# Does Consumer Protection Enhance Disclosure Credibility in Reward Crowdfunding?

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#### Abstract

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Keywords: Crowdfunding, Disclosure, Consumer Protection, Regulation, Enforcement

JEL Classification: G18, M41, M48, O31, O38

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#### Abstract

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#### 1. Introduction

We study how the interplay of disclosure and regulation shapes capital allocation in reward crowdfunding. Crowdfunding, essentially a type of microfinance, has experienced an unprecedented growth over the last few years, becoming an important driver of economic and financial development. Recently, the World Bank has estimated that crowdfunding could reach U.S. \$90 billion by 2020, surpassing venture capital and angel capital as a means of financing.<sup>1</sup> While much of this growth has been spurred by lending-based crowdfunding, an interesting phenomenon has been the strong emergence of *reward crowdfunding*, in which project creators (i.e., entrepreneurs) promise future in-kind rewards in exchange for backer contributions. In reward crowdfunding platforms, project backers represent "hybrid" stakeholders, in between investors and consumers (Belleflame et al., 2015).

The hybrid nature of project backers renders their contractual claims difficult to regulate and enforce in case of contract breach by creators. Reward crowdfunding does not involve the offering of securities and therefore does not fall under the U.S. securities laws or the jurisdiction of the Securities and Exchange Commission (SEC). As such, SEC rules specifically designed for equity crowdfunding do not apply.<sup>2</sup> Reward crowdfunding platforms also disclaim any liability, stating that they act as mere intermediaries. As it is often the case for evolving technologies, the emergence of reward crowdfunding led to a regulatory limbo, in which backers were initially left without much recourse.

A regulatory void is particularly troublesome given the adverse selection and moral hazard problems that characterize these markets. Information asymmetries between creators and backers regarding creator ability and project quality (adverse selection), coupled with backers' inability to induce creator effort and ensure that pledged funds are not diverted for

<sup>&</sup>lt;sup>1</sup> Forbes, *Trends Show Crowdfunding to Surpass VC in 2016*, June 9, 2015 (Available at: https://www.forbes.com/sites/chancebarnett/2015/06/09/trends-show-crowdfunding-to-surpass-vc-in-2016/).

<sup>&</sup>lt;sup>2</sup> The Jumpstart Our Business Startups (JOBS) Act, signed into law on April 5, 2012, legalizes equity crowdfunding by relaxing several restrictions related to the sale of securities.

personal consumption (moral hazard), are in fact inherent to crowdfunding (Agrawal et al., 2014; Belleflamme et al., 2015). Project creators may rely on disclosure to signal their ability and project quality (e.g., Grossman, 1981). However, the lack of clear regulation and oversight in the early years of reward crowdfunding, the absence of a trustworthy and independent third-party (e.g., an auditor) that certifies the information disclosed by the creator, and the one-time nature of most of these transactions (many creators access these markets only once) may render disclosure not credible. In these markets, in fact, creators can easily engage in "cheap talk."<sup>3</sup> For example, when they provide voluntary disclosures about the project and themselves with the aim of enticing backers into pledging funds, they can "oversell" the project or, in extreme circumstances, communicate false information in bad faith.<sup>4</sup>

In this paper, we examine two main questions. First, does (voluntary) disclosure facilitate contracting in reward crowdfunding, or is it mainly perceived as cheap talk? Second, to what extent does an increase in regulatory oversight enhance the perceived credibility of disclosure?

We shed light on the above questions by exploiting a quasi-experiment provided by a notorious rule change in Kickstarter, the world leading reward crowdfunding platform. On September 19, 2014, it was announced that Kickstarter would change its *terms of use* to clarify the nature of the contract between backers and creators. This change, which was aimed at alleviating moral hazard, essentially strengthened the contractual position of backers by explicitly requiring creators to fulfill their obligation to deliver the promised rewards (or

<sup>&</sup>lt;sup>3</sup> Stocken (2000) develops a model in which managers can make unverifiable disclosures to investors about the payoffs of a project and shows that, in a single-period game, the managers do not make any informative disclosures in equilibrium.

<sup>&</sup>lt;sup>4</sup> Project disclosures may, instead, be truthful. Gigler (1994) develops a model in which proprietary costs, and firms' opposing incentives to disclose positive (negative) information to investors (competitors) may render disclosures credible. Agrawal et al. (2014) highlight other mechanisms that can lead to truthful disclosure in the context of crowdfunding, and specifically the role of crowd due diligence. There are, in fact, typically many more (and more varied) individuals reviewing a given project than in a traditional financing setting.

refund pledged amounts) and by clearly spelling out the possibility of legal action against creators. The main mechanism through which such legal action may take place is consumer protection regulation, which is aimed at protecting consumers from *"unfair and deceptive trade practices*" and significantly varies in *stringency across U.S. states*. While consumer protection regulation was already in place to protect "traditional" consumers, the September 2014 rule change brought the possibility of legal action to the attention of creators and backers, thereby shifting substantial contractual risk from backers to creators. This effectively altered the perception of consumer protection law applicability in the context of Kickstarter given that in 2012, i.e., prior to the rule change, Kickstarter had emphasized that "they are not a store" precisely to limit their own legal exposure.<sup>5</sup>

In our empirical analyses, we first examine the association between disclosure and project funding to gauge the extent of *disclosure credibility* on the platform. We find that disclosure (measured as either the length of the project's campaign pitch or the length of the project's risks and challenges section) exhibits a positive and robust association with pledged amounts and the probability of a project being funded, which suggests that backers take disclosures by creators into account when deciding to make a pledge.

Next, we turn to the change in Kickstarter's terms of use announced on September 19, 2014. The cross-sectional variation in consumer protection stringency across states allows us to use a generalized difference-in-differences (DiD) research design to gauge the differential effect of this change on perceived disclosure credibility. Our DiD identification strategy effectively compares disclosure credibility (i.e., the association between project success and disclosure) *before* and *after* the rule change by looking at differential responses across states, depending on the varying degrees of stringency in their pre-existing consumer protection laws. Our identifying assumption is that, prior to the rule change, there was limited awareness

<sup>&</sup>lt;sup>5</sup> Kickstarter, *Kickstarter is not a store*, September 19, 2012 (Available at: https://www.kickstarter.com/blog/kickstarter-is-not-a-store).

that state consumer protection laws would apply to Kickstarter creators and backers, despite state consumer protection laws being already in place (see Ganatra, 2016). We find that, following the rule change, the association between disclosure and both the likelihood that a project is funded and the amount of funds pledged to the project becomes stronger, which we interpret as an increase in the perceived credibility of disclosure. This increase is more pronounced in states with stricter consumer protection regulation. We conduct a battery of sensitivity tests to rule out potential alternative explanations, including a county-level analysis in which we restrict our sample to contiguous counties in different states, a test for differences in pre-treatment trends and a test that relies on shorter windows surrounding the event date.

We also examine alternative measures of project success, such as the number of (new and returning) backers and the level of backer engagement measured as the number of comments on a project's website. The evidence from these tests is also consistent with disclosure playing a stronger role in facilitating contracting between backers and creators in states with stricter consumer protection regulation following the rule change.

Further, we conduct cross-sectional analyses to explore heterogeneity in treatment effects and find that the increase in the perceived credibility of disclosure varies with the magnitude of rewards, as well as across states with court busyness and with degree of confidence in courts. Specifically, the effect of the rule change on the project successdisclosure relation is stronger when litigation risk is likely to be higher, such as when project rewards are larger, when courts have a lower caseload and when confidence in courts is higher. Moreover, we find that disclosure attributes, such as readability (i.e., the ease with which a reader can comprehend a written text) and sentiment (i.e., the relative use of positive and negative words), also play an important role in the association between project success and disclosure. Our study contributes to the literature in several ways. First, we contribute to prior research on the role of disclosure in capital markets. We answer the recent call in Leuz and Wysocki (2016) and Leuz (2018) for more evidence on the role of disclosure in alternative, and often unregulated, financing venues. We show that, even in the absence of clear regulation and enforcement mechanisms, disclosure can mitigate moral hazard and adverse selection problems, thereby facilitating contracting between creators and backers. Second, by showing that consumer protection regulation affects the perceived credibility of disclosure, we contribute to the law and economics literature that examines the role of regulation and enforcement in addressing moral hazard and adverse selection problems (e.g., Mahoney, 2009). To the best of our knowledge, our paper is the first to empirically examine the effect of consumer protection regulation on disclosure credibility. Third, we contribute to the nascent literature on reward crowdfunding (e.g., Mollick, 2014, 2015, 2016; Courtney et al., 2017) by highlighting how disclosure and regulation facilitate contracting in a market plagued by information asymmetries.

The remainder of the paper unfolds as follows. Section 2 describes the institutional background and reviews the related literature. Section 3 presents the hypotheses development. Section 4 describes the data. Section 5 discusses the research design. Section 6 presents the empirical analysis. Section 7 concludes.

# 2. Background and Literature Review

## 2.1. Reward Crowdfunding

Reward crowdfunding is a form of financing whereby (a large number of small) backers provide funds to creators in exchange for rewards (often in the form of the product that the creator intends to develop). Reward crowdfunding transactions often consist of "pre-sales," in which backers play a "double-role" as consumers and investors (Belleflamme et al. (2015) label these hybrid stakeholders "prosumers"). As such, reward crowdfunding allows

an entrepreneur to contract with future consumers and obtain valuable information about the demand for a product before the investment is sunk (Chemla and Tinn, 2017; Strausz, 2017). In addition to reducing demand uncertainty, reward crowdfunding serves the purpose of providing creators with input on the product and ideas for its modification and extensions, which ultimately promotes user-driven innovation (Agrawal et al., 2014; Belleflamme et al., 2015). Finally, reward crowdfunding plays a role in talent discovery by allowing creators to signal their ability (Gutiérrez and Sáez, 2018).

The aforementioned advantages come at a cost, however. First, while other sources of funding may allow entrepreneurs to keep their business ideas secret from competitors, in reward crowdfunding they must pitch their products in a public platform. This may have repercussions on patentability (i.e., their ideas may be copied) and limit their bargaining power with potential suppliers (Agrawal et al., 2014).<sup>6</sup> Moreover, because individual pledges are typically small, and projects involve a large number of backers, managing communication with backers may be costly, especially when the delivery of rewards is delayed. When reward crowdfunding is used as an alternative to other sources of financing, such as angel capital and venture capital, the entrepreneur may miss on the value created by these players' industry knowledge and relationships. For that reason, different sources of financing are often used in combination, with venture capitalists sometimes requiring entrepreneurs to launch a campaign in a reward crowdfunding platform to reduce demand uncertainty before investing.

Gerber et al. (2012) highlight several potential drivers of backers' willingness to pledge funds to a reward crowdfunding campaign. These include philanthropy, engaging and contributing to a trusting and creative community, and supporting others and their causes, but

<sup>&</sup>lt;sup>6</sup> See Quartz "Your brilliant Kickstarter idea could be on sale in China before you've even finished funding it," October 16, 2016 (available at: https://qz.com/771727/chinas-factories-in-shenzhen-can-copy-products-atbreakneck-speed-and-its-time-for-the-rest-of-the-world-to-get-over-it/). The article describes a campaign launched in December 2015 by an Israeli entrepreneur for a smartphone case that unfolds into a selfie stick. One week after the campaign was launched, the entrepreneur found a cover with the same design he created on sale on AliExpress- Alibaba's English-language wholesale website.

also, importantly, the project rewards themselves, often in the form of early access to new products.

Information asymmetries between creators and backers are pervasive in these markets resulting in adverse selection and moral hazard issues. Project quality and creator ability are typically not observable by backers. Backers are also unable to induce creator effort and, in extreme cases, there is a risk that creators may use funds for their personal consumption, which would constitute outright fraud. Adverse selection plays a secondary role in these markets in the sense that misrepresenting project information is, in general, only profitable for a creator in the presence of moral hazard (Strausz, 2017).

Reward crowdfunding platforms typically receive a transaction fee for successful projects (in the case of Kickstarter this transaction fee is 5% of the total funding amount). Therefore, their objective is to maximize the number of successful projects and the amount pledged on these projects. This implies creating a large community of backers and creators, attracting high-quality projects and facilitating the matching between creators and backers (Agrawal et al., 2014).

