stigma against bankruptcy. To measure stigma, we ask respondents how much they agree with the following statements: "It is embarrassing for a business owner to file for bankruptcy."; "People will think that a business owner who files for bankruptcy is a failure."; "People will think that a business owner who files for bankruptcy is unethical."; "Clients will be less willing to buy from a business owner who filed for bankruptcy."; "Employees will be less willing to work for a business owner who filed for bankruptcy."; and "Friends and family may look down on a business owner who files for bankruptcy." We discuss the responses to these questions in detail in Section 4.

3.2.5 Outcome Variables

We measure outcomes in multiple ways. First, we ask to what extent firms would consider bankruptcy as an option to deal with financial difficulties in the future. We then measure firms’ willingness to take on risk, intended future investment plans, and intended plans to take on more debt.
More specifically, our first outcome variable measures the likelihood that the respondent considers filing for bankruptcy in the next 12 months. We ask: *'What is the likelihood that you will consider filing for bankruptcy in the next 12 months?*', with answer options being: *'Definitely will not file; Moderately unlikely; Slightly unlikely; Neither likely nor unlikely; Slightly likely'*. 

A second dependent variable captures business owners’ willingness to consider bankruptcy conditional on being in financial distress. We ask to extent to which they agree with the following statement: *'If I am unable to pay my debt, I will consider filing for Chapter 11 bankruptcy'*, measured on the following 5-point scale: *'Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree'*. 

The next outcome variable measures the likelihood of renegotiating debt in the next 12 months. That is, we ask business owners: *'What is the likelihood that you will consider renegotiating your debt and/or other payment obligations (such as rent) in the next 12 months?'*, which they can answer with: *'Extremely unlikely; Somewhat unlikely; Neither likely nor unlikely; Somewhat likely; Extremely likely'*. 

The fourth outcome variable measures risk tolerance. To do so we ask: *'How much 'risk' do you think that you will take in the next 12 months? By risk, we mean risks that your business may take (not risks from the external environment), like introducing a new product or expanding to a new location.'* The answer options are: *'Less than typical amount of risk.; Typical amount of risk.; More than typical amount of risk.'*. 

The fifth outcome variable aims to measure intended changes in firms’ investment plans. Specifically we ask: *'Small businesses frequently need to make decisions about investment, such as whether to buy a new piece of equipment or a new facility. Over the next 12 months, how much investment do you intend to make relative to a typical year? More than usual, about the same as usual, or less than usual?'.* Respondents have the five following options to choose from: *'Much more than usual level of investment; Somewhat more than usual level of investment; About the same as usual level of investment; Somewhat less than usual level of investment; Much less than usual level of investment'*. 

Our last outcome variable measures the amount of debt business owners are willing to take. We ask: *'Having taken the survey, do you think you may consider changing the amount of debt your business holds?'*. Respondents can indicate if they will increase or decrease their amount of
debtor by choosing one of the following options: *Will consider increasing the amount of debt; Will consider decreasing the amount of debt; No; I don’t have any debt*.

### 3.2.6 Demographic Characteristics

The last section asks about the demographic background of the firm’s owners. We collect information on gender, education, age, and race and ethnicity.

### 3.3 Experimental Variation

We introduce one main layer of randomization into our survey, aimed at inducing experimental variation in knowledge and stigma regarding small business bankruptcy. To do so, we generate two treatment groups—aimed at varying knowledge and/or stigma—and one control group. The set of questions asked is the same for all respondents. After randomly assigning respondents to one of the three groups (control, information, or information and stigma), we obtain variation by exposing respondents to different videos after the first section on basic business characteristics. We illustrate the experimental design, as well as the total number of observations in each treatment and control group, in Figure 1.

A key assumption for our experimental design to be valid is that there is no statistical difference between treatment and control groups. A quick comparison of the first three columns of Table 1 shows that the composition of the different treatment groups is rather similar, both in terms of firm-level and individual-level characteristics. We further test for balance more directly in Table 2, where we aggregate some of the variables into coarser categories. In columns 1 and 2, we report the results from univariate regressions of an indicator variable for each treatment group on the main characteristics of interest. In columns 3 and 4 we conduct a similar analysis where the characteristics of interest are included together in the same regression. The results in the table display the randomization was effective, as there is only one coefficient that is statistically significant (at the 10% level), and because all the coefficients are small in magnitude across all specifications.
3.3.1 The Animated Videos

The experimental variation is introduced by means of animated videos. All videos have been professionally scripted and developed, and they are similar to the animated videos seen in a variety of contexts, including some of SCORE’s instructional videos. The full scripts of all videos are reported in Appendix A.

The first video is a control video, which consists of a brief two-minute animation about a hypothetical small business owner who is struggling with financial issues. No further information about bankruptcy fillings or SBRA is shown in the control video, which is intentionally designed so that respondents answer the subsequent questions with their own prior beliefs and knowledge about bankruptcy.

In designing the treatment videos, there are a few relevant considerations to notice. First, the treatment videos should ideally move all respondents’ perceptions monotonically in the same direction. Second, the treatment should to be truthful and not provide any incorrect information. With these goals in mind, we opted to treat respondents by means of qualitative statements, an approach similar in nature to Alesina et al. (2018) and Colonnelli and Gormsen (2020) in the contexts of intergenerational mobility and corporate responsibility, respectively.

Our first treatment video—Information—aims at providing information about bankruptcy protection, covering basic differences between Chapter 7 and Chapter 11 bankruptcy, and explaining the SBRA. It is shown that firms that file for bankruptcy do not necessarily go out of business. Indeed, the video indicates that filing for Chapter 11 bankruptcy can be a way of struggling business to find the means to stay operational. For example, the videos says: “Many people think that bankruptcy means shutting down your business, this is called Chapter 7 bankruptcy. But there is another kind that helps you stay in business, Chapter 11. Chapter 11 is designed to protect the business until you can get back on your feet.” The information on the video is correct and shines a light on the possible uses of bankruptcy. Moreover, the video does not intend to reduce stigma against bankruptcy in any way.

Our second treatment video—Information and Stigma—aims not only to provide basic information about business bankruptcy, but also to reduce small business owner’s stigma regarding bankruptcy. Specifically, in addition to the same Information video discussed above, respondents
watch an additional minute aimed at reducing stigma. The video shows that filing for bankruptcy is lawful and even part of the constitution, and that many successful U.S. corporations have relied on the bankruptcy system and managed to remain profitable even after filing for bankruptcy. It contains statements such as: "You didn’t fail, business conditions changed.", "It’s a tool that responsible people use to save their business after a setback.", and "Bankruptcy is a lot more common than you think. Big businesses have been using Chapter 11 for decades."

3.4 Ensuring High Quality Data

The survey itself is designed to ensure the answers are reliable, with all videos intentionally set up to be easy to understand in terms of language. We make sure respondents pay attention to the informational videos by embedding forced stops into the videos when respondents change or minimize tabs on the web browser or move to another screen, program, or application. Also, respondents are unable to mute the audio and the fast-forward option is removed. We also track the time spent by each respondent on the survey, and we find that only 2.16% of the respondents completed the survey in less than 10 minutes. Respondents cannot skip questions, must actively click on the option to respond to each given question, and questions that require numeric entries cannot be answered with non-numerical characters. Furthermore, at the end of the survey, we ask respondents to confirm they have devoted full attention to the study and whether, in their honest opinion, we should count their responses in our analysis. As discussed by Meade and Craig (2012), these questions aim to ensure the respondents pay attention to the subsequent questions, and they are effective independently of whether the respondents answer honestly. Almost all respondents (99.64%) explicitly state they devoted full attention to the survey. Before concluding, in one of the last questions, we ask respondents how much effort they have put forth and we find that 89.67% of the respondents state they put forth quite a bit or a lot of effort towards the study.