An emerging literature in entrepreneurship examines the determinants of successful project funding (e.g., Mollick, 2014; Barbi and Bigelli, 2017; Courtney et al., 2017; Lin and Pursiainen, 2018). Collectively, these studies highlight the importance of several factors, such as the social capital of the creator (e.g., number of friends on Facebook, support for other projects on Kickstarter), the duration of the funding period, the number of rewards and whether a given project is featured on Kickstarter as "project of the day." A large number of successfully-funded projects have developed into business ventures generating additional investments and revenues outside Kickstarter and increasing employment (Mollick, 2016), which highlights the economic significance of this platform.

#### 2.2. Consumer Protection Regulation

Reward crowdfunding platforms, such as Kickstarter, are not subject to any *bespoke* regulation. Furthermore, as reward crowdfunding does not involve securities, it does not fall under the U.S. securities laws or the jurisdiction of the SEC. As in the case of other evolving technologies, which often lead to a game of catch-up by regulators and enforcement agencies, the development of reward crowdfunding has led to a regulatory limbo.

The change in Kickstarter's *terms of use* in September 2014, however, clarified the nature of the contract between backers and creators and set out the terms that govern that contract.<sup>7</sup> The new terms of use now specifically state that: "When a project is successfully funded, the creator must complete the project and fulfill each reward" and, if unable to do so, must remedy the situation by demonstrating that "they have used funds appropriately and made every reasonable effort to complete the project as promised" and that they "have made no material misrepresentations in their communication to backers." Kickstarter clearly spells out the possibility of legal recourse, and the associated legal liability for creators: "The creator is solely responsible for fulfilling the promises made in their project. If they're unable to satisfy the terms of this agreement [i.e., deliver rewards or return backer contributions], they may be subject to legal action." Prior to this change, the terms of use did not mention the possibility of legal action by backers at all.<sup>8</sup> The change in Kickstarter terms of use was highly publicized by Kickstarter and drew the attention of many commentators specializing in entrepreneurship, who emphasized the heightened litigation risk (see Appendix A for a series of examples).

The main mechanism through which legal action may take place is consumer protection regulation, aimed at protecting consumers from "*unfair and deceptive trade practices*." This regulation is enforced at the federal level by the FTC. In addition, U.S. states have their own

<sup>&</sup>lt;sup>7</sup> See https://www.kickstarter.com/terms-of-use.

<sup>&</sup>lt;sup>8</sup> See https://www.kickstarter.com/terms-of-use/oct2012?country=US.

consumer fraud statutes, the Unfair and Deceptive Acts and Practices (UDAP) statutes, which vary significantly in strength and are enforced by state agencies (usually the State Attorney General).

In order to be afforded protection under federal and most state consumer laws, a backer has to be classed as a consumer in a traditional sense, i.e., "a person that buys goods and services." However, some states employ broader definitions to encompass, for example, "any person that suffers an ascertainable loss," in Connecticut, and any private claimant that has suffered damage, in Arizona (Ganatra, 2016). This reflects substantial variation in the scope of consumer protection regulation. It is important to note, nonetheless, that litigation may be possible (albeit more difficult) even in states that employ a more traditional consumer definition. This is because, while one might potentially argue that backers are not consumers and rewards are simply a token incentive to donate, pledges made in reward crowdfunding platforms are generally construed as "pre-purchases" (Hemingway, 2017). This was in fact the view taken by the FTC in its 2015 action against Erik Chevalier, who ran a Kickstarter campaign to raise funds to produce a board game. Paragraph 10 of the FTC complaint clearly states: "Crowdfunding transactions typically involve <u>consumers</u> (sometimes known as "backers") giving money (known as a "pledge") to a project "creator" in exchange for a specific "reward"." As a result, false and misleading disclosures regarding the product and the failure to deliver rewards or refund backers were deemed a violation of the FTC Act and the defendant was ordered to pay U.S. \$111,794.9

A similar view was taken by the Washington State Attorney General, Bob Ferguson who, in 2015, successfully charged Ed Nash and his company, Altius Management, because of the Asylum Playing Cards Kickstarter campaign: "*Washington state will not tolerate* 

<sup>&</sup>lt;sup>9</sup> The FTC complaint against Erik Chevalier specifically refers to *misrepresentation* and *deceptive disclosure*: "the representation as set forth in Paragraph 33 was and is false and misleading, and constitutes a deceptive act or practice in violation of Section 5(a) of the FTC Act, 15 U.S.C. § 45(a)" (Available at: https://www.ftc.gov/system/files/documents/cases/150611chevaliercmpt.pdf).

*crowdfunding theft. If you accept money from <u>consumers</u>, and don't follow through on your obligations, my office will hold you accountable." As a result of the suit, Ed Nash was ordered to pay U.S. \$54,851 for violating the state Consumer Protection Act. Similarly, in September 2016 the Oregon State Attorney General confirmed that it was conducting an investigation into the Coolest Cooler campaign (which raised U.S. \$13.2 million from 62,642 backers on Kickstarter). In June 2017 Coolest Cooler reached a settlement with the Oregon Department of Justice.<sup>10</sup>* 

Public enforcement agencies (at the federal and state level) have limited resources and, therefore, cannot pursue all cases. Private litigation is another avenue of legal recourse available to backers in some states. In this respect, class actions may play an important role as projects often involve many backers, each pledging a small amount. For example, the backers of Onagofly filed in 2017 a class action lawsuit against its creator for breach of contract, alleging *"uniform and consistent misrepresentations to all its <u>customers</u>" (Alan Black et al. vs. Shenzen Sunshine Technology Development Ltd). In the absence of a private right of action, the enforcement of state consumer protection law is delegated to the state's Attorney General or other state enforcement agencies.* 

The strength of consumer protection regulation (UDAP statues) varies extensively from state to state along several dimensions (see Appendix B, Table B-1 for a list of the dimensions identified by the National Consumer Law Center). First, while some states broadly prohibit deception and/or unfairness, others confine the prohibition to a defined list of specific practices, making it harder to tackle new methods of deception and unfairness as they emerge. States also vary in the rule-making authority delegated to state agencies.

<sup>&</sup>lt;sup>10</sup> In addition to agreeing to provide a certain number of coolers to its backers, the company was required to set aside 10% of its profits from future sales to fulfill commitments to other backers. The company: (i) agreed to pay U.S. \$20 per cooler to all backers who do not receive their product by the middle of 2020; (ii) was forbidden from using rewards-based crowdfunding sites until all commitments to backers have been met; (iii) was required to submit financials to an outside accountant quarterly and to provide the Department of Justice access to financial records and progress reports; and (iv) was ordered to pay a fine of U.S. \$50,000.

Second, some states exempt specific industries (e.g., banks, insurers, regulated industries) from UDAP statutes. Third, while most state agencies have the authority to seek an injunction, restitution for consumers or civil penalties, several states limit the effectiveness of these forms of relief, namely by requiring the state agency to prove intent before seeking an injunction (e.g., Colorado, Indiana, Nevada, North Dakota and Wyoming), prohibiting state agencies from seeking civil penalties (e.g., Rhode Island), or severely limiting the amount of civil penalties that can be sought (e.g., District of Columbia, Missouri, Pennsylvania and Tennessee). Fourth, while in some states consumers can effectively supplement public enforcement by taking a business to court and seeking restitution and punitive damages, or by filing a class action, this is not possible in other states. For example, several states prohibit class action lawsuits (e.g., Alabama, Georgia, Iowa), others require consumers to pay defendants attorney fees even if the suit is filed in good faith (e.g., Alaska, Florida, Oregon) and several prohibit enhanced damages (e.g., Arizona, Arkansas, Delaware).<sup>11</sup> As a result, there is considerable variation across states in the likelihood and expected outcomes of consumer litigation.

The National Consumer Law Center's report on UDAP provides information on state consumer protection laws along four broad dimensions: their substantive prohibitions, their scope, the remedies they provide for the state enforcement agency, and the remedies they provide for consumers. Based on this information, we construct an index that captures the strength of state-level consumer protection regulation (see Appendix B, Table B-2). Figure 2 illustrates the differential strengths of consumer protection regulation across U.S. states.

# 3. Hypotheses Development

The main objective of regulation in securities markets is to guarantee market integrity and to ensure investor protection (e.g., Goshen and Parchomovsky 2006; Mahoney 2009;

<sup>&</sup>lt;sup>11</sup> Enhanced damages provisions allow consumers to seek two or three times their actual damages.

Christensen et al., 2017). Market regulators often impose stringent disclosure requirements on security issuers to meet this objective. Costly disclosure requirements, however, may impose an excessive burden on small firms, which are usually the most innovative and high-growth ventures. Therefore, market regulators are confronted with a choice between: (i) a lightly-regulated market, capable of attracting small and innovative firms that can enjoy low disclosure burdens; and (ii) a heavily-regulated market, in which small high-growth firms may be discouraged by disproportionate compliance requirements (Brüggemann et al., 2017).

The above reasoning is particularly pertinent to the case of reward crowdfunding platforms. On the one hand, the competitive advantage of these alternative markets is to provide a venue for venture financing with very limited (if any) regulations, which should allow creators to focus on innovative (high-risk) projects with a view to ultimately spur innovation. On the other hand, the regulatory uncertainty and minimal standards for disclosure verifiability typically plague these platforms with moral hazard problems because of information asymmetries which may ultimately lead to market failure (e.g., Akerlof, 1970; Grossman, 1981; Milgrom, 1981).

While backers may be motivated by an array of different incentives in addition to direct consumption benefits (e.g., philanthropy, engaging and contributing to a trusting and creative community, and supporting others and their causes), Gerber et al. (2012) provide several examples consistent with backers considering project rewards, often in the form of early access to tangible products or services, to be an important reason to participate in reward crowdfunding.<sup>12</sup> Therefore, backers should factor in their decision to pledge any information that is relevant to estimate the probability that rewards will be delivered.

Nevertheless, disclosures in this market may not be credible as they are, to a large extent, voluntary and unverifiable, most backers only access the platform once (e.g., Stocken,

<sup>&</sup>lt;sup>12</sup> Citing two of their examples, a backer who funded an Apple iPad accessory noted: "*I like to <u>buy</u> things that I can play with*," and a backer who supported a film "*I want to see [the film] right when it is out so, instead of giving \$10, I gave \$25.*"

2000) and there is substantial regulatory uncertainty. However, certain features of reward crowdfunding may render disclosures credible even in the absence of regulation. To the extent that creators are interested in increasing subsequent sales, they have an incentive to signal their ability by disclosing truthfully. This, in turn, alleviates moral hazard and prevents market failure (e.g., Strausz, 2017; Gutiérrez and Sáez, 2018).

Prior studies have examined investor reactions to voluntary disclosures in unregulated markets and found that investors respond to these disclosures. (e.g., Sivakumar and Waymire (1994) study voluntary disclosures made by NYSE firms from 1905 to 1910, when there were minimal reporting requirements and no accounting standards; Michels (2012) examines voluntary disclosures made by borrowers on the Prosper.com peer-to-peer lending platform).<sup>13</sup> While one may argue that reward crowdfunding shares features that are similar to those of unregulated equity markets and peer-to-peer lending platforms, the one-shot nature of the contractual relationship between creators and backers (i.e., single-period game), as well as the hybrid nature of project backers (in between consumers and investors) may limit the extent to which other studies' findings may generalize to our setting.

Therefore, whether creator disclosures in reward crowdfunding platforms are able to facilitate contracting between backers and creators is an open empirical question. This leads to our first hypothesis (stated in the null form):

### H1: Disclosure is not associated with project funding.

We further contend that the changes in Kickstarter's terms of use announced in September 2014 effectively increased the credibility of disclosure due to an increase in potential litigation costs that creators face when their obligation to deliver the promised rewards is not fulfilled. The threat of consumer litigation may increase the perceived credibility of project disclosure by rendering deceptive disclosure practices more costly. The

<sup>&</sup>lt;sup>13</sup> Furthermore, a literature in psychology and behavioral economics suggests that people tend to rely on false or irrelevant information in their decision making (e.g., Nisbett et al., 1982; Gilbert, 1991; Gilbert et al., 1993; Bertrand et al., 2010).

change in Kickstarter terms of use was highly publicized by Kickstarter and drew the attention of many commentators specializing in entrepreneurship, who emphasized the heightened litigation risk. In fact, backers appear to be well aware of the change, as evidenced by their comments on delayed projects, where they often quote Kickstarter's terms of use and sometimes threaten creators with litigation.<sup>14</sup> Thus, we expect the effect of the Kickstarter rule change to become more pronounced when the consumer protection regulation in place in a project state is stricter. Following this reasoning, we formulate our second hypothesis:

# H2: Subsequent to the change in Kickstarter terms of use, the perceived credibility of disclosure increases in the strength of state-level consumer protection regulation.