4 Descriptive Analysis

Little is known about what small business owners know about bankruptcy or their views on the process.\textsuperscript{5} Before discussing the results of our experiment, in this section we discuss some descriptive

\textsuperscript{5}One exception is Gotberg (2021b), who provides qualitative interviews of 43 small business owners in Columbia, Missouri, discussing both information and stigma among this group.
statistics that shed light on how small business owners in our sample view bankruptcy. We focus on the control group of our sample in order to ensure that the descriptive facts are not contaminated by our information treatments.

### 4.1 Bankruptcy Knowledge

Small businesses fail at relatively high rates. Data from the Bureau of Labor Statistics’ Business Employment Dynamics show that roughly 20 percent of new business establishments fail within their first year, and less than 50 percent survive through five years. Given the relatively high possibility of facing financial and economic difficulties, one might expect that it would be valuable for small business owners to have at least some familiarity with the basics of bankruptcy as an option to deal with a struggling business. However, summary statistics in Table 3 paint a different picture. Only 35 percent of respondents self-report that they have a good understanding of the bankruptcy system. This lack of understanding is borne out in responses to three basic true/false questions, where 35, 44, and 47 percent of respondents report that they don’t know the answer to each question, respectively. For example, nearly half of small business owners do not know that debts can be renegotiated with creditors in Chapter 11. Perhaps most strikingly, almost 42 percent of respondents either get the answer wrong or don’t know the answer to the “life after death” question of whether bankruptcy necessarily forces a small business to cease operations. This means that a significant portion of small business owners may not view bankruptcy as an option to restructure and continue operating their firms.

Table 3 also shows that nearly all small business owners are unaware of the SBRA, with 88 percent reporting that they don’t know if the SBRA makes it easier or harder for a small business to file for Ch. 11 bankruptcy. Given that the SBRA was passed only eight months before the survey was administered, it may be unsurprising that many business owners were unaware of its passage. At the same time, for laws such as these to be effective it is important that those who might be affected by the law are made aware of it.

In Figure 3, we display how basic knowledge about bankruptcy varies across various socio-demographic and business characteristics. In these figures, we code “don’t know” responses as “incorrect,” and then plot the average and 95% confidence intervals for various subsets of the data. Several consistent patterns emerge from this descriptive analysis. First, both owner and firm age
are strongly related to having more knowledge of bankruptcy. On average, older business owners as well as owners of older businesses score significantly higher on all basic knowledge questions. Similarly, business owners that have finished college score significantly higher on most questions. We also observe differences by gender, with male business owners scoring higher than female business owners. On the other hand, we do not observe significant differences between white and non-white business owners.\footnote{We see no differences in knowledge about SBRA, as all subsets of the data are largely uninformed about the new law.}

Businesses must have debt to file for bankruptcy, and so one might expect that business owners with debt would be more informed about bankruptcy. However, we find that businesses owners with debt get a similar percentage of knowledge questions correct. Similarly, business owners that have personally guaranteed their business loans do not display greater knowledge of bankruptcy.

### 4.2 Bankruptcy Stigma

Control group responses also give unique insight into the stigma that business owners have against bankruptcy. Panel D of Table 3 shows that stigma is large across five of the six dimensions of stigma we asked about. We find the strongest response when respondents are asked if bankruptcy is viewed as a failure, with 70% agreeing with this statement. Between 53% and 64% of respondents agree that bankruptcy is embarrassing, and that it will make it harder to work with clients or employees. 62% feel that friends and family will look down on a business owner who files for bankruptcy. All of these suggest that business owners expect quite a lot of social stigma from a bankruptcy filing.

On the other hand, only a quarter of respondents agree that it is unethical to file for bankruptcy. While 25% is still a significant portion of respondents, this is far lower than figures for other stigma questions, and suggests that many business owners do not personally view bankruptcy as unethical but still worry about how a bankruptcy will reflect on their reputation and ability to run a business.

Figure 4 shows that there is significant heterogeneity in how various socio-demographic groups view small business bankruptcy. In particular, non-white owners are much less likely to agree that bankruptcy is embarrassing or a failure than white owners. They are also significantly less likely
to agree that bankruptcy will damage relationships with clients, employees, or friends and family. We also see differences by gender, with male business owners displaying more stigma than female business owners across most questions.

Finally, we examine differences between businesses with and without debt and those with and without personal guarantees. Ex ante, one might expect that business owners with more stigma against bankruptcy would avoid taking on debt or providing personal guarantees, so as to avoid bankruptcy. Instead, we observe the opposite of this relationship, finding that businesses with debt have more stigma against bankruptcy than those without debt. Similarly, business owners with personal guarantees exhibit more stigma than those without personal guarantees. Given that these are purely descriptive correlations, we can’t pin down exactly why business owners with debt and personal guarantees display more stigma against bankruptcy. One possibility is that having debt and personal guarantees makes them more averse to bankruptcy. Alternatively, it is possible that business owners with strong stigma regarding bankruptcy think it is unlikely they will ever get into financial difficulties and thus do not expect to file for bankruptcy, leading them to be more willing to take on debt.

To summarize, three points stick out from the descriptive analysis of control group respondents. First, most business owners know very little about bankruptcy despite high failure rates. Second, stigma appears to be quite high, with a majority of business owners labelling bankruptcy as embarrassing, a failure, and expecting bankruptcy to damage their relationships with others. Third, both information and stigma vary substantially across the sociodemographic spectrum, with older and college educated business owners having more knowledge, while white and male business owners displaying the most stigma.

5 Experimental Results

In this section we describe the results of our information and stigma video experiments. We first report the results on small business owners’ knowledge of bankruptcy in Section 5.1. In Section 5.2 we study the effects on stigma. In Section 5.3 we conclude with a discussion of real outcomes.
5.1 Impacts on Knowledge

Table 4 shows that the information treatment had a large immediate effect on knowledge. As seen in column 2, the two information treatments increase the share of firms who know that bankruptcy allows for “life after death” by roughly 25pp each. The treatments raise the share of True/False correct answers by 35pp. The treatments lead to near complete knowledge that Chapter 11 allows firms to re-organize, boosting knowledge to almost 100%. And the treatments boost knowledge that the SBRA makes bankruptcy easier by 60pp.

In all information RCTs, a fundamental issue is whether changes in knowledge or beliefs are transitory. One reason this is important is placebo effects, i.e., a concern that people may change their minds to please the experimenter. Another reason is simply to assess whether changes in knowledge or beliefs are durable, since more durable changes in belief may be necessary to affect longer-run outcomes.

Table 5 shows that there are persistent improvements in knowledge about bankruptcy after 4 months. Some of the treatment effects are partially muted, e.g., the impacts on life after death shrink from 25pp to 15pp. However, the effects remain economically sizable.

As seen in Tables 4 and 5, the impact of the information only treatment and the information+stigma treatment are similar. This is unsurprising given that the key difference between the two treatments concerns stigma instead of information. It suggests, however, that it is the informational component of the video that is providing information about bankruptcy to subjects, as opposed to subjects engaging in general information acquisition in response to more video content.

Given that the sample after 4 months is considerably smaller, an important issue is whether such changes in beliefs reflect actual changes in beliefs versus sample attrition. Appendix Table A1 presents the impacts on immediate changes in information for firms that remain in the sample throughout the RCT. As seen in Panel A, the immediate information treatment effects among firms in the sample for the entire time period are similar to the immediate effects among all firms. This suggests that attrition bias is unlikely to be a main driver of the results in Table 5.

Improvements to information about bankruptcy are observed across a wide range of firms and industries.
5.2 Impacts on Stigma

Table 6 shows that the stigma treatment has a substantial negative effect on stigma regarding bankruptcy, both economically and statistically. For all but one variable, we see reductions in stigma of roughly $0.2\sigma$ to $0.35\sigma$, as well as a reduction in combined stigma of $0.29\sigma$. The one instance where the stigma treatment failed to reduce stigma is for whether subjects regard bankruptcy as unethical. This is unsurprising given that this was the one question where subjects showed low stigma in the control group.

Table 7 shows that the effects are highly persistent after 4 months. Unlike knowledge, the effects on stigma show relatively little attenuation. The combined stigma effect after 4 months is $0.26\sigma$.\(^7\)

We believe that this finding is important as it shows that stigma about bankruptcy may be partially addressed using relatively low-cost interventions. While one might imagine that Hawthorne Effects might cause businesses to reduce stigma immediately after treatment, it is unlikely that such effects would cause stigma to be reduced 4 months after treatment.

We consistently see that the information+stigma treatment significantly reduces stigma, whereas the information only treatment fails to significantly reduce stigma. For example, while the information+stigma treatment reduces immediate stigma by $0.29\sigma$, the information only treatment reduces stigma by only $0.05\sigma$. This suggests that it is the stigma-related content of the videos that is reducing stigma as opposed to the general experience of viewing a video, as intended.

Another question is what type of firms exhibit stigma and respond to the treatment. The answer on both accounts is a broad range of firms. Stigma is observed in firms of different sizes and operating in different industries, and firms of all types respond to our interventions and demonstrate persistence.

5.3 Firm Outcomes

**Intended Outcomes Immediately Following Treatment.** Table 8 shows that the treatments had sizable effects on many intended outcomes. Effects are generally larger for the informa-

\(^7\)A caveat is that we did not ask the stigma question about whether bankruptcy was unethical in the 4-month followup, due to limits on survey length for the follow-up. Still, even if we create a combined measure of immediate stigma reduction using only the same questions that were asked in the 4-month followup, the patterns are broadly similar.
Columns 1-2 show that the treatments make firms more willing to consider bankruptcy, especially in the case of the information+stigma treatment. In column 1, the information+stigma treatment increases firms’ willingness to consider bankruptcy by 0.13σ, which seems moderate in size. In column 2, the information treatment makes firms 0.25σ more willing to use Chapter 11 bankruptcy conditional on not being able to repay, and the effect from the information+stigma treatment is 0.31σ.

Interestingly, the treatments made firms less likely to intend to renegotiate their debts, by 0.10σ for the information treatment and 0.18σ for the information+stigma treatment. A simple explanation is that when bankruptcy becomes more attractive in the mind of a business owner, there is less need to want to renegotiate debts with creditors, as such debts can be reduced via bankruptcy.

Columns 4-6 consider risk-taking and investment. Column 4 shows that the treatments did not have statistically significant effects on intended self-defined risk-taking, though effects are in the positive direction. Columns 5-6 show that the treatments increase firms’ intention to increase debt and investment. For each outcome (debt or investment), firms are asked whether they intend to increase the level over the next 6 months, keep the level the same, or decrease it. Thus, column 5 shows that the treatments increase the share of firms intending to increase debt by 0.11σ to 0.15σ and increase the share of firms intending to increase investment by 0.11σ to 0.14σ.

Finally, column 7 considers a risk composite score, comprised of the average of normalized values for columns 1-6. The information treatment increases the risk composite score by 0.14σ, while the information+stigma treatments increases the risk composite score by 0.21σ. We cannot reject that the two treatments have the same effect (p = 0.29).

**Actual Outcomes Months After Treatment.** Despite the large effects on immediate outcomes, limited effects are observed on self-reported past outcomes, which we observe as part of our 4-month followup. Treatment firms were no more likely to have reported considering using bankruptcy in the past 4 months. There are also no consistent effects on self-reported changes in investment during the last 4 months, changes in debt during the last 4 months, or debt renegotiation
during the last 4 months.\textsuperscript{8}

These results warrant the strong caveat that there is sizable sample attrition. Still, recall from above that the impacts on information awareness and stigma were similar for the firms who stayed in the sample throughout the whole period. This suggests that sample attrition is not likely a main driver.\textsuperscript{9}

In addition to intended outcomes after 4 months, we also collected data on whether a firm was still in operation. We do this by checking to see if the firm has an active website or if we can see any other presence on the internet. We see no evidence that our treatments affected whether a firm was still in operation. We are also working on merging the data with bankruptcy records so as to observe whether there are effects on actual bankruptcy.

Overall, we observe no effect of our treatments on longer-run firm outcomes. Thus, while addressing lack of awareness and stigma related to bankruptcy affects firms’ shorter-run outcomes, there may be more important longer-run impediments to bankruptcy. For example, it could be that the expense of filing for bankruptcy or its ability to actually rehabilitate a struggling firm are more important determinants of the bankruptcy decision. We note, however, that while this may have been true prior to the SBRA, the passage of this law should have made bankruptcy significantly more attractive for many small businesses.

Another possible explanation for a lack of long-run effects is that many of the sample firms were never distressed during our sample period, and thus only a small share of the sample would possibly be affected by the treatment. While the COVID-19 pandemic created large disruptions for many small businesses, government support along with lender leniency actually prevented many firms from filing for bankruptcy, such that bankruptcy rates declined in 2020 relative to 2019 (Wang et al., 2021). Given this, it is possible that the video treatments only affected a small number of firms such that the effects were undetectable. Finally, it is possible that the video treatments were not large enough to induce a change in firm behavior. While this is a possibility, it is important to keep in mind that the treatments significantly affected both knowledge and stigma at the four-month horizon.

\textsuperscript{8}The information only treatment has a positive effect on whether a firm increases debt, but the information+stigma treatment has no such effect.

\textsuperscript{9}In Appendix Table A2, we also regress an indicator variable for whether a firm does not respond to the followup survey on various predictors. The only significant predictor of sample attrition is business owner race.
6 Conclusion

Using a large-scale survey experiment, we document that a large share of firms are not well-informed about bankruptcy options. In addition, many firms exhibit stigma about bankruptcy, showing for example special concerns that workers may not be willing to work with firms that file for bankruptcy, as well as concerns that customers will not want to do business with them. We show using videos that such beliefs and attitudes are not fixed, and can be strongly addressed with information. Furthermore, these treatments led to sizable effects on firms’ intended behavior, such as whether firms intend to increase risk-taking and increase investment. However, we do not see longer-run real outcomes, possibly because of other impediments and frictions to firms’ use of bankruptcy or because only a small fraction of our sample experienced distress during the sample period. Our results suggest that behavioral factors matter for how small businesses approach financial distress and bankruptcy. However, their ultimate effects on firm investment, risk-taking, and eventual bankruptcy rates are worthy of further investigation.
References


Haaland, Ingar, Christopher Roth, and Johannes Wohlfart, “Designing information provision experiments,” 2020.


Link, Sebastian, Andreas Peichl, Christopher Roth, and Johannes Wohlfart, “Information Frictions Among Firms and Households,” 2021. CESifo Working Paper No. 8969.