We next argue that the effect of state consumer protection laws on perceived disclosure credibility is likely to vary depending on: (i) the size of the claim (i.e., the magnitude of the rewards); and (ii) the efficiency of the courts that enforce those laws (see Iverson (2017) who examines bankruptcy outcomes). This is because it may not be cost-effective for backers to litigate small claims as the potential awards would be insufficient to cover legal fees. While small claimants may be able seek redress through a class action (which allows a representative plaintiff to bring a lawsuit on behalf of a large number of claimants, effectively aggregating multiple claims), we expect the perceived increase in litigation risk to be more pronounced for projects involving larger rewards. Furthermore, the perceived increase in litigation risk (by creators and backers alike) arguably depends on factors such as the degree of court *busyness*, as well as the extent of *confidence* in courts. Specifically, we expect the effect of the rule change on disclosure credibility to be stronger in states whose courts experience a lower case load on average. Similarly, we expect the effect to be more

<sup>&</sup>lt;sup>14</sup> For example on March 23, 2018 a backer of Eye-Smart Android Case for iPhone writes "I invoke my rights under Kickstarter's Terms of Use [...] Project Creators are required to fulfill all rewards of their successful fundraising campaigns or refund any Backer whose reward they do not or cannot fulfill [...] I demand a full refund for my pledge amount ASAP."

pronounced in states in which there is confidence that courts deal with criminal offences in a fairer way. Following these arguments, we formulate our first set of cross-sectional hypotheses:

- H3a: The effect of consumer protection regulation on the perceived credibility of disclosure increases in the magnitude of project rewards.
- H3b: The effect of consumer protection regulation on the perceived credibility of disclosure decreases in the busyness of state courts.
- H3c: The effect of consumer protection regulation on the perceived credibility of disclosure increases in the level of confidence in state courts.

We also postulate that the effect of consumer protection regulation on the perceived credibility of disclosure is likely to vary with qualitative attributes of disclosure, namely, *readability* and *sentiment*.

Li (2008) provides evidence consistent with the idea that more readable financial disclosures induce positive capital market outcomes. Following the same reasoning, we argue that project disclosures that are easier to read are perceived as more credible (i.e., exhibit a stronger association with funding decisions). Accordingly, we posit that readability magnifies the effect of consumer protection regulation on the perceived credibility of disclosure. Stated differently, we expect that, after the rule change, the association between project funding and disclosure becomes relatively more pronounced when disclosures are easier to read.<sup>15</sup>

Henry (2008) and Loughran and McDonald (2011) show that disclosure sentiment affects investor decisions and may be used opportunistically. Similarly, we argue that, prior to the increase in litigation risk induced by the rule change, positive disclosures are more likely to be viewed as being "cheap talk" by Kickstarter backers. Therefore, we expect that,

<sup>&</sup>lt;sup>15</sup> Alternatively, one could also argue that, absent regulation, less readable disclosures are more likely to be opportunistic. Hence, after the rule change, consumer protection regulation increases litigation risk thereby rendering those disclosures relatively more credible (i.e., perceived as being less opportunistic).

with higher litigation risk, the perceived credibility of positive disclosures increases in relative terms.<sup>16</sup>

Our reasoning on the degree of disclosure readability and sentiment leads us to our second set of cross-sectional hypotheses:

- H3d: The effect of consumer protection regulation on the perceived credibility of disclosure increases in disclosure readability.
- H3e: The effect of consumer protection regulation on the perceived credibility of disclosure increases in disclosure sentiment.

#### 4. Data

We scrape information from Kickstarter using R scripts.<sup>17</sup> Table 1, Panel A provides the details of our sample selection procedure. We identify 332,364 projects launched between April 28, 2009 (i.e., the date of Kickstarter's official launch) and July 15, 2017. These projects represent 92% of the 361,804 projects that were launched during that period according to Kickstarter.<sup>18</sup> To the best of our knowledge, our sample of Kickstarter projects is more comprehensive in coverage than those of prior studies (cf. 86% coverage in Lin and Pursiainen, 2018). We obtain the project's funding period from the *campaign* and *updates* tabs, and the project location from the campaign tab.<sup>19</sup> We delete projects for which we are unable to determine funding period and location country (417 and 1,722 projects, respectively). We drop 75,131 foreign projects thus restricting our sample to U.S. projects only. We further limit our sample to projects with funding goals greater than zero for which

<sup>&</sup>lt;sup>16</sup> This is even more so the case given that the likelihood of a lawsuit is higher when disclosure is optimistic and the creator fails to deliver rewards.

<sup>&</sup>lt;sup>17</sup> Figure 1 provides an example of a Kickstarter project webpage.

<sup>&</sup>lt;sup>18</sup> We obtain the total number of projects launched during that period from https://www.kickstarter.com/help/stats using *Wayback Machine* (available at: http://archive.org/web/) to revert to the saved snapshot of the website that is closer to July 15, 2017 (i.e., July 13, 2017). The reason why our coverage is not 100% is that there is a limit to the number of projects shown by Kickstarter in each search. This requires us to repeat our searches by running scripts that automatically change the seed. To ensure that our sample is the most comprehensive, we combine the links retrieved from this search with a set of links made publicly available by *Web Robots* at http://webrobots.io/kickstarter-datasets/.

<sup>&</sup>lt;sup>19</sup> See Figure 1, Exhibit A for an example of the header of a project campaign tab.

we are able to identify the project state. Project location must be consistent with the address, bank account, government-issued ID and major debit or credit card details provided by backers. Reported project location must be consistent with these documents. Our final sample consists of 255,017 projects, 80% of which launched in years 2012 to 2016 (Table 1, Panel B).

57% of the projects are in the "Film and Video," "Music," "Publishing," and "Games" categories (Table 1, Panel C). "Art" and "Technology" are also sizeable categories, each representing approximately 7% of our sample. Projects often involve modest amounts: 43% of the sample projects have funding goals below U.S. \$5,000, and only 27% have funding goals above U.S. \$15,000 (Table 1, Panel D). Nonetheless, several projects have raised more than U.S. \$10 million. These include the Pebble E-Paper watch, Pebble Time and Pebble Time 2 in 2012, 2015 and 2016, respectively, the Coolest Cooler in 2014, and the Kingdom Death: Monster 1.5 tabletop game in 2017.

Table 1, Panel E presents descriptive statistics for the projects in our sample.<sup>20</sup> The average (median) funding goal is U.S. \$18,124 (U.S. \$5,000). Pledged amounts are on average lower (U.S. \$6,597) reflecting the fact that only 39% of the projects are successful. Figures 3, 4 and 5 graphically illustrate the extent of variation in total number of projects, average number of successful projects and total amount pledged across U.S. states. While the number of projects and the total amount pledged are, to a large extent, geographically concentrated (e.g., in California and New York state), the number of successful projects appears to be more evenly distributed across states. The average (median) number of backers is 79 (15). The majority of backers have previously supported other projects on Kickstarter (a project attracts on average 50 returning backers). Backers often interact with project creators

 $<sup>^{20}</sup>$  All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentile of their distributions. All variables are defined in Appendix C.

and other backers via the comments tab.21 They ask questions about the product and make suggestions for product development. Engagement in this forum may be regarded as a sign of project success, especially from backers who regularly support a large number of projects (i.e., superbackers).<sup>22</sup> The average number of words written by backers (superbackers) in the comments tab is 107 (22).

Project creators must prepare a *campaign pitch*, in which they describe and promote the project, often providing details of the project's history and milestones achieved thus far, as well as the timeline for completion. In addition, projects often include a risks and challenges section.<sup>23</sup> The average lengths of the campaign pitch and risk and challenges section are 585 and 93 words, respectively. Creators also typically provide their biography (103 words on average), including a link to their Facebook page. Creators have 543 friends on Facebook on average, sometimes work in teams (4% of the projects in our sample) and often back other projects on Kickstarter (on average 6 projects). Finally, project creators must define the funding period (funding periods can last from one to 60 days and are on average approximately one month), as well as the range (and pricing) of rewards on offer (on average projects have 8 different reward tiers).

Table 1, Panel F presents the correlation between our main variables of interest. The lengths of the campaign pitch and risks and challenges section exhibit average Pearson (Spearman) correlations of 0.300 (0.304) and 0.054 (0.124), respectively, with the variables that capture project success (i.e., Funded, Ln(Pledged), Ln(Backers), Ln(New Backers), Ln(Returning Backers), Ln(Backer Comments) and Ln(Superbacker Comments)).

<sup>&</sup>lt;sup>21</sup> See Figure 1. Exhibit D for an example of a project comments tab.

<sup>&</sup>lt;sup>22</sup> Superbackers are backers that have supported more than 25 projects with pledges of at least U.S. \$10 in the previous year. <sup>23</sup> See Figure 1, Exhibits B and C.

#### 5. Research Design

To examine how the interplay of disclosure and regulation affects the likelihood of project success, we take advantage of a quasi-experiment provided by a change in Kickstarter's terms of use announced on September 19, 2014.<sup>24</sup> The rule change essentially strengthened the contractual position of backers by explicitly requiring creators to fulfill their obligation to deliver the promised rewards.<sup>25</sup> Moreover, under the new terms of use "*creators owe their backers a high standard of effort, honest communication, and a dedication to bringing the project to life,*" which is intended to mitigate moral hazard and render creators' disclosure more credible.<sup>26</sup>

Our *H2* postulates that the perceived credibility of project disclosure (i.e., the sensitivity of project success to disclosure) increases following the rule change with more stringent consumer protection regulations. To gauge the effect of the terms of use update on disclosure credibility, we employ a generalized DiD research design which allows us to exploit cross-state variation in consumer protection regulation. Our DiD identification strategy effectively compares disclosure credibility (i.e., the association between project success and disclosure) *before* and *after* the rule change by looking at differential responses across states, depending on the varying degrees of stringency in their pre-existing consumer protection laws.<sup>27</sup> Our identifying assumption is that, prior to the rule change, there was limited awareness that state consumer protection laws would apply to Kickstarter creators and

<sup>&</sup>lt;sup>24</sup> While the updated terms of use went into effect on October 19, 2014 (see https://www.kickstarter.com/termsof-use), we conduct our analysis using the announcement date (i.e., September 19, 2014) as the change in terms of use had been already covered in depth by both mainstream and specialized media outlets on that date (Lin and Pursiainen, 2018). Nevertheless, in sensitivity tests (unreported) we perform our main analyses using the entryinto-force date. The tenor of our findings is unaffected by this alternative design choice.

<sup>&</sup>lt;sup>25</sup> Under the updated terms of use, Kickstarter requires that "[w]hen a project is successfully funded, the creator must complete the project and fulfill each reward. Once a creator has done so, they've satisfied their obligation to their backers."

<sup>&</sup>lt;sup>26</sup> Following the rule change, when failing to deliver rewards, creators have an obligation to show that they "*have made no material misrepresentations in their communication to backers*" (see https://www.kickstarter.com/terms-of-use).

<sup>&</sup>lt;sup>27</sup> To draw a parallel with medical research, our DiD design differs from a randomized controlled trial with dichotomous treatment that compares a single treated group that receives the drug with a single control group that receives the placebo, and is instead more similar to a randomized controlled trial in which the comparison occurs across treated patients receiving differential doses of the drug.

backers, despite state consumer protection laws being already in place. This assumption is supported by a number of studies in law (e.g., Ganatra, 2016), which emphasize the absence of jurisprudence on the matter. In fact, the first ruling against a reward crowdfunding creator took place in 2015, i.e., after the change in Kickstarter terms of use. Furthermore, the tenor of the comments on specialized online media outlets covering reward crowdfunding platforms also support our identifying assumption; prior to the change in terms of use, creators and backers seem to have had little or no awareness that state consumer protection laws could be enforced in the crowdfunding setting (see Appendix A).

Empirically, we estimate various model specifications of the following form:

$$y = \varphi(\beta_0 + \beta_1(Disclosure) + \beta_2(Post \times Treated) + \beta_3(Disclosure \times Post) + \beta_4(Disclosure \times Post) + \beta_5(Disclosure \times Post \times Treated) + \partial'Controls + \gamma'Fixed effects + \varepsilon).$$
(1)

The dependent variable (y) is either an indicator capturing whether the amount pledged by backers reaches the project's funding goal (*Funded*), or the natural logarithm of the amount pledged to the project (Ln(Pledged)).  $\varphi(\cdot)$  indicates the model functional form (i.e., Logit or OLS). *Disclosure* denotes one of the different project disclosure proxies (i.e., the length of the campaign pitch (Ln(Campaign Pitch)) and the length of the risks and challenges section (Ln(Risks and Challenges)) measured in number of words). *Treated* captures the strength of consumer protection laws in the respective state. *Post* is an indicator variable taking the value of one starting from September 19, 2014 and thereafter. *Controls* is a vector of project- and creator-level control variables which we include to account for time-varying factors affecting the response variable of interest. *Fixed effects* represents state and project subcategory×year-month (or state, project subcategory and year-month) fixed effects.<sup>28,29</sup>

<sup>&</sup>lt;sup>28</sup> Kickstarter classifies projects into 51 subcategories, which represent finer partitions of the project categories presented in Table 1, Panel C.

<sup>&</sup>lt;sup>29</sup> The main effects of *Treated* and *Post* are not included in equation (1) because they are perfectly collinear with state and subcategory×year-month fixed effects, respectively.

The inclusion of state fixed effects allows us to control for time-invariant state-level factors potentially affecting the likelihood of project success. Project subcategory×year-month fixed effects account for unobservable heterogeneity in time-varying project subcategory characteristics that are likely to explain variation in both project success and disclosure. We draw statistical inferences based on standard errors clustered at the project state and year-month level.<sup>30</sup>

Our main coefficient of interest in equation (1) is  $\beta_5$ . If, as postulated in *H2*, the change in Kickstarter's terms of use causes an increase in the perceived credibility of project disclosure when state-level consumer protection laws are stricter then  $\beta_5$  should be positive.

Unobservable state time-varying factors may potentially present a challenge to our identification strategy. These factors would bias our inferences if correlated with the treatment (i.e., with the timing of the change in Kickstarter's terms of use and with the strength of state-level consumer protection laws). While this is unlikely, we employ several strategies in order to rule out this potential concern. First, we conduct an additional analysis (unreported) in which we include controls for state per capita GDP and per capita personal income. Second, we conduct a county-level analysis in which we restrict our sample to contiguous counties in different states to account for unobservable state-level time-varying factors. Third, we formally test for differences in pre-treatment trends to yield support to the parallel trend assumption in our DiD design. Finally, we limit the sample to a one- and two-year period surrounding the event date to ensure that our findings are driven by the change in regulation as opposed to other concurrent events.

A further challenge may come from changes in unobservable project characteristics around the introduction of the new terms of use. While changes in project characteristics may affect the success of a project itself, in order to bias our treatment effect, they would have to

<sup>&</sup>lt;sup>30</sup> We cluster standard errors at the project state and year-month level because our treatment varies across states and over time.

systematically vary with the stringency of consumer protection laws across states. Furthermore, our variable of interest is disclosure credibility (i.e., the mapping between disclosure and project success) and therefore changes in unobservable project characteristics would have to explain why disclosure credibility increases more in states with strong consumer protection. While this is unlikely, we nonetheless control for subcategory×year-month fixed effects, as well as for a host of project-specific characteristics to mitigate this concern.

#### 6. Empirical Analysis

#### 6.1. Disclosure and Project Success

Our first set of analyses aims at investigating the association between disclosure and project success (*H1*). Table 2 presents the results of these tests. As described in Section 5, we examine two disclosure proxies: the length of the campaign pitch (Ln(Campaign Pitch)) and the length of the risks and challenges section (Ln(Risks and Challenges)). We also consider two main measures of project success: an indicator variable equal to one if a project's funding goal is reached (*Funded*) and the natural logarithm of the amount pledged to the project (Ln(Pledged)).

We control for several project characteristics, such as a project's funding goal (Ln(Goal)), the duration of the funding period (Ln(Duration)), whether a project is chosen by Kickstarter as a "project of the day" (*Project of the Day*), whether a project has multiple creators (*Multiple Creators*), and the number of project rewards (Ln(Rewards)).<sup>31</sup> We also control for creator characteristics, such as the length of a creator's biography (*Ln(Bio Length*)), the number of Kickstarter projects backed by the

<sup>&</sup>lt;sup>31</sup> In additional sensitivity analyses (unreported), we re-run our main tests also controlling for the number of videos and images on projects' webpages. The tenor of our findings remains qualitatively unchanged.

creator (*Ln*(*Projects Backed*)) and the number of friends a creator has on Facebook (*Ln*(*Facebook Friends*)).

Panel A presents the results of the analysis where the dependent variable is *Funded*. Columns (1), (4) and (7) display coefficient estimates (and respective *z*-statistics) of logistic regressions which include subcategory, state and year-month fixed effects. The remaining columns display the results from the estimation of linear probability models. These are first estimated with the same fixed effect structure as in the logit model (Columns (2), (5) and (8)). We then replace subcategory and year-month fixed effects with subcategory×year-month fixed effects (Columns (3), (6) and (9)) to account for unobservable subcategory factors on a time-varying basis.

Consistent with prior research (e.g., Qiu, 2013; Barbi and Bigelli, 2017), projects with shorter funding periods, lower funding goals, multiple creators, and multiple rewards, and projects that are selected by Kickstarter as "project of the day" are more likely to be successful.<sup>32</sup> Longer creator biographies and creator social capital (proxied by the number of Facebook friends and the number of projects previously backed by the creator) are also associated with higher likelihood of success, in line with Lin et al. (2013), Mollick (2014), Kim et al. (2015) and Koch and Siering (2015). The different model specifications consistently show a positive association between the likelihood that the project is funded and our disclosure proxies (*Ln*(*Campaign Pitch*) and *Ln*(*Risks and Challenges*)). The economic magnitude of the association is similar across specifications. As the length of the campaign pitch (risks and challenges section) increases by one standard deviation, the

<sup>&</sup>lt;sup>32</sup> The positive coefficient on *Multiple Creators* is also consistent with a widespread consensus that the performance of new ventures is higher when these are launched by teams as opposed to individuals, a consensus recently challenged by Greenberg and Mollick (2018).

probability of success increases by 1.3 (1.1) percentage points (based on the coefficients reported in Column (9)).<sup>33</sup>

In Panel B, the dependent variable is instead Ln(Pledged). We find that, across specifications employing different fixed effect structures, pledged amounts are robustly associated with disclosure. Specifically, as the campaign pitch (risks and challenges section) increases by one standard deviation, the amount of funds pledged to the project increases by U.S. \$716 (U.S. \$141) or, equivalently by 27.1% (5.3%) (based on the coefficients reported in Column (6)).<sup>34</sup>

In Table 3, we examine the extent to which the association between project success and disclosure is observed across different project size (i.e., funding goal) categories. We find that project success exhibits a positive and significant association with disclosure across all size categories. A one standard deviation increase in the length of the campaign pitch (risks and challenges section) is associated with a 1.2 to 2.0 (0.8 to 2.4) percentage points increase in probability of success and a U.S. \$147 to U.S. \$1,335 (U.S. \$130 to U.S. \$636) increase in amount pledged.

#### 6.2. Consumer Protection and Disclosure Credibility

In this section, we assess whether, subsequent to the change in Kickstarter's terms of use, there is an increase in the perceived credibility of disclosure in states with stronger consumer protection laws (H2). Table 4 presents the results from the estimation of equation

<sup>&</sup>lt;sup>33</sup> To estimate the effect of a standard deviation change in the campaign pitch on the probability of success, we multiply the coefficient on Ln(Campaign Pitch) by the difference between the logarithm of the average length of the campaign pitch (i.e., 585) and the logarithm of the average increased by the standard deviation (i.e., 585+471).

<sup>&</sup>lt;sup>34</sup> To estimate the effect of a standard deviation change in the campaign pitch on the amount of funds pledged to the project, we first set all control variables to their sample means and take the logarithm when applicable. We then compute the corresponding fitted value of Ln(Pledged). Next, we increase *Campaign Pitch* by its standard deviation, and calculate a new fitted value of Ln(Pledged), leaving the other variables unchanged at their means. The dollar effect of a standard deviation change in the campaign pitch is equal to the difference in the exponentials of the two fitted values. To restate this effect in percentage terms, we divide it by the fitted value of Ln(Pledged), calculated based on the average length of *Campaign Pitch*.

(1). Our main variable of interest is *Disclosure* × *Post* × *Treated*. If the change in Kickstarter's terms of use leads to an increase in the perceived credibility of disclosure (i.e., the association between project success and disclosure) in states with stronger consumer protection, then the coefficient on *Disclosure* × *Post* × *Treated* ( $\beta_5$  in equation (1)) should be positive.

The dependent variable in Panel A is *Funded*. We find that, following the change in Kickstarter's terms of use, there is an increase in the association between the likelihood of success and our two measures of disclosure, which we interpret as an increase in the perceived credibility of disclosure. Note that, while the association between the outcome of a funding campaign and disclosure increases following the rule change, it is already significantly positive prior to the rule change, which indicates that disclosure was already perceived as credible when the market was largely unregulated. Consistent with our *H2*, the increase in perceived credibility of disclosure is more pronounced in states with stronger consumer protection. This finding is robust to different model specifications and fixed effect structures.

Following the rule change, an increase in the length of the campaign pitch by one standard deviation increases the probability of success by an additional 3.8 (0.3) percentage points in states where *Treated* is equal to 16 (1). The negative and significant coefficient on *Post*  $\times$  *Treated* is also noteworthy. It suggests that, as the risk of litigation increases, projects with relatively lower levels of disclosure experience a decrease in funding. Specifically, in states where *Treated* is equal to 1, funding decreases for projects with a campaign pitch (risk and challenges section) of less than 99.48 (148.41) words. In states

where *Treated* is equal to 16, this decrease in funding is observed for projects with a campaign pitch (risk and challenges section) of less than 287.59 (148.41) words.<sup>35</sup>

In Panel B, the dependent variable is Ln(Pledged). Our coefficient of interest, *Disclosure* × *Post* × *Treated*, is again positive and significant for our two disclosure measures, indicating that the elasticity of the pledged amount to the number of words in the campaign pitch and risks and challenges section increases in states with stronger consumer protection following the rule change. This increase ranges from 0.025 to 0.400, depending on the strength of consumer protection regulation. Thus, in states with stricter consumer protection laws, the elasticity of amounts pledged to disclosure doubles following the change in Kickstarter's terms of use, again indicating that the increase in perceived credibility of disclosure is economically meaningful. To further gauge the economic significance of our results, we recast them in U.S. dollars. Following the rule change, an increase in the length of the campaign pitch by one standard deviation increases the amount pledged by an additional U.S. \$817 (U.S. \$119) in states where *Treated* is equal to 16 (1). Collectively, findings from these set of tests provide support for our *H2*.

# 6.3. Identifying Assumptions

An important identifying assumption in a DiD research design is that, in the absence of treatment, treatment and control groups would exhibit similar trends in the outcome variable of interest (i.e., parallel trends). Because such counterfactual trends are not empirically observable, we test for differences in pre-treatment trends in Table 5, Panel A. We create five time-indicator variables: from December 31, 2011 to December 30, 2012 ( $T_{-2}$ ), from December 31, 2012 to March 29, 2013 ( $T_{-1}$ ), from March 30, 2013 to September 19, 2014

<sup>&</sup>lt;sup>35</sup> These estimates are based on the calculation of break-even points. These represent the levels of disclosure that leave the probability of success unchanged following the introduction of the new terms of use. For example, when *Treated* is equal to 16, the break-even point is calculated by solving the following equation:  $\hat{\beta}_2 \times 16 + \hat{\beta}_3 \times Disclosure + \hat{\beta}_5 \times Disclosure \times 16 = 0$ , where  $\hat{\beta}_i$  are the estimated coefficients reported in Table 4, Panel A, Column (3).

 $(T_0)$ , from September 20, 2014 to March 19, 2015  $(T_{+1})$  and from March 20, 2015 onwards  $(T_{++})$ . We interact these time indicators with *Disclosure* and *Treated*. Our findings, which are also plotted in Figure 6, indicate that consumer protection does not affect the sensitivity of project success to disclosure prior to the change in Kickstarter's terms of use. In fact, the effect of consumer protection on the perceived credibility of disclosure does not build up in the pre-period; rather, it is concentrated in the months following the rule change. This is the case irrespective of the success and disclosure proxies we use, which provides support for the parallel trends assumption.