Figure 1: Experimental Design

Notes: This figure illustrates our experimental design, including the randomization layers and the sample sizes associated with each treatment and control group. The details of the design are discussed in Section 3.3.
Knowledge of Bankruptcy System
Bankruptcy is not Death
Knowledge 7 vs 11
Overall T/F Score
Use Ch.11 Reorg
SBRA Bankruptcy Easier

A. Knowledge

B. Stigma

Figure 2: Summary Statistics for Knowledge and Stigma

Notes: Sub-figure A shows the average and the 95% confidence interval for our main knowledge measures per treatment group; all variables are defined in Section 3.2.3. Sub-figure B shows the average and the 95% confidence interval for our main stigma measures per treatment group; all variables are defined in Section 3.2.4.
Notes: This figure shows how our measure of bankruptcy knowledge varies across socio-demographic and business characteristics of the respondents. The sample consists of respondents in the Control video group. See Section 3.2 for a definition of big business discontent and each specific measure, and see Table 2 for a definition of each specific socio-demographic and business characteristics indicator variable. The sub-figures display the average and the 95% confidence interval.
**Figure 4: Heterogeneity: Stigma**

**Notes:** This figure shows how our measure of bankruptcy stigma varies across socio-demographic and business characteristics of the respondents. The sample consists of respondents in the Control video group. See Section 3.2 for a definition of big business discontent and each specific measure, and see Table 2 for a definition of each specific socio-demographic and business characteristics indicator variable. The sub-figures display the average and the 95% confidence interval.
Figure 5: Heterogeneity: Outcomes

Notes: This figure shows how our measure of experimental outcome varies across socio-demographic and business characteristics of the respondents. The sample consists of respondents in the Control video group. See Section 3.2 for a definition of big business discontent and each specific measure, and see Table 2 for a definition of each specific socio-demographic and business characteristics indicator variable. The sub-figures display the average and the 95% confidence interval.
### Table 1: Summary Statistics: Firm Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Information</th>
<th>Information + Stigma</th>
<th>Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs</td>
<td>449</td>
<td>491</td>
<td>446</td>
<td>1386</td>
</tr>
</tbody>
</table>

#### Firm Age
- **< 1 year**: 15.37% 15.27% 13.00% 14.57%
- **1-2 years**: 19.15% 16.50% 19.51% 18.33%
- **3-5 years**: 26.06% 22.61% 25.34% 24.60%
- **6-10 years**: 15.14% 19.55% 13.45% 16.16%
- **11+ years**: 24.28% 26.07% 28.70% 26.33%

#### Has Any Debt
- 49.67% 51.73% 50.45% 50.65%

#### Total Debt (conditional on having debt)
- **< $1,000**: 3.65% 3.54% 0.89% 2.73%
- **$1,001 - $5,000**: 12.79% 14.57% 14.29% 13.92%
- **$5,001 - $10,000**: 19.18% 15.35% 16.52% 16.93%
- **$10,001 - $25,000**: 15.53% 14.57% 14.29% 14.78%
- **$25,001 - $50,000**: 10.50% 14.17% 16.07% 13.63%
- **$50,001 - $100,000**: 14.16% 13.39% 12.50% 13.34%
- **> $100,000**: 24.20% 24.41% 25.45% 24.68%

#### Largest financial obligation
- Business Credit Card / Other business loan: 25.17% 22.09% 27.87% 24.95%
- Rent / Mortgage for business location: 24.94% 25.36% 23.60% 24.66%
- Payments to vendors for goods bought on credit: 11.36% 15.95% 15.96% 14.46%
- Equipment leases: 2.00% 2.66% 1.35% 2.02%
- Other: 18.71% 20.45% 18.43% 19.23%
- No obligations: 17.82% 13.50% 12.81% 14.68%

#### Has Personal Guarantee
- 25.61% 26.88% 28.48% 26.98%

#### Extremely or somewhat unlikely to remain open in 12 months
- 10.69% 9.78% 8.97% 9.81%

#### Female
- 61.92% 61.51% 64.35% 62.55%

#### College Graduate or higher
- 70.16% 67.41% 69.28% 68.90%

#### Business Owner Age
- **18-34**: 6.90% 7.13% 4.71% 6.28%
- **35-44**: 19.60% 17.72% 18.83% 18.69%
- **45-54**: 29.84% 30.96% 29.60% 30.16%
- **55-64**: 29.62% 32.79% 35.20% 32.54%
- **65+**: 14.03% 11.41% 11.66% 12.34%

#### Race
- White (non-Hispanic): 55.51% 55.68% 59.06% 54.71%
- Black/African American: 23.97% 24.28% 19.96% 18.83%
- Hispanic: 7.36% 7.80% 7.13% 8.52%
- Asian American: 2.38% 2.23% 2.65% 5.61%
- Native American or First Nation: 1.51% 1.34% 2.44% 1.57%
- Prefer not to answer: 9.07% 8.69% 8.76% 10.76%

**Notes:** This table provides summary statistics on the firm and firm owner characteristics of our sample.
<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Univariate Balance</th>
<th>(2) Univariate Balance</th>
<th>(3) Joint Balance</th>
<th>(4) Joint Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Information Treatment</td>
<td>Information + Stigma Treatment</td>
<td>Information Treatment</td>
<td>Information + Stigma Treatment</td>
</tr>
<tr>
<td>Young</td>
<td>-0.0632* (0.0550)</td>
<td>-0.0283 (0.4063)</td>
<td>-0.0659 (0.1224)</td>
<td>-0.0187 (0.6624)</td>
</tr>
<tr>
<td>Has debt</td>
<td>0.0206 (0.5275)</td>
<td>0.0078 (0.8152)</td>
<td>0.0093 (0.7998)</td>
<td>-0.0142 (0.7080)</td>
</tr>
<tr>
<td>Has personal guarantee</td>
<td>0.0164 (0.6586)</td>
<td>0.0363 (0.3355)</td>
<td>0.0019 (0.9621)</td>
<td>0.0451 (0.2859)</td>
</tr>
<tr>
<td>Respondent is female</td>
<td>-0.0043 (0.8978)</td>
<td>0.0261 (0.4509)</td>
<td>0.0030 (0.9301)</td>
<td>0.0343 (0.3305)</td>
</tr>
<tr>
<td>College graduate or higher</td>
<td>0.0310 (0.3714)</td>
<td>0.0225 (0.5247)</td>
<td>-0.0164 (0.7116)</td>
<td>0.0072 (0.8719)</td>
</tr>
<tr>
<td>Young business owner</td>
<td>-0.0217 (0.5618)</td>
<td>-0.0394 (0.3071)</td>
<td>-0.0041 (0.9149)</td>
<td>-0.0388 (0.3354)</td>
</tr>
<tr>
<td>White owner</td>
<td>0.0345 (0.2951)</td>
<td>-0.0098 (0.7706)</td>
<td>0.0216 (0.5260)</td>
<td>-0.0199 (0.5651)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observations</th>
<th>940</th>
<th>895</th>
<th>940</th>
<th>895</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint significance: p-value</td>
<td>–</td>
<td>–</td>
<td>0.793</td>
<td>0.827</td>
</tr>
</tbody>
</table>