In Panel B, we limit the sample to shorter time windows of one and two years surrounding the rule change. The use of a shorter window mitigates the concern that the effect that we document may be due to other changes taking place during the sample period. Moreover, using a shorter window around the rule change also alleviates the concern that overall changes in market structure (i.e., changes in the type of projects on Kickstarter following the rule change) may be driving our results. Our coefficient of interest remains positive and significant across all specifications in these shorter windows, with the exception of the regression of probability of success on the length of the risks and challenges section in a one-year window, where the coefficient is positive but not significant. These results provide reassurance that the increase in the perceived credibility of disclosure is attributable to the change in regulation coupled with consumer protection.

# 6.4. County-Level Analysis

A potential concern with our analysis is that the strength of consumer protection could correlate with local economic conditions. To mitigate the concern that unobservable statelevel time-varying factors may be responsible for our results, we take a two-pronged approach. First, we re-run our tests (unreported) by including additional controls for state per capita GDP and per capita personal income. Our inferences remain unchanged. Second, we conduct a *county-level analysis* (Card and Krueger, 1997; Holmes, 2006; and Dube et al., 2010), where we restrict the sample to contiguous counties of different states. Assuming that local economic conditions are plausibly similar along a state border, our county-level analysis allows us to exploit discontinuities in the strength of consumer protection across state borders, while effectively controlling for local economic conditions. Figure 7 presents the contiguous counties located at U.S. state-border segments that we use in this analysis. Table 6 presents the results of this analysis. Odd-numbered columns include subcategory, county and year-month fixed effects. Even-numbered columns replace year-month fixed effects by border×year-month fixed effects. Our main coefficient of interest, *Disclosure × Post × Treated*, remains positive and significant across the different specifications and across the different success and disclosure variables. Furthermore, the magnitude of this coefficient is similar to the coefficient magnitudes reported in previous tables.

#### 6.5. Number of Backers and Backer Engagement

In this section we examine the effect of the rule change on the number of project backers and on their level of engagement. Table 7 presents the results of these analyses. In Panel A, the dependent variable is the natural logarithm of the number of backers (Ln(Backers)). We document a positive and significant association between disclosure and the number of backers before the change in Kickstarter's terms of use. This association increases following the change in Kickstarter's terms of use in states with stricter consumer protection laws, as indicated by the positive coefficient on  $Disclosure \times Post \times Treated$ . The increase in the elasticity of the number of backers to the length of the campaign pitch (risks and challenges section) ranges from 0.015 (0.013) in states with stronger consumer protection (where Treated is equal to 1) to 0.240 (0.208) in states with stronger consumer protection (where Treated is equal to 16). Following the rule change, an increase in the

length of the campaign pitch by one standard deviation increases the number of backers by an additional 1 (8) backers in states where *Treated* is equal to 1 (16).

In Panel B, we separately examine the effects of the change in regulation on the number of *new* and *returning* backers. New backers are backers who have not previously supported other projects. Returning backers, in contrast, are backers who have previously funded other projects on Kickstarter. We find that, following the change in Kickstarter's terms of use, there is an increase in the elasticity of the number of both types of backers to disclosure, suggesting that disclosure plays an increasingly important role not only in retaining existing Kickstarter users, but also in attracting new backers to the platform. One might argue that new backers are more likely to have close connections with the creator. If new backers were simply "friends and family," however, then one would likely not observe a positive and significant association between the number of new backers and disclosure.

In Table 8, we examine the effect of the rule change on the level of backer engagement, namely on the extent to which backers comment on the project's page. A large number of backers supporting and engaging with a particular project campaign can be regarded as a signal of project success. Consistently, Courtney et al. (2017) argue that backer comments are a form of third-party endorsement. Comments may also be used to provide valuable feedback to creators, establishing a direct connection between creators and project backers and enabling the development of a virtual community. The "eWOM" (electronic word of mouth) and social buzz thus developed can be of crucial importance for project success (Belleflamme et al., 2015). We consider backers that frequently invest in the platform (i.e., *superbackers*) separately. Superbackers are perceived as the most experienced and sophisticated funders. They may thus play a role similar to that of institutional investors in traditional equity and credit markets; pledges made by superbackers and their active engagement with the project in the platform may be regarded by other backers as a signal of project quality (Xu, 2017).

Both of our disclosure measures exhibit a significantly positive association with backer and superbacker engagement. Following the change in Kickstarter regulation, this association increases in states with stronger consumer protection, consistent with an increase in the perceived credibility of disclosure in these states.

#### 6.6. Heterogeneity in Treatment Effects

#### 6.6.1. Litigation Risk and the Role of Courts

In the previous sections, we examine how consumer protection laws foster disclosure credibility in reward crowdfunding. In this section, we examine cross-sectional variation in treatment effects. Our *H3a*, *H3b* and *H3c* posit that the effect of the rule change on the perceived credibility of project disclosure varies with the *magnitude of the project rewards*, the *busyness* of state courts, and the degree of *confidence* in courts, respectively. If the increase in disclosure credibility that we document is not driven by litigation risk, then the effect should not vary with the magnitude of the project rewards or the characteristics of state-level judicial systems.

We measure the magnitude of the project rewards based on the value of the highest reward associated with the project. Because backers with larger claims are more likely to file suit against creators, we expect our treatment effect to be stronger for projects involving large rewards.

Table 9 presents the results of this analysis. We partition projects based on the sample median of reward magnitude. We expect *Disclosure*  $\times$  *Post*  $\times$  *Treated* to be positive and significant across all groups (as small backers may also file suit through a class action) but significantly higher in the sub-sample of projects with larger rewards. Our results are consistent with this expectation.

We measure court busyness based on the total caseload per capita of state courts before the change in terms in use. Because backers may be deterred from suing creators when courts are very busy, we expect the increase in perceived litigation risk and in the perceived credibility of disclosure to be lower in such cases.

Table 10, Panel A presents the results of this analysis. We obtain total caseload per capita from the Court Statistics Project by the National Center for State Courts and classify a state court as having low (high) caseload if the respective caseload is below (above) the median across all U.S. states. We expect the coefficient on *Disclosure* × *Post* × *Treated* to be positive and significant across all groups but significantly lower when the respective state court's caseload is high. We find this to be the case for all success and disclosure measures, with the exception of the regression of Ln(Pledged) on Ln(Campaign Pitch), where the coefficients on *Disclosure* × *Post* × *Treated* are not significantly different across the low and high caseload partitions.

We further expect the effect of the rule change to be stronger when confidence in courts is higher. To measure confidence in courts we rely on the General Social Survey. Specifically, we compute the percentage of survey respondents in the project's region that believe that courts in their own region deal with criminals in a fair way (i.e., respondents that answer "*About right*" to the question "*In general, do you think the courts in this area deal too harshly or not harshly enough with criminals*?").<sup>36</sup> A region is classified as having low (high) confidence in courts if this percentage is lower (higher) than the median across U.S. regions. Again here, we find that the effect of the rule change is significantly lower when confidence in courts is low across all success and disclosure measures, with the exception of the regression of *Ln(Pledged)* on *Ln(Campaign Pitch)* where the coefficients on *Disclosure* × *Post* × *Treated* are not significantly different across the low and high confidence partitions (Table 10, Panel B).

<sup>&</sup>lt;sup>36</sup> Data for these tests are available at the aggregate level for nine U.S. regions (i.e., New England, Mid-Atlantic, East North Central, West North Central, South Atlantic, East South, West South Central, Mountain and Pacific).

#### 6.6.2. Cross-Sectional Variation in Disclosure Readability

Disclosure attributes are likely to play an important role in the association between disclosure length and project success. One of such attributes is *readability* (*H3d*). We expect the association between project success and both the length of the campaign pitch and the risks and challenges section (as well as the respective increase following the shock) to be higher when these disclosures are easier to read. We rely on the Flesch Kincaid readability index (Flesch, 1948) to measure the ease with which a reader can parse and comprehend a written text.<sup>37</sup> A project's campaign pitch and risk and challenges sections are classified as having low (high) readability if the respective Flesch Kincaid readability index is below (above) the sample median. We find that the association between project success and the length of each type of disclosure is significantly higher when the respective readability is high (Table 11). The increase in the association between both measures of success and the length of the campaign pitch is also significantly higher when disclosures are easier to read, providing support for *H3d*. However, there is no statistically significant difference in the increase in the association between project success and the length of the risks and challenges section across the high and low readability partitions.

#### 6.6.3. Cross-Sectional Variation in Disclosure Sentiment

In this section, we examine the role played by disclosure *sentiment* (*H3e*). We expect disclosures with a negative (positive) sentiment to be associated with lower (higher) project success. Following prior literature, we measure disclosure sentiment as: (number of positive words – number of negative words)  $\div$  (number of positive words + number of negative words). Positive and negative words are identified based on the Harvard-IV general-purpose

<sup>&</sup>lt;sup>37</sup> The Flesch Kincaid readability index is calculated based on: (i) average number of words in a sentence; (ii) average number of syllables in a word; (iii) average percentage of personal words; and (iv) average percentage of personal sentences.

dictionary developed by Harvard University, as used in the General Inquirer software.<sup>38</sup> One would expect most campaign pitches to be written using a positive tone. This is confirmed by our measure which indicates that the campaign pitch is only negative in 6,298 (i.e., 2.5%) of the projects in our sample (see Table 12). As expected, the use of negative sentiment is more frequent in the risks and challenges section, where it is used in 5.8% of the projects. We find that the differences in the association between project success and disclosure (and respective increases) across the sentiment partitions are in general not significant. Note that the association between the length of the project pitch and the likelihood of the project being funded is significantly negative when the sentiment of the campaign pitch is negative. This suggests that backers are less likely to invest in projects with long, negative campaign pitches. The length of the campaign pitch also exhibits a negative (*albeit* insignificant) association with pledged amount when the sentiment is negative.

#### 6.7. Robustness Tests

Our analyses are based on the location of the project (as opposed to the location of the project backers). This research design choice is supported by the following two arguments. First, if a creator is a resident of a given state, and does substantial business (i.e., it markets, advertises, distributes, sells and receives substantial profits from sales) within that state, then the appropriate venue for a consumer protection lawsuit would be that specific state. Second, prior literature documents a significant home-bias even though crowdfunding is not geographically constrained (Agrawal et al., 2011, Lin and Viswanathan, 2015). Nevertheless, to the extent that certain projects' locations are different from the location of their backers,

<sup>&</sup>lt;sup>38</sup> We use this dictionary, as opposed to the dictionaries developed by Henry (2008) and Loughran and McDonald (2011) since these are specifically designed to measure the sentiment of financial disclosures (earnings press releases and 10-K reports, respectively). In contrast, the language used in Kickstarter is informal, and project creators rarely use technical financial jargon. Nonetheless, we check the sensitivity of our findings to these alternative sentiment measures. We find that the tenor of our results remains unchanged.

location may be measured with error.<sup>39</sup> To alleviate this concern, we conduct a sensitivity test in which we limit our sample to projects where the majority of backers are located in the project state.

Kickstarter provides information, in the *community tab*, on the top 10 cities in which backers are located, as well as on the number of backers in each of these cities. Based on these data, we compute the percentage of project backers that hail from the project's state. Note that our measure is conservative, as we are only able to observe backers in the top 10 cities. We limit our sample to projects where more than 50% of backers are in the project state. Table 13, Panel A presents the results of this analysis. We find that the coefficient on our variable of interest, *Disclosure × Post × Treated*, is positive and significant across all disclosure and project success proxies. The fact that we observe an increase in disclosure redibility in this sub-sample of 30,351 observations increases our confidence regarding the robustness of our findings.

Moreover, because some of the projects in our sample have been cancelled or suspended, project success may also be measured with error. When a project is cancelled or suspended by Kickstarter or directly by creators, the reason for the lack of success may not be related to backers' unwillingness to support the project. Yet, in our main analysis we code such projects as unfunded (i.e., *Funded* is equal to 0). To alleviate the concern that our findings may be driven by this potential measurement error, we conduct further sensitivity tests in which we exclude cancelled and suspended projects from our sample. Table 13, Panel B reports the results of these tests. We find that the coefficient on *Disclosure* × *Post* × *Treated* remains significantly positive across all disclosure and project success proxies also within this smaller sub-sample.

<sup>&</sup>lt;sup>39</sup> Note that, for our identification to lead to a biased estimate of the effect of the rule change, the proportion of backers located outside of the project state would have to be correlated with the treatment.
Finally, some creators may return to Kickstarter multiple times with different projects hence building reputation. The effect of disclosure on project success may thus be confounded by the performance of creators in previous campaigns. To allay this concern, in Table 13, Panel C we limit our sample to projects of first-time creators. We continue to find an increase in the credibility of disclosure following the rule change across all disclosure and project success proxies.

#### 7. Conclusion

We investigate how the interplay of disclosure and regulation affects capital allocation in reward crowdfunding. Using data from Kickstarter, we document three main findings.

First, we show that, even in the absence of regulation and enforcement, disclosure helps creators access capital for their projects, indicating that disclosure mitigates moral hazard and adverse selection. Second, we find that disclosure becomes more credible (i.e., more strongly associated with funding success) as the potential litigation cost of false and misleading disclosure increases. This effect is more pronounced for U.S. states with stricter consumer protection laws. Third, we provide evidence of substantial heterogeneity in treatment effects: the increase in perceived disclosure credibility is stronger for projects involving larger rewards, as well as in states whose courts are less busy and in states whose courts are generally believed to handle criminal cases in a fairer way; the increase in perceived disclosure when disclosure is easier to read.

Taken together, our findings: (i) contribute to the nascent literature on reward crowdfunding (e.g., Mollick, 2014, 2015, 2016; Courtney et al., 2017); (ii) speak to the importance of disclosure as a mechanism to alleviate moral hazard and adverse selection problems in markets plagued by information asymmetries; and (iii) illustrate the role of regulation in enhancing disclosure credibility. These findings should be of interest to project backers, creators, reward crowdfunding platforms and regulators alike.

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## Appendix A: Online Coverage of the Change in Kickstarter's Terms of Use

Below, we report a collection of excerpts from online articles announcing and describing the change in Kickstarter's terms of use. These articles in particular clarify the extent of increased threat in litigation risk faced by project creators.

Date	Title	Link	Excerpt
09/19/2014	Kickstarter updates terms to address creators who fail to deliver on their projects	https://www.p olygon.com/20 14/9/19/65598 93/kickstarter- terms-of-use- update- creators-failed- projects	"Kickstarter is revising its terms of use in an effort to clarify the relationship between project creators and backers, and in particular, to spell out the responsibilities that creators have to their backers, the company announced today. ()Kickstarter considers the backing arrangement to be a binding legal agreement between creators and backers, with creators being legally obligated to fulfill the project and any associated rewards.() the terms of use explicitly warn creators that if they don't meet those standards, they open themselves up to possible legal action from backers."
09/19/2014	Kickstarter changes rules so nobody runs off with your money	https://www.sl ashgear.com/ki ckstarter- changes-rules- so-nobody- runs-off-with- your-money- 19347238/	"If you've ever back a crowd-funded campaign, you know that feeling you get just after submitting your cash. It sometimes comes back months later, when the project goes off the rails or hits a snag. Will you ever see the thing you paid for? Kickstarter is making sure you will, even threatening litigation."
09/19/2014	Kickstarter updates terms of use section related to failed projects	https://techcru nch.com/2014/ 09/19/kickstart er-updates- terms-of-use- section- related-to- failed-projects/	"In Section 4 of Kickstarter's revised Terms of Use, the company now explains that when customers are backing a project, they're creating a legal agreement between themselves and the project creators, not with Kickstarter. () Kickstarter also reminds creators that they need to be "honest" and not make "material misrepresentations in their communication to backers. (In other words, scammers beware.) Additionally, the terms now state that creators who are unable to stand by the promises they made in their project may be subject to legal action by backers. (The possibility of legal action has always existed, but that part was not spelled out clearly in the previous terms.)"
09/19/2014	Kickstarter outlines what project creators must do if they don't deliver on promises	https://venture beat.com/2014 /09/19/kickstar ter-outlines- what-project- creators-must- do-if-they- dont-deliver- on-promises/	"That's what Kickstarter describes in an update made to its terms of service today. According to the changes, "Anyone who backs a project is accepting the creator's offer, and forming that contract. Kickstarter is not a part of this contract," reads the new terms of service. () Kickstarter cautions, however, that doing the above may not protect project creators from "legal action by backers.""

(continued)

Appendix A (continued)

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Date	Title	Link	Excerpt		
09/20/2014	Kickstarter changes terms of service, wants projects finished	https://betanew s.com/2014/09 /20/kickstarter- changes-terms- of-service- wants-projects- finished/	"Now the service is trying to clean things up with a new terms of service agreement that it hopes will lend more confidence to potential backers. That should be a good thing for customers, and Kickstarter spells things out pretty clearly. "For the overwhelming majority of projects, it's pretty simple: creators finish the work they planned, backers are happy, and nobody sweats the details. But there are exceptions. Sometimes problems come up, projects don't go according to plan, and people wind up in the dark about what's supposed to happen next. So we're spelling it out what's expected from backers, what's expected from creators, and what needs to happen if a project runs into trouble", says Yancey Strickler."		
09/21/2014	Kickstarter clarifies creator accountabili ty. A hefty overhaul of Kickstarter' s terms of use clarifies creator obligations and potential consequence s of not fulfilling their end of the deal	https://www.cn et.com/news/ki ckstarter- updates-terms- of-use-to- clarify-creator- accountability/	"The crowdfunding website has recently updated its terms of use to clarify creator obligations including the obligation to issue a refund if the creator cannot deliver on promised rewards and the possibility of legal action from backers. Previously, the old terms of use buried this information in a wall of text. "Project Creators agree to make a good faith attempt to fulfill each reward by its Estimated Delivery Date," it stated in one point; and, in another, "Kickstarter does not offer refunds. A Project Creator is not required to grant a Backer's request for a refund unless the Project Creator is unable or unwilling to fulfill the reward. Project Creators are required to fulfill all rewards of their successful fundraising campaigns or refund any Backer whose reward they do not or cannot fulfill."The updated terms of use, which have also been edited with clearer language and page layout, expand on this obligation in no uncertain terms."		
09/22/2014	Kickstarter lays down new rules for when a project fails	https://arstechn ica.com/inform ation- technology/20 14/09/kickstart er-tries-to- help-creators- who-dont- deliver-with- new-terms/	"Section 4 of the new terms of service goes to lengths to help project creators set themselves up for success and/or not frustrate their backers. If the creators can't deliver, Kickstarter explains how to try and make good when the creators do not fulfill their goals or backer rewards."		
09/22/2014	Kickstarter changes terms regarding unfinished projects	https://www.en gadget.com/20 14/09/22/kicks tarter-changes- terms-to- resolve-failed- projects/	"Kickstarter updated its terms of use late last week, mostly cleaning up the site's fine-print language to better spell out the relationship between project creators and backers () The boldest inclusion stressed that creators who are unable to satisfy the terms "may be subject to legal action by backers." While Kickstarter still won't involve itself in the proceedings, this opens a clearer lane for possible lawsuits from project backers should creators fail to live up to their agreement or offer alternative solutions."		

(continued)

# Appendix A (continued)

(continued)

Date	Title	Link	Excerpt (continued)
09/22/2014	Kickstarter outline contract between creator & backer	https://www.ro ckpapershotgu n.com/2014/09 /22/kickstarter- creator-back- contract-terms- update/	"The section ends with the most important part: "If [the creator is] unable to satisfy the terms of this agreement, they may be subject to legal action by backers." I'm not aware of any videogame backers currently pursuing legal action against a failed project, but this might give people a stronger leg to stand upon should they choose to. Kickstarter is great, but as John pointed out, backing a project is not the same thing as buying a game. It's a risky investment, and while individual pledges tend to be in low enough amounts that no single person is accepting much risk, failures are inevitable. I'm glad therefore that Kickstarter have written something that backers can point to when developers occasionally fail to deliver or fall silent for protracted periods of time."
09/22/2014	It just got easier to sue failed Kickstarter campaigns for a refund	http://valleywa g.gawker.com/ it-just-got- easier-to-sue- failed- kickstarter- campaigns- 1637720027	"Kickstarter has decided to update its famously laissez-faire attitude when it comes to protecting donors who have pledged more than \$1 billion through the company over the years. The new terms state that a successfully funded campaign that fails to produce "rewards," i.e. the product, may have to "return remaining funds." If not, they could be "subject to legal action by backers." Backers could previously sue campaign creators, but rarely did so. The new rules, which go into effect on October 19th, make the potential for a lawsuit more explicit (check out the differences here). The amended TOS says that by backing a project, donors are entering into a "contract" with creators. Kickstarter then lists all the things a creator has to do if a product does not materialize, including "offer to return any remaining funds." If creators fails to bring the contract to the "best possible conclusion," the "legal action" part kicks in."
09/22/2014	Kickstarter updates terms for successful- then- cancelled projects	https://www.eu rogamer.net/art icles/2014-09- 22-kickstarter- updates-terms- for-successful- then-cancelled- projects	"These new terms echo those which were in place, but are more strongly worded. That final term is key: "The creator is solely responsible for fulfilling the promises made in their project. If they're unable to satisfy the terms of this agreement, they may be subject to legal action by backers.""
09/24/2017	Kickstarter is backing the backers, changes terms of use	https://vulcanp ost.com/18388 1/kickstarter- is-backing-the- backers- changes-terms- of-use/	"These rules are intended to clarify a creator's accountability and what they should do to avoid getting sued, when/if their projects fail. This change will let the backer understand why a certain project failed and they will also be able to understand every action that the creator took during the course of the project () These changes will be in effect from the 19 <sup>th</sup> October 2014, and these stipulations ensure that creators avoid any legal action if they are unable to finish their project. However, backers can still sue if they feel like it."

#### **Appendix B: Strength of State Consumer Protection Laws**

To capture the strength of state-level consumer protection statutes, we construct an index based on the data collected by the National Consumer Law Center and described in their publication titled "*Consumer Protection in the States: A 50-State Report on Unfair and Deceptive Acts and Practices Statutes.*" The report evaluates consumer protection in each U.S. state and the District of Columbia along several dimensions (see Table B-1). For each dimension, the strength of Unfair and Deceptive Acts and Practices Statutes (UDAP) statutes is rated as "*weak*," "*mixed or undecided*" and "*strong.*" We first convert these qualitative attributes into numerical ratings taking the values of -1, 0 and 1 if a dimension is rated as "*weak*," "*mixed or undecided*," or "*strong*," respectively. We then add these numerical ratings across all dimensions to form a summary state-level index (see Table B-2).

UDAP statutes in each state represent the main line of defense to protect consumers from predatory and deceptive business practices. The National Consumer Law Center scores state-level consumer protection regulation based on their relative strength and weaknesses. In several states, consumer protection is rather weak with UDAP statues prohibiting, for example, only acts that are deceptive, but not acts that are unfair, or encompassing very narrow types of deception and unfairness. In Iowa, consumers who have been cheated are not allowed to go to court to enforce UDAP provisions. In five states (Colorado, Indiana, Nevada, North Dakota and Wyoming), the Attorney General does not have the ability to stop ongoing unfair or deceptive practices. In contrast, in other states consumer regulation is stricter with laws allowing, for example, consumer lawsuits without pre-suit notice, class actions and consumer lawsuit without proof of public impact.

Moreover, in some states, the definition of "consumer" itself is relaxed to include *any person* who uses deceptive practices effectively allowing Kickstarter creators to fall into this category.

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## Table B-1: Dimensions of State-Level Consumer Protection Regulation

-	Prohibition of unfairness, deception
	Broad deception prohibition
	Broad unfairness prohibition
	Rulemaking authority
	Scone
	<u>Scope</u> Covers credit
	Covers insurance
	Covers utilities
	Covers post-sale acts
	Covers real estate
	State enforcement
	Civil penalty amount
	Deception sufficient without proof of intent or knowledge
	Remedies for consumers
	Compensatory damages for consumers
	Multiple or punitive damages
	Attorney fees for consumers
	Class actions
	Allows consumer suit without proof of public impact
	Allows consumer suit without pre-suit notice
=	
	This table presents the different dimensions of state-level consumer protection regulation analyzed by National Consumer Low Contact in their report titled "Consumer Protection in the States A 50 State Per
	National Consumer Law Center in their report titled "Consumer Protection in the States: A 50-State Rep. Unfair and Decentive Acts and Practices Statutes" For each dimension, the strength of Unfair and Dec

by the port on Unfair and Deceptive Acts and Practices Statutes." For each dimension, the strength of Unfair and Deceptive Acts and Practices Statutes (UDAP) statutes is rated as "weak," "mixed or undecided" and "strong."