**Notes:** We check for balance in two ways: (i) through univariate regressions of an indicator variable equal to 1 if the individual is subject to a given treatment on each demographic characteristic separately (columns 1-2), and (ii) through multivariate regressions of an indicator variable equal to 1 if the individual is subject to a given treatment on all demographic characteristics jointly (columns 3-4). The sample for each column consists of all individuals in the specific treatment group and all individuals in the control group. **Young firm** is an indicator variable equal to 1 for firms which are 5 years old or younger. **Has debt** is an indicator variable equal to 1 for the sample of firms with a positive amount of debt. **Has personal guarantee** is an indicator variable equal to 1 for the sample of owners that have personally guarantee at least a portion of their business debt. **Respondent is female** is an indicator variable equal to 1 for the sample of individuals which are females. **College graduate or higher** is an indicator variable equal to 1 for the sample of individuals who have a college degree or higher. **Young business owner** indicates owners who are 45 years old or younger. **White owner** is an indicator variable equal to 1 for the sample of individuals who are white. P-value in parentheses. *** p<0.01, ** p<0.05, * p<0.1
<table>
<thead>
<tr>
<th>Statement/Question</th>
<th>Panel A: Knowledge About Bankruptcy (Agree/Disagree)</th>
<th>Agree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a good understanding of the bankruptcy system, its advantages and disadvantages.</td>
<td>35%</td>
<td>43%</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>I am familiar with the differences between Ch. 7 Bankruptcy and Ch. 11 Bankruptcy.</td>
<td>34%</td>
<td>50%</td>
<td>15%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B: Knowledge About Bankruptcy (True/False)</th>
<th>True</th>
<th>False</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soon after declaring bankruptcy, a small business must cease operations.</td>
<td>7%</td>
<td>58%</td>
<td>35%</td>
</tr>
<tr>
<td>What happens in a small business Ch. 11 bankruptcy? Debts can be renegotiated with creditors.</td>
<td>54%</td>
<td>2%</td>
<td>44%</td>
</tr>
<tr>
<td>What happens in a small business Ch. 11 bankruptcy? Business assets are protected while a reorganization plan is created.</td>
<td>48%</td>
<td>5%</td>
<td>47%</td>
</tr>
<tr>
<td>What happens in a small business Ch. 11 bankruptcy? Under the SBRA, lenders get paid based on the profits of the company.</td>
<td>16%</td>
<td>7%</td>
<td>77%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C: Knowledge About Bankruptcy (Correct/Incorrect)</th>
<th>Correct answer</th>
<th>Wrong answer</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you wanted your business to continue to operate after bankruptcy, which chapter of bankruptcy would you use?</td>
<td>36%</td>
<td>7%</td>
<td>57%</td>
</tr>
<tr>
<td>Did SBRA make it easier or harder for a small business to file for Ch. 11 bankruptcy?</td>
<td>11%</td>
<td>1%</td>
<td>88%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel D: Bankruptcy Stigma</th>
<th>Agree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is embarrassing for a business owner to file for bankruptcy.</td>
<td>64%</td>
<td>17%</td>
<td>19%</td>
</tr>
<tr>
<td>People will think that a business owner who files for bankruptcy is a failure.</td>
<td>70%</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>People will think that a business owner who files for bankruptcy is unethical.</td>
<td>24%</td>
<td>45%</td>
<td>30%</td>
</tr>
<tr>
<td>Clients will be less willing to buy from a business owner who filed for bankruptcy.</td>
<td>53%</td>
<td>19%</td>
<td>29%</td>
</tr>
<tr>
<td>Employees will be less willing to work for a business owner who filed for bankruptcy.</td>
<td>56%</td>
<td>16%</td>
<td>27%</td>
</tr>
<tr>
<td>Friends and family may look down on a business owner who files for bankruptcy.</td>
<td>62%</td>
<td>16%</td>
<td>23%</td>
</tr>
</tbody>
</table>

**Notes:** This table reports the answers to survey questions that assess the control group’s knowledge and stigma on bankruptcy (sample size of 449 observations). **Panel A** reports the share of respondents in the control group that agree, disagree, or neither agree nor disagree with statements on knowledge about bankruptcy. **Panel B** reports the shares of respondents who answered "true", "false" or "don’t know" on statements regarding bankruptcy policies. **Panel C** reports the percentages of respondents that answer correctly, incorrectly, or "I don’t know" on questions about bankruptcy. Finally, **Panel D** reports the shares of respondents that agree, disagree, or neither agree nor disagree with statements regarding bankruptcy stigma.
**Table 4: Knowledge About Bankruptcy**

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Bankruptcy System</td>
<td>(Std 0-1)</td>
<td>Bankruptcy is not Death (Binary)</td>
<td>Knowledge 7 vs 11 (Std 0-1)</td>
<td>Overall T/F Score –</td>
<td>Can Renegotiate Debt in Ch. 11 (Binary)</td>
<td>Business Assets Protected in Ch. 11 (Binary)</td>
<td>Knowledge of SBRA (Binary)</td>
<td>Use Ch. 11 Reorg (Binary)</td>
<td>SBRA Bankruptcy Easier (Binary)</td>
</tr>
<tr>
<td>Info only treatment</td>
<td>0.1925***</td>
<td>0.2250***</td>
<td>0.5234***</td>
<td>0.3358***</td>
<td>0.3502***</td>
<td>0.3741***</td>
<td>0.2812***</td>
<td>0.5346***</td>
<td>0.6380***</td>
</tr>
<tr>
<td></td>
<td>(0.0644)</td>
<td>(0.0295)</td>
<td>(0.0636)</td>
<td>(0.0214)</td>
<td>(0.0275)</td>
<td>(0.0284)</td>
<td>(0.0292)</td>
<td>(0.0267)</td>
<td>(0.0248)</td>
</tr>
<tr>
<td>Info+Stigma treatment</td>
<td>0.2770***</td>
<td>0.2775***</td>
<td>0.5649***</td>
<td>0.3558***</td>
<td>0.3628***</td>
<td>0.4021***</td>
<td>0.2993***</td>
<td>0.5701***</td>
<td>0.6675***</td>
</tr>
<tr>
<td></td>
<td>(0.0675)</td>
<td>(0.0288)</td>
<td>(0.0652)</td>
<td>(0.0214)</td>
<td>(0.0273)</td>
<td>(0.0282)</td>
<td>(0.0299)</td>
<td>(0.0261)</td>
<td>(0.0251)</td>
</tr>
<tr>
<td>Observations</td>
<td>1,386</td>
<td>1,384</td>
<td>1,381</td>
<td>1,382</td>
<td>1,380</td>
<td>1,378</td>
<td>1,371</td>
<td>1,381</td>
<td>1,386</td>
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</tbody>
</table>

Notes: This table shows the treatment effects of our experiments on bankruptcy knowledge measures. The specification is $Y_i = \alpha + \sum_{j=2}^{j=7} \beta_j T_i^j + \nu_i$. Knowledge bankruptcy system represents self-assessed understanding of the U.S. bankruptcy system, and the variable is standardized to have mean 0 and standard deviation 1. Bankruptcy is not death is an indicator variable equal to 1 for individuals who know that a business does not necessarily cease operations after declaring bankruptcy. Knowledge 7 v 11 represents self-assessed familiarity with the differences between Ch. 7 and Ch. 11 bankruptcy, and the variable is standardized to have mean 0 and standard deviation 1. Overall T/F score is the share of correct answers to the columns (5) to (7). Can renegotiate debt in Ch. 11 is an indicator variable equal to 1 for individuals who know that a business can renegotiate its debt after declaring Ch. 11 bankruptcy. Business assets protected in Ch. 11 is an indicator variable equal to 1 for individuals who know that business assets are protected from lenders like banks and suppliers while a reorganization plan is created. Knowledge of SBRA is an indicator variable equal to 1 for individuals who know that under the SBRA lenders get paid based on the profits of the company. Use Ch. 11 reorg is an indicator variable equal to 1 for individuals know that a business must use Ch. 11 bankruptcy to continue to operate after bankruptcy. SBRA bankruptcy easier is an indicator variable equal to 1 for individuals who know that the SBRA makes it easier for small business to file for Chapter 11 bankruptcy. All dependent variables are defined in Section 3.2.3. We display coefficients on the two key independent variables, Info only treatment and Info+Stigma treatment which are equal to 1 for respondents in each treatment group. All specifications also include as control variables Has debt, Has personal guarantee, and Respondent is female, which are described in Table 2. Fixed effects for 19 industry categories, 5 firm age bins, 5 bins for the number of employees at the firm, the educational attainment of the owner, 5 owner age bins, and the owner’s race are included in all regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Table 5: Knowledge About Bankruptcy: 4-month Followup