State	Consumer Protection Index
Alabama	1
Alaska	8
Arizona	7
Arkansas	7
California	11
Colorado	7
Connecticut	15
Delaware	3
District of Columbia	15
Florida	4
Georgia	3
Hawaii	16
Idaho	11
Illinois	14
Indiana	1
Iowa	1
Kansas	10
Kentucky	9
Louisiana	7
Maine	12
	7
Maryland	14
Massachusetts	
Michigan	3
Minnesota	7 2
Mississippi	
Missouri	12
Montana	10
Nebraska	3
Nevada	9
New Hampshire	8
New Jersey	13
New Mexico	13
New York	9
North Carolina	13
North Dakota	11
Ohio	9
Oklahoma	9
Oregon	9
Pennsylvania	11
Rhode Island	6
South Carolina	7
South Dakota	5
Tennessee	7
Texas	9
Utah	7
Vermont	15
Virginia	-1
Washington	8
West Virginia	8
Wisconsin	12
Wyoming	3

Table B-2: Strength of Consumer Protection Regulation by U.S. State

This table provides descriptive information (for each U.S. state and the District of Columbia) on the consumer protection index that we use to construct the treatment variable in our analysis (*Treated*). The index is computed based on the consumer protection regulation report published by the National Consumer Law Center and titled "*Consumer Protection in the States: A 50-State Report on Unfair and Deceptive Acts and Practices Statutes.*" Consumer protection in each state is evaluated according to several dimensions (see Table B-1). For each dimension, the strength of Unfair and Deceptive Acts and Practices Statutes (UDAP) statutes is rated as "*weak*," "*mixed or undecided*" and "*strong.*" We first convert these qualitative attributes into numerical ratings taking the values of -1, 0 and 1 if a dimension is rated as "*weak*," "*mixed or undecided*," or "*strong*," respectively. We then add these numerical ratings across all dimensions to form a summary state-level index.

# Appendix C: Variable Definitions

Variable	Definition
Success Variables	
Funded	Indicator variable set equal to one if the amount pledged by backers is higher than a project's funding goal, and zero otherwise (Source: Kickstarter).
Ln(Pledged)	Natural logarithm of the amount pledged to a project (Source: Kickstarter).
Ln(Backers)	Natural logarithm of the number of project backers (Source: Kickstarter).
Ln(New Backers)	Natural logarithm of the number of project backers that have not previously backed other Kickstarter projects (Source: Kickstarter).
Ln(Returning Backers)	Natural logarithm of the number of project backers that have previously backed other Kickstarter projects (Source: Kickstarter).
Ln(Backer Comments)	Natural logarithm of the length of the comments made by backers in a project's comments tab (Source: Kickstarter).
Ln(Superbacker Comments)	Natural logarithm of the length of the comments made by super- backers in a project's comments tab. Superbackers are backers that have supported more than 25 projects with pledges of at least U.S. \$10 in the previous year (Source: Kickstarter).
<u>Disclosure Variables</u>	
Ln(Campaign Pitch)	Natural logarithm of the length of a project's campaign pitch in words (Source: Kickstarter).
Ln(Risks and Challenges)	Natural logarithm of the length of a project's risks and challenges section in words (Source: Kickstarter).
Project Controls	
Ln(Goal)	Natural logarithm of a project's funding goal (Source: Kickstarter).
Ln(Duration)	Natural logarithm of the duration of a project's funding period in days (Source: Kickstarter).
Project of the Day	Indicator variable set equal to one if a project is chosen as "project of the day" by Kickstarter, and zero otherwise (Source: Kickstarter).
Multiple Creators	Indicator variable set equal to one if a project has multiple creators, and zero otherwise (Source: Kickstarter).
Ln(Rewards)	Natural logarithm of the number of rewards for a project (Source: Kickstarter).
<u>Creator Controls</u>	
Ln(Bio Length)	Natural logarithm of the length of the project creator's biography in words (Source: Kickstarter).
Ln(Projects Backed)	Natural logarithm of the number of Kickstarter projects backed by the project's creator (Source: Kickstarter).
Ln(Facebook Friends)	Natural logarithm of the number of Facebook friends of the project creator. (Source: Kickstarter).
Regulation Variables	
Post	Indicator variable set equal to one if a project's funding period starts after September 20, 2014, and zero otherwise.
Treated	Strength of state consumer protection law, reflecting the strength of state Unfair and Deceptive Acts and Practices (UDAP) statutes in four broad categories: their substantive prohibitions, their scope, the remedies they provide for the state enforcement agency, and the remedies they provide for consumers (Source: calculated based on the National Consumer Law Center's report on UDAP, available at: http://www.nclc.org/images/pdf/udap/report_50_states.pdf). See Appendix B for details.

# Appendix C (continued)

Variable	Definition
Cross-Sectional Partition Varial	bles
Caseload	Total caseload per capita in the project's state courts. The tota caseload is the sum of all incoming (newly filed, reopened an reactivated) cases reported by the state. It comprises civil, domesti relations, criminal, juvenile and traffic violations cases (Source: Court Statistics Project by the National Center for State Courts, available a http://www.courtstatistics.org/).
Confidence in Courts	Percentage of respondents of the General Social Survey in the project's region that believe that courts in their respective area dea well with criminals (i.e., respondents that answer "About right" to the question "In general, do you think the courts in this area deal to harshly or not harshly enough with criminals?") (Source: General Social Survey, available at http://gss.norc.org/).
Readability	Flesch Kincaid readability index, which provides an approximation of the ease with which a reader can parse and comprehend a written tex (calculated using the R " <i>readability</i> " package).
Sentiment	(Number of positive words-Number of negative words)/(Number of positive words+ Number of negative words). Positive and negative words are identified based on Dictionary GI, a Dictionary wit opinionated words from the Harvard-IV dictionary as used in th General Inquirer software (calculated using the R "SentimentAnalysis package).

# Figure 1: Example of Kickstarter Project

Exhibit A: Project Header

Campaign FAQ Updates 44 Comments	213 Community
About	Support
клоскі	Pledge US\$ 1 or more Knocki Supporter: Support at any level is appreciated. All supporters will receive project updates and our eternal gratitude ESTIMATED DELIVERY Dec 2016 533 backers
	Pledge US\$ 59 or more CRAZY EARLY BIRD (\$59 / Knocki) Receive (1) Knocki at the craziest price it will ever be! Thank you for being one of o earliest supporters.
Knocki: Make Any Surface Smart	earliest supporters. \$1,144,399 pledged of \$35,000 goal Dec 2016 Anywhere in the
Q         Houston, TX         #         Gadgets	8,897 world

# Exhibit B: Campaign Pitch

Campaign	FAQ	Updates <sup>44</sup>	Comments 1,212	Community		Share this project	♥ Save
Who is Knock	ki for?						
anywhere wit	h a WiFi iı	nternet connectio	-	ffices. Knocki works 'tap" into many powe droid phone.			
				ome, without the wirin art home control sys			
				iately expand what K office into intelligent			
Bottom line, i appreciate th	•		work for you, instead	l of the other way aro	und, you'll		

### Figure 1 (continued)

#### Exhibit C: Risks and Challenges

Risks and	oballon	200			
RISKS dilu	Chanen	yes			
Knocki isn't s	ome far-fe	etched idea hack	ed together in a gara	age. We're a serious start-up	p
with a growin	ig full-time	e team, seed-fun	ding, a production re	eady working prototype, and	d lots
of exciting m	omentum.				
We've finalize	ed design:	s and have engag	ged a proven domest	ic manufacturer so we can b	be
on the groun	d-floor wa	tching the birth o	of Knocki! We also ha	ive the support of two	
accelerators	(Seed Sur	no & TechrloT) w	ho have helped us a	long the way. It's safe to say	У
that we've re	duced ma	ny of the risks ty	pical of a hardware s	tartup!	
However, as	with any n	ewly manufactur	ed product, it's poss	ible for unexpected events	to
impact the ac	tual produ	uction time frame	e. On the positive en	d of the spectrum, we might	t
deliver them	earlier tha	n expected, but	we can't rule out the	possibility of some delay.	

### Exhibit D: Backers' Comments

<b>A</b>					
	Superbac				
				ne user can do with Knocki? The re". For example, what exactly a	
				ccess? I would suspect yes, sir	
		oing something? T	-		
Andre <sup>®</sup>	w MacKinn	on July 1			
@creat	or				
are the	ere any limit	s to which URL tha	at can be called using k	nocki? (I'm assuming it does	
whata	ver I have s	et it up to do, but j	ust want to clarify)		
whate					
whate					
whate					
•	Voronkin	on June 30			

This figure presents excerpts of the Knocki project webpage on Kickstarter (https://www.kickstarter.com/projects/knocki/knocki-make-any-surface-smart). Exhibits A, B and C contain snippets of the campaign tab. Exhibit A presents information on the project location, category, funding goal, amount pledged, number of backers, and rewards. Exhibits B and C show excerpts of the campaign pitch and risks and challenges sections, respectively. Exhibit D provides a snapshot of the project's comments tab.



**Figure 2: Strength of Consumer Protection Regulation** 

This figure shows the differential strength of consumer protection laws across U.S. states. Dark (light) blue areas indicate stricter (less strict) consumer protection regulation.



### **Figure 3: Number of Projects**

This figure shows the extent of variation in total number of project on Kickstarter across U.S. states. Dark (light) blue areas indicate a larger (smaller) number of projects.



Figure 4: Average Successful Projects

This figure shows the extent of variation in the average number of successful Kickstarter projects across U.S. states. Dark (light) blue areas indicate a higher (lower) average number of successful projects.



**Figure 5: Total Amount Pledged** 

This figure shows the extent of variation in total amount pledged for Kickstarter across U.S. states. Dark (light) blue areas indicate a higher (lower) total amount pledged.



**Figure 6: Treatment Effects** 

This figure presents the results of our analysis assessing time trends in the treatment effects of consumer protection regulation on the association between *Disclosure* and project success. The upper right (left) plot reports the coefficients and respective confidence intervals of an OLS regression of *Funded* on *Ln*(*Campaign Pitch*) (*Ln*(*Risks and Challenges*)), as reported in Columns (1) and (2) of Table 5, Panel A. The lower right (left) plot reports the coefficients and respective confidence intervals of an OLS regression of *Ln*(*Pledged*) on *Ln*(*Campaign Pitch*) (*Ln*(*Risks and Challenges*)), as reported in Columns (3) and (4) of Table 5, Panel A.

# **Figure 7: Border Counties**



This figure shows contiguous U.S. counties located at state border segments (dark blue areas) that we use in our border county analysis.

# Table 1: Sample Selection and Composition

Panel A: Sample Selection Criteria

Projects downloaded on July 15, 2017	332,364
- Exclude projects with missing funding period	(417)
- Exclude projects with missing location country	(1,772)
- Exclude foreign projects	(75,131)
- Exclude projects with missing location state	(24)
- Exclude projects with zero funding goal	(3)
Final Sample	255,017

Panel B: Projects by Year

Year	Obs.	%
2009	912	0.36
2010	8,971	3.52
2011	25,385	9.95
2012	39,348	15.43
2013	38,812	15.22
2014	50,786	19.91
2015	46,348	18.17
2016	30,009	11.77
2017	14,446	5.66
Total	255,017	100.00

Panel C: Projects by Category

Category	Obs.	%
Film and Video	65,363	25.63
Music	30,183	11.84
Publishing	26,866	10.53
Games	21,758	8.53
Art	18,307	7.18
Technology	17,518	6.87
Design	17,386	6.82
Food	15,669	6.14
Fashion	14,273	5.60
Comics	7,954	3.12
Photography	6,593	2.59
Crafts	3,048	1.20
Dance	2,851	1.12
Journalism	2,849	1.12
Theatre	2,301	0.90
Craft	2,098	0.82
Total	255,017	100.00

Panel D: Projects by Size

Size	Obs.	%
Goal < U.S. \$5,000	108,724	42.63
U.S. \$5,000 ≤ Goal < U.S. \$10,000	50,823	19.93
U.S. \$10,000 ≤ Goal < U.S. \$15,000	26,528	10.40
$Goal \ge U.S. \$15,000$	68,942	27.04
Total	255,017	100.00