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of</td>
<td>Knowledge</td>
<td>Bankruptcy</td>
<td>Can Renegotiate</td>
<td>Use Ch. 11</td>
<td>SBRA</td>
</tr>
<tr>
<td>Bankruptcy System</td>
<td>System</td>
<td>is not</td>
<td>debt in Ch. 11</td>
<td>Reorg</td>
<td>Bankruptcy</td>
</tr>
<tr>
<td></td>
<td>(Std 0-1)</td>
<td>Death</td>
<td>(Binary)</td>
<td>(Binary)</td>
<td>Easier</td>
</tr>
<tr>
<td>Info only treatment</td>
<td>0.2550**</td>
<td>0.1474***</td>
<td>0.1321***</td>
<td>0.1838***</td>
<td>0.1418***</td>
</tr>
<tr>
<td></td>
<td>(0.1158)</td>
<td>(0.0426)</td>
<td>(0.0510)</td>
<td>(0.0553)</td>
<td>(0.0535)</td>
</tr>
<tr>
<td>Info+Stigma</td>
<td>0.2956**</td>
<td>0.1491***</td>
<td>0.1117**</td>
<td>0.2165***</td>
<td>0.1837***</td>
</tr>
<tr>
<td>treatment</td>
<td>(0.1169)</td>
<td>(0.0429)</td>
<td>(0.0518)</td>
<td>(0.0553)</td>
<td>(0.0547)</td>
</tr>
<tr>
<td>Observations</td>
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<td>506</td>
<td>505</td>
<td>505</td>
</tr>
</tbody>
</table>

Notes: This table shows the treatment effects of our experiments on our bankruptcy knowledge measures in the 4 months follow up survey. The specification, dependent variables, and independent variables are all identical to those in Table 4, except that the dependent variables are measured 4 months after the initial treatment. All dependent variables are defined in Section 3.2.3. Fixed effects for 19 industry categories, 5 firm age bins, 5 bins for the number of employees at the firm, the educational attainment of the owner, 5 owner age bins, and the owner’s race are included in all regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Table 6: Bankruptcy Stigma

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embarrassing (Std 0-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure (Std 0-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unethical (Std 0-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients won’t buy (Std 0-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees won’t work (Std 0-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends/family look down (Std 0-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined score (Std 0-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Info only treatment</td>
<td>0.0204</td>
<td>-0.0410</td>
<td>-0.0319</td>
<td>-0.0926</td>
<td>-0.0431</td>
<td>-0.0380</td>
<td>-0.0460</td>
</tr>
<tr>
<td>Info+Stigma treatment</td>
<td>-0.1875***</td>
<td>-0.2622***</td>
<td>-0.0512</td>
<td>-0.3664***</td>
<td>-0.2685***</td>
<td>-0.2335***</td>
<td>-0.2928***</td>
</tr>
<tr>
<td>Observations</td>
<td>1,384</td>
<td>1,374</td>
<td>1,378</td>
<td>1,378</td>
<td>1,378</td>
<td>1,377</td>
<td>1,384</td>
</tr>
</tbody>
</table>

Notes: This table shows the treatment effects of our experiments on our bankruptcy stigma measures. The specification is $Y_i = \alpha + \sum_{j=1}^{2} \beta_j T_{ij} + \nu_i$. The dependent variable in each column codes whether the respondent strongly disagrees, disagrees, is neutral, agrees, or strongly agrees with each statement. All dependent variables are standardized to have mean 0 and standard deviation 1. *Embarrassing* represents how much individuals believe it is embarrassing for a business owner to file for bankruptcy. *Failure* represents how much individuals believe people will think that a business owner who files for bankruptcy is a failure. *Unethical* represents how much individuals believe people will think that a business owner who files for bankruptcy is unethical. *Clients won’t buy* represents how much individuals believe clients will be less willing to buy from a business owner who filed for bankruptcy. *Employees won’t work* represents how much individuals believe employees will be less willing to work for a business owner who filed for bankruptcy. *Friends/family look down* represents how much individuals believe friends and family may look down on a business owner who files for bankruptcy. *Combined score* is the mean score across all 6 questions in columns (1) to (6). All dependent variables are defined in Section 3.2.4. All specifications also include as control variables *Has debt*, *Has personal guarantee*, and *Respondent is female*, which are described in Table 2. Fixed effects for 19 industry categories, 5 firm age bins, 5 bins for the number of employees at the firm, the educational attainment of the owner, 5 owner age bins, and the owner’s race are included in all regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
**Table 7: Bankruptcy Stigma: 4-month Followup**

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Failure (Std 0-1)</th>
<th>(2) Clients won’t buy (Std 0-1)</th>
<th>(3) Employees won’t work (Std 0-1)</th>
<th>(4) Friends/family look down (Std 0-1)</th>
<th>(5) Combined score (Std 0-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info only treatment</td>
<td>-0.1121 (0.1053)</td>
<td>-0.0747 (0.1034)</td>
<td>-0.0409 (0.1032)</td>
<td>-0.0775 (0.1076)</td>
<td>-0.0893 (0.1032)</td>
</tr>
<tr>
<td>Info+Stigma treatment</td>
<td>-0.2673** (0.1167)</td>
<td>-0.2079* (0.1147)</td>
<td>-0.2417** (0.1136)</td>
<td>-0.1696 (0.1166)</td>
<td>-0.2566** (0.1171)</td>
</tr>
<tr>
<td>Observations</td>
<td>505</td>
<td>506</td>
<td>505</td>
<td>505</td>
<td>506</td>
</tr>
</tbody>
</table>

**Notes:** This table shows the treatment effects of our experiments on our bankruptcy stigma measures in the 4 months follow up survey. The specification, dependent variables, and independent variables are all identical to those in Table 6, except that the dependent variables are measured 4 months after the initial treatment. All dependent variables are defined in Section 3.2.4. Fixed effects for 19 industry categories, 5 firm age bins, 5 bins for the number of employees at the firm, the educational attainment of the owner, 5 owner age bins, and the owner’s race are included in all regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Table 8: Willingness to Consider Bankruptcy, Intended Risk-Taking, and Intended Investment

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consider Bankruptcy (Std 0-1)</td>
<td>Use Ch. 11 if can’t repay (Std 0-1)</td>
<td>Renegotiate Debt (Std 0-1)</td>
<td>Take More Risk (Std 0-1)</td>
<td>Increase Debt (Std 0-1)</td>
<td>Increase Investment (Std 0-1)</td>
<td>Composite Score (Std 0-1)</td>
</tr>
<tr>
<td>Info only treatment</td>
<td>0.0622</td>
<td>0.2538***</td>
<td>-0.1014</td>
<td>0.0050</td>
<td>0.1129</td>
<td>0.1126*</td>
<td>0.1437**</td>
</tr>
<tr>
<td></td>
<td>(0.0613)</td>
<td>(0.0644)</td>
<td>(0.0640)</td>
<td>(0.0652)</td>
<td>(0.0779)</td>
<td>(0.0645)</td>
<td>(0.0652)</td>
</tr>
<tr>
<td>Info+Stigma treatment</td>
<td>0.1318**</td>
<td>0.3101***</td>
<td>-0.1792***</td>
<td>0.0699</td>
<td>0.1513*</td>
<td>0.1438**</td>
<td>0.2127***</td>
</tr>
<tr>
<td></td>
<td>(0.0663)</td>
<td>(0.0665)</td>
<td>(0.0643)</td>
<td>(0.0664)</td>
<td>(0.0779)</td>
<td>(0.0662)</td>
<td>(0.0654)</td>
</tr>
<tr>
<td>Observations</td>
<td>1,386</td>
<td>1,383</td>
<td>1,386</td>
<td>1,386</td>
<td>1,012</td>
<td>1,386</td>
<td>1,386</td>
</tr>
</tbody>
</table>

Notes: This table shows the treatment effects of our experiments on respondents’ attitudes towards bankruptcy and expected future outcomes. The specification is $Y_i = \alpha + \sum_{j=1}^{2} \beta_j T_j + \nu_i$. All the dependent variables are standardized to have mean 0 and standard deviation 1. Consider bankruptcy represents the likelihood that the respondent will consider filing for bankruptcy in the next 12 months, with higher numbers representing higher likelihoods. Use Ch. 11 if can’t repay represents how much individuals agree with the following statement: “If I am unable to pay my debt, I will consider filing for Chapter 11 bankruptcy”. Renegotiate debt represents the likelihood that individuals will consider renegotiating their debt and/or other payment obligations (such as rent) in the next 12 months. Take more risk is a variable which indicates the amount of risk the individual will take in the next 12 months. Increase debt is a variable which indicates if the respondent may consider changing their amount of debt after taking the survey. Increase investment how much investment individuals intend to make relative to a typical year in the next 12 months. Risk composite score is the average of Consider bankruptcy, Increase debt, and Increase investment. All dependent variables are defined in Section 3.2.5. All specifications also include as control variables Has debt, Has personal guarantee, and Respondent is female, which are described in Table 2. Fixed effects for 19 industry categories, 5 firm age bins, 5 bins for the number of employees at the firm, the educational attainment of the owner, 5 owner age bins, and the owner’s race are included in all regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Have considered bankruptcy (Binary)</th>
<th>(2) Have renegotiated debt (Binary)</th>
<th>(3) Increased debt (-1 to +1 scale)</th>
<th>(4) Increased Investment (-1 to +1 scale)</th>
<th>(5) Business open with website in June 2021 (Binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info only treatment</td>
<td>-0.0059 (0.0340)</td>
<td>-0.0038 (0.0350)</td>
<td>0.1635** (0.0741)</td>
<td>-0.0446 (0.0887)</td>
<td>-0.0053 (0.0301)</td>
</tr>
<tr>
<td>Info+Stigma treatment</td>
<td>-0.0337 (0.0332)</td>
<td>-0.0215 (0.0369)</td>
<td>-0.0467 (0.0751)</td>
<td>0.0911 (0.0850)</td>
<td>0.0081 (0.0309)</td>
</tr>
</tbody>
</table>

**Notes:** This table shows the treatment effects of our experiments on our bankruptcy outcome measures in the 4 months follow up survey. The specification is identical to that in Table 8 except the dependent variables measure realized outcomes rather than expectations. Specifically, *Have considered bankruptcy* is an indicator variable equal to 1 for the sample of individuals who have considered or actually filed for bankruptcy in the previous 4 months. *Have renegotiated* is an indicator variable equal to 1 for the sample of individuals who have renegotiated their debt in the previous 4 months. *Increased debt* is a variable that indicates if individuals have changed their amount of debt in the past 4 months; the variable codes whether the respondent "Kept the amount of debt the same", "Increased the amount of debt", or "Decreased the amount of debt". *Increased investment* is a variable that indicates if individuals have changed their amount of investment in the past 4 months; the variable codes whether the respondent "Kept investment the same", "Increased investment", or "Decreased investment". *Business open with website in June 2021* is an indicator variable equal to 1 for the sample of firms that have an functioning website as of June 2021. All dependent variables are defined in Section 3.2.4. Fixed effects for 19 industry categories, 5 firm age bins, 5 bins for the number of employees at the firm, the educational attainment of the owner, 5 owner age bins, and the owner’s race are included in all regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Figure A1: Screenshots: Control Video

Notes: This figure shows a sample of screenshots from the control video.
Figure A2: Screenshots: Information Treatment Video

Notes: This figure shows a sample of screenshots from the Information treatment video.
Figure A3: Screenshots: Information + Stigma Treatment Video

Notes: This figure shows a sample of screenshots from the Information + Stigma treatment video.
### Table A1: Bankruptcy Knowledge and Stigma for respondents included in the 4-month Followup

<table>
<thead>
<tr>
<th>Panel A: Knowledge</th>
<th>(1) Knowledge of Bankruptcy System (Std 0-1)</th>
<th>(2) Bankruptcy is not Death (Binary)</th>
<th>(3) Knowledge of 7 vs 11 (Std 0-1)</th>
<th>(4) Overall T/F Score (Std 0-1)</th>
<th>(5) Can Renegotiate Debt in Ch. 11 (Binary)</th>
<th>(6) Business Assets Protected in Ch. 11 (Binary)</th>
<th>(7) Knowledge of SBRA (Binary)</th>
<th>(8) Use Ch. 11 Reorg (Binary)</th>
<th>(9) SBRA Bankruptcy Easier (Binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Info only treatment</td>
<td>0.1314</td>
<td>0.2219***</td>
<td>0.5100***</td>
<td>0.3319***</td>
<td>0.3643***</td>
<td>0.3679***</td>
<td>0.3629***</td>
<td>0.4911***</td>
</tr>
<tr>
<td></td>
<td>(0.1139)</td>
<td>(0.0489)</td>
<td>(0.1103)</td>
<td>(0.0354)</td>
<td>(0.0456)</td>
<td>(0.0480)</td>
<td>(0.0492)</td>
<td>(0.0492)</td>
<td>(0.0492)</td>
</tr>
<tr>
<td></td>
<td>Info+Stigma treatment</td>
<td>0.1556</td>
<td>0.2884***</td>
<td>0.5303***</td>
<td>0.3458***</td>
<td>0.3596***</td>
<td>0.3725***</td>
<td>0.2999***</td>
<td>0.5305***</td>
</tr>
<tr>
<td></td>
<td>(0.1141)</td>
<td>(0.0459)</td>
<td>(0.1995)</td>
<td>(0.0365)</td>
<td>(0.0457)</td>
<td>(0.0496)</td>
<td>(0.0512)</td>
<td>(0.0441)</td>
<td>(0.0437)</td>
</tr>
<tr>
<td>Observations</td>
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<td>505</td>
<td>504</td>
<td>505</td>
<td>504</td>
<td>503</td>
<td>502</td>
<td>506</td>
<td>506</td>
</tr>
</tbody>
</table>

| Panel B: Stigma   | (1) Embarrassing (Std 0-1)                  | (2) Failure (Std 0-1)               | (3) Unethical (Std 0-1)          | (4) Clients won’t buy (Std 0-1)       | (5) Employees won’t work (Std 0-1)            | (6) Friends/family look down (Std 0-1) | (7) Combined score (Std 0-1)    |
|                   | Info only treatment                         | 0.0741                             | 0.0444                           | 0.1411                           | -0.0488                                      | -0.0440                                  | 0.0472                           | 0.0271                           |
|                   | (0.0980)                                    | (0.0987)                           | (0.1060)                         | (0.1099)                         | (0.1045)                                      | (0.0997)                                  | (0.0982)                         | (0.0982)                         |
|                   | Info+Stigma treatment                       | -0.2195**                         | -0.3298***                       | -0.0008                          | -0.4007***                                   | -0.2642***                                | -0.2619**                        | -0.3182**                       |
|                   | (0.1909)                                    | (0.1148)                           | (0.1100)                         | (0.1067)                         | (0.1126)                                      | (0.1090)                                  | (0.1097)                         | (0.1097)                         |
| Observations      | 506                                         | 505                                 | 506                              | 506                              | 506                                            | 506                                       | 506                              | 506                              |

**Notes Panel A:** This table shows the treatment effects of our experiments on bankruptcy knowledge measures. The specification is \( Y_i = \alpha + \sum_{j=1}^{5} \beta_j T_{ij} + \nu_i \). **Knowledge bankruptcy system** represents self-assessed understanding of the U.S. bankruptcy system, and the variable is standardized to have mean 0 and standard deviation 1. **Bankruptcy is not Death** represents self-assessed familiarity with the differences between Ch. 7 and Ch. 11 bankruptcy, the variable is standardized to have mean 0 and standard deviation 1. **Overall T/F score** is the share of correct answers to the columns (5) to (7). **Can renegotiate debt in Ch. 11** is an indicator variable equal to 1 for individuals who know that a business can renegotiate its debt after declaring Ch. 11 bankruptcy. **Business assets protected in Ch. 11** is an indicator variable equal to 1 for individuals who know that business assets are protected from lenders like banks and suppliers while a reorganization plan is created. **Knowledge of SBRA** is an indicator variable equal to 1 for individuals who know that under the SBRA, lenders get paid based on the profits of the company. **Use Ch. 11 reorg** is an indicator variable equal to 1 for individuals who know that a business must use Ch. 11 bankruptcy to continue to operate after bankruptcy. **SBRA bankruptcy easier** is an indicator variable equal to 1 for individuals who know that the SBRA makes it easier for small business to file for Chapter 11 bankruptcy. All dependent variables are defined in Section 3.2.3. **Notes Panel B:** This table shows the treatment effects of our experiments on our bankruptcy stigma measures. The specification is \( Y_i = \alpha + \sum_{j=1}^{5} \beta_j T_{ij} + \nu_i \). **Embarrassing** represents how much individuals believe it is embarrassing for a business owner to file for bankruptcy. **Failure** represents how much individuals believe people will think that a business owner who files for bankruptcy is unethical. **Clients won’t buy** represents how much individuals believe clients will be less willing to buy from a business owner who filed for bankruptcy. **Unethical** represents how much individuals believe people will think that a business owner who files for bankruptcy is unethical. **Clients won’t buy** represents how much individuals believe clients will be less willing to buy from a business owner who filed for bankruptcy. **Failure** represents how much individuals believe people will think that a business owner who files for bankruptcy is unethical. **Employees won’t work** represents how much individuals believe employees will be less willing to work for a business owner who filed for bankruptcy. **Friends/family look down** represents how much individuals believe friends and family may look down on a business owner who files for bankruptcy. **Combined score** is the mean score across all 6 question in columns (1) to (6). All dependent variables are defined in Section 3.2.4. For both panels we display coefficients on the two key independent variables, **Info only treatment** and **Info+Stigma treatment** which are equal to 1 for respondents in each treatment group. All specifications also include as control variables Has debt, Has personal guarantee, and Respondent is female, which are described in Table 2. Fixed effects for 19 industry categories, 5 firm age bins, 5 bins for the number of employees at the firm, the educational attainment of the owner, 5 owner age bins, and the owner’s race are included in all regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
### Table A2: Attrition

<table>
<thead>
<tr>
<th>Variables</th>
<th>Attrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young</td>
<td>-0.0344</td>
</tr>
<tr>
<td></td>
<td>(0.0328)</td>
</tr>
<tr>
<td>Has debt</td>
<td>-0.0133</td>
</tr>
<tr>
<td></td>
<td>(0.0288)</td>
</tr>
<tr>
<td>Has personal guarantee</td>
<td>-0.0469</td>
</tr>
<tr>
<td></td>
<td>(0.0320)</td>
</tr>
<tr>
<td>Respondent is female</td>
<td>0.0311</td>
</tr>
<tr>
<td></td>
<td>(0.0264)</td>
</tr>
<tr>
<td>College graduate or higher</td>
<td>0.0236</td>
</tr>
<tr>
<td></td>
<td>(0.0339)</td>
</tr>
<tr>
<td>Young business owner</td>
<td>0.0993</td>
</tr>
<tr>
<td></td>
<td>(0.0300)</td>
</tr>
<tr>
<td>White owner</td>
<td>0.1740***</td>
</tr>
<tr>
<td></td>
<td>(0.0261)</td>
</tr>
</tbody>
</table>

Observations 1,386

**Notes:** We check for attrition through multivariate regression of an indicator variable equal to 1 if the individual responds to the follow-up survey on all demographic characteristics jointly. *Young firm* is an indicator variable equal to 1 for firms which are 5 years old or younger. *Has debt* is an indicator variable equal to 1 for the sample of firms with a positive amount of debt. *Has personal guarantee* is an indicator variable equal to 1 for the sample of owners that have personally guarantee at least a portion of their business debt. *Respondent is female* is an indicator variable equal to 1 for the sample of individuals which are females. *College graduate or higher* is an indicator variable equal to 1 for the sample of individuals who have a college degree or higher. *Young business owner* indicates owners who are 45 years old or younger. *White owner* is an indicator variable equal to 1 for the sample of individuals who are white. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Appendix A  Transcripts of Animated Videos

A.1  Control Video

- **Narrator:** Meet Joe.
- **Joe:** Hi.
- **Narrator:** For the last 15 years, he’s owned a successful flower and gift shop. And then came the pandemic. He had to close his shop. He still has lots of bills to pay – rent, utilities, a bank loan, insurance – but no income. He’s worried that the business can’t survive. He’s thinking about his options.
- **Joe:** Maybe I can raise money. Another bank loan. Or I could invest my savings back into the company. Maybe I can borrow from friends and family. Or I could sell one of my delivery vans, and some equipment. Maybe I can renegotiate some of my debts. Or I might need to file for bankruptcy.
- **Narrator:** If you are interested, please sign up for a related webinar at the end of the survey.

A.2  Information Video

- **Joe:** But what does “bankruptcy” really mean? Can it help me, or just put me out of business?.
- **Narrator:** Many people think that bankruptcy means shutting down your business. This is called Chapter 7 bankruptcy. But there’s another kind that helps you stay in business, Chapter 11. Chapter 11 is designed to protect the business until you can get back on your feet. Basically, it means creating a court-approved plan for you to pay off your debts in a way that lets you keep the business running. The goal in Chapter 11 is for the company to get a fresh start.

Chapter 11 used to be long and expensive, and only worked for large firms. Luckily, there’s a new and simple version of Chapter 11 for small businesses with debts of less than $7.5 million, thanks to the Small Business Reorganization Act, or SBRA.

- **Joe:** My debts are way less than that. So, bankruptcy can help me keep my business?
Narrator: That’s right. SBRA is simpler, faster, and less expensive for small businesses. Here’s what happens. You make an application, and the court appoints a trustee to help you make a plan to pay your debts. And you can continue running the business.

Joe: But what if it takes a long time for my business to recover?

Narrator: That’s OK. You and the trustee will develop a plan that fits with the future of your business. Under the plan you can renegotiate your debts – your lease, bank and credit card payments, supplier terms…. You reduce the amount you pay, so it works with the amount of sales you expect. You can go back to running your business the way you used to.

Joe: I had no idea. Wow, that could really help.

Narrator: Of course, bankruptcy is not for everyone, but it is worth understanding what your options are if you end up in a difficult situation. If you are interested, please sign up for a related webinar at the end of the survey.

A.3 Information + Stigma Video

Joe: But, the idea of bankruptcy makes me feel like a failure.

Narrator: I know you’re feeling discouraged, but your business isn’t in trouble because you did something wrong. You didn’t fail. Business conditions changed. Now you’re ready to move forward with your business, but you need some help. That’s what Chapter 11 is designed to do – help you make a new start. Bankruptcy is even part of the U.S. Constitution, to provide a safety net for people and companies. It isn’t a badge of dishonor, and it won’t haunt you for the rest of your life. It’s a tool that responsible people use to save a good business after a setback.

Joe: But, I worry what my clients might think about me if my business files for bankruptcy.

Narrator: Bankruptcy is a lot more common than you may think. Big businesses have been using Chapter 11 for decades. General Motors, Marvel Entertainment, United Airlines, Six Flags, the Chicago Cubs, the list goes on. Bankruptcy is part of the reason they are still in business. Hertz is using it right now to recover from the pandemic too. Thousands of companies have used Chapter 11 bankruptcy protection to regain their financial strength.

Joe: Wow. Those companies are so successful. That sounds like it might be a good option. I want to learn more about it.

Narrator: If you are interested, please sign up for a related webinar at the end of the survey.