## Table 1 (continued)

Panel E: Descriptive Statistics

	Obs.	Mean	Std. Dev.	P25	Median	P75
Success variables:						
Funded	255,017	0.386	0.487	0.000	0.000	1.000
Pledged	255,017	6,597	16,344	281	1,691	5,442
Backers	255,017	79	210	2	15	61
New Backers	255,017	27	58	0	5	29
Returning Backers	255,017	50	161	0	4	26
Backer Comments	255,017	107	294	0	0	46
Superbacker Comments	255,017	22	86	0	0	0
<u>Disclosure variables</u> :						
Campaign Pitch	255,017	585	471	266	443	750
Risks and Challenges	255,017	93	93	0	77	135
Project variables:						
Goal	255,017	18,124	41,167	2,000	5,000	15,000
Duration	255,017	34	13	30	30	38
Project of the Day	255,017	0.008	0.087	0.000	0.000	0.000
Multiple Creators	255,017	0.043	0.203	0.000	0.000	0.000
Rewards	255,017	8	5	4	7	10
Creator variables:						
Bio Length	255,017	103	107	39	76	119
Projects Backed	255,017	6	14	0	1	4
Facebook Friends	255,017	543	973	0	43	687

Table 1 (continued)

Panel F: Correlation Matrix

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]
[1]	Funded		0.561	0.706	0.713	0.684	0.517	0.289	0.134	0.018	-0.222	-0.113	0.100	0.043	0.257	0.050	0.421	0.145
[2]	Ln(Pledged)	0.506		0.793	0.726	0.711	0.572	0.359	0.348	0.154	0.213	0.015	0.115	0.075	0.420	0.092	0.412	0.122
[3]	Ln(Backers)	0.698	0.788		0.912	0.933	0.699	0.434	0.393	0.148	0.119	-0.018	0.125	0.081	0.496	0.082	0.547	0.159
[4]	Ln(New Backers)	0.707	0.653	0.906		0.885	0.629	0.300	0.322	0.084	0.138	0.000	0.121	0.087	0.460	0.097	0.467	0.158
[5]	Ln(Returning Backers)	0.668	0.644	0.936	0.857		0.698	0.483	0.389	0.184	0.117	-0.041	0.132	0.071	0.459	0.057	0.550	0.150
[6]	Ln(Backer Comments)	0.512	0.515	0.718	0.629	0.729		0.498	0.301	0.097	0.126	0.021	0.117	0.049	0.342	0.020	0.422	0.078
[7]	Ln(Superbacker Comments)	0.290	0.315	0.474	0.302	0.546	0.550		0.247	0.182	0.087	-0.011	0.085	0.014	0.164	-0.034	0.302	0.016
[8]	Ln(Campaign Pitch)	0.128	0.327	0.391	0.313	0.391	0.304	0.249		0.476	0.313	0.012	0.063	0.059	0.434	0.173	0.280	0.064
[9]	Ln(Risks and Challenges)	-0.035	0.056	0.059	-0.017	0.123	0.032	0.160	0.328		0.211	-0.100	0.003	0.058	0.125	0.145	0.041	0.067
[10]	Ln(Goal)	-0.225	0.126	0.127	0.142	0.133	0.128	0.080	0.302	0.146		0.208	0.054	0.057	0.241	0.135	-0.009	-0.016
[11]	Ln(Duration)	-0.131	-0.009	-0.037	-0.014	-0.058	0.006	-0.027	0.002	-0.143	0.225		0.001	0.001	0.061	0.022	-0.036	-0.038
[12]	Project of the Day	0.100	0.095	0.140	0.127	0.153	0.124	0.080	0.062	-0.011	0.053	-0.001		0.016	0.066	0.006	0.081	0.007
[13]	Multiple Creators	0.043	0.070	0.080	0.087	0.067	0.048	0.013	0.056	0.050	0.051	-0.001	0.016		0.059	0.058	0.015	-0.011
[14]	Ln(Rewards)	0.265	0.415	0.488	0.451	0.438	0.333	0.159	0.421	-0.003	0.203	0.042	0.064	0.059		0.121	0.347	0.117
[15]	Ln(Bio Length)	0.067	0.093	0.085	0.097	0.061	0.029	-0.018	0.160	0.077	0.124	0.014	0.009	0.053	0.114		0.011	0.149
[16]	Ln(Projects Backed)	0.406	0.375	0.535	0.426	0.559	0.438	0.367	0.275	-0.019	-0.019	-0.061	0.087	0.004	0.319	0.021		0.229
[17]	Ln(Facebook Friends)	0.124	0.108	0.132	0.129	0.122	0.064	0.017	0.065	0.072	-0.021	-0.042	0.003	-0.011	0.104	0.173	0.216	

This table presents the sample selection procedure and the sample composition. Panel A describes the sample selection procedure. Panels B, C and D present the distribution of sample projects by year, category, and size, respectively. Panel E provides descriptive statistics for different measures of project success, as well as for the disclosure, project and creator variables. Panel E reports correlations across the different variables. Pearson (Spearman) correlations are reported below (above) the diagonal. Correlations in bold are significant at the 5% level. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentile of their distributions. All variables are defined in Appendix C.

## Table 2: Disclosure and Project Success

Panel A: Probability of Success

				Depen	dent variable: I	Funded			
	Logit	OLS	OLS	Logit	OLS	OLS	Logit	OLS	OLS
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Disclosure variables:									
Ln(Campaign Pitch)	0.234***	0.029***	0.027***				0.188***	0.023***	0.022***
	(12.13)	(9.81)	(9.38)				(10.52)	(7.76)	(7.35)
Ln(Risks and Challenges)				0.203***	0.026***	0.024***	0.137***	0.017***	0.016***
				(4.81)	(5.39)	(5.25)	(3.88)	(4.21)	(4.09)
<u>Project control</u> :									
Ln(Goal)	-0.586***	-0.080***	-0.079***	-0.573***	-0.078***	-0.078***	-0.590***	-0.080***	-0.079***
	(-40.68)	(-23.92)	(-24.98)	(-37.78)	(-24.06)	(-25.13)	(-41.70)	(-24.25)	(-25.20)
Ln(Duration)	-0.523***	-0.086***	-0.086***	-0.525***	-0.086***	-0.086***	-0.521***	-0.086***	-0.085***
	(-21.21)	(-19.97)	(-20.09)	(-21.54)	(-20.11)	(-20.15)	(-21.32)	(-19.98)	(-20.03)
Project of the Day	3.169***	0.368***	0.361***	3.214***	0.373***	0.366***	3.180***	0.369***	0.362***
	(23.01)	(15.80)	(15.76)	(23.20)	(16.01)	(16.03)	(23.04)	(15.91)	(15.89)
Multiple Creators	0.521***	0.086***	0.085***	0.520***	0.086***	0.085***	0.517***	0.085***	0.084***
	(18.66)	(16.16)	(16.18)	(18.62)	(16.22)	(16.22)	(18.74)	(16.17)	(16.16)
Ln(Rewards)	1.035***	0.135***	0.133***	1.096***	0.142***	0.140***	1.034***	0.134***	0.132***
	(38.43)	(27.95)	(28.76)	(40.59)	(26.99)	(27.80)	(38.77)	(27.89)	(28.73)
<u>Creator controls</u> :									
Ln(Bio Length)	0.138***	0.021***	0.020***	0.142***	0.021***	0.020***	0.133***	0.020***	0.019***
	(7.64)	(7.66)	(8.39)	(7.84)	(7.80)	(8.58)	(7.39)	(7.32)	(8.02)
Ln(Projects Backed)	0.714***	0.132***	0.131***	0.728***	0.134***	0.133***	0.715***	0.132***	0.131***
	(56.26)	(57.87)	(57.78)	(58.33)	(56.95)	(56.69)	(56.57)	(57.98)	(57.86)
Ln(Facebook Friends)	0.012***	0.002***	0.002***	0.011***	0.002***	0.002***	0.012***	0.002***	0.002***
	(4.03)	(3.94)	(4.14)	(3.74)	(3.68)	(3.91)	(3.97)	(3.87)	(4.08)
Subcategory fixed effects	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
Subcategory $\times$ Year-month fixed effects	No	No	Yes	No	No	Yes	No	No	Yes
Obs.	255,017	255,017	255,017	255,017	255,017	255,017	255,017	255,017	255,017
Pseudo $\mathbb{R}^2$	0.291			0.290			0.290		
Adj. R <sup>2</sup>		0.321	0.353		0.321	0.353		0.322	0.353

#### Table 2 (continued)

Panel B: Pledged Amount

			Dependent variab	le: Ln(Pledged)		
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)
Disclosure variables:						
Ln(Campaign Pitch)	0.443***	0.432***			0.414***	0.406***
	(22.86)	(23.29)			(26.36)	(26.03)
Ln(Risks and Challenges)			0.237***	0.226***	0.083***	0.075***
			(5.95)	(5.94)	(3.63)	(3.52)
<u>Project controls</u> :						
Ln(Goal)	0.043**	0.043**	0.069***	0.068***	0.042**	0.041**
	(2.46)	(2.53)	(3.82)	(3.90)	(2.38)	(2.45)
Ln(Duration)	-0.051	-0.048	-0.056	-0.052	-0.049	-0.047
	(-1.30)	(-1.31)	(-1.45)	(-1.45)	(-1.27)	(-1.28)
Project of the Day	1.491***	1.482***	1.565***	1.550***	1.497***	1.487***
	(14.76)	(15.42)	(15.31)	(16.13)	(14.91)	(15.58)
Multiple Creators	0.551***	0.554***	0.561***	0.562***	0.549***	0.552***
····· F ··· · · · · · · · · · · · · · ·	(15.65)	(16.58)	(15.62)	(16.44)	(15.78)	(16.70)
Ln(Rewards)	1.267***	1.258***	1.415***	1.404***	1.264***	1.255***
()	(29.03)	(28.83)	(31.37)	(30.93)	(29.16)	(28.93)
Creator controls:		( )		()		()
Ln(Bio Length)	0.061***	0.057***	0.078***	0.076***	0.057***	0.054***
(	(5.43)	(5.47)	(6.72)	(6.99)	(5.14)	(5.18)
Ln(Projects Backed)	0.566***	0.560***	0.599***	0.592***	0.566***	0.560***
	(32.68)	(33.02)	(34.83)	(35.07)	(32.70)	(33.05)
Ln(Facebook Friends)	0.018***	0.018***	0.016***	0.017***	0.018***	0.018***
	(4.57)	(4.85)	(4.22)	(4.50)	(4.54)	(4.83)
Subcategory fixed effects	Yes	No	Yes	No	Yes	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	No	Yes	No	Yes	No
Subcategory × Year-month fixed effects	No	Yes	No	Yes	No	Yes
Obs.	255,017	255,017	255,017	255,017	255,017	255,017
Adj. R <sup>2</sup>	0.299	0.330	0.293	0.325	0.300	0.330

This table examines the association between disclosure and project success. Panel A reports the coefficients from the estimation of a set of logistic (Columns (1), (4) and (7)) and OLS (Columns (2), (3), (5), (6), (8) and (9)) regressions. The dependent variable is *Funded*, an indicator variable set equal to one if the project's funding goal is reached,

and zero otherwise. The model specifications presented in Columns (1), (2), (4), (5), (7) and (8) include project subcategory, state and year-month fixed effects, and the model specifications presented in Columns (3), (6) and (9) include project subcategory×year-month and state fixed effects. Panel B reports the coefficients from the estimation of a set of OLS regressions. The dependent variable is Ln(Pledged), the natural logarithm of the amount pledged to a project. The model specifications presented in Columns (1), (3) and (5) include project subcategory, state and year-month fixed effects, and the model specifications presented in the remaining columns include project subcategory×year-month and state fixed effects. The table reports (in parentheses) *t*-statistics and *z*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

### Table 3: Disclosure and Project Success by Size

#### Panel A: Probability of Success

				Dependent var	iable: Funded			
		Ln(Campa	ign Pitch)		Ln(Risks and Challenges)			
	Extra Small	Small	Medium	Large	Extra Small	Small	Medium	Large
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	0.020***	0.034***	0.036***	0.038***	0.033***	0.019***	0.022***	0.012***
	(7.12)	(11.28)	(7.07)	(7.24)	(5.40)	(2.98)	(3.55)	(3.11)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	108,724	50,823	26,528	68,942	108,724	50,823	26,528	68,942
Adj. R <sup>2</sup>	0.329	0.424	0.481	0.404	0.330	0.423	0.480	0.402

Panel B: Pledged Amount

			I	Dependent variab	ole: Ln(Pledged)				
		Ln(Camp	aign Pitch)		Ln(Risks and Challenges)				
	Extra Small	Small	Medium	Large	Extra Small	Small	Medium	Large	
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Disclosure	0.252***	0.396***	0.441***	0.575***	0.159***	0.207***	0.200***	0.223***	
	(13.08)	(12.14)	(15.30)	(23.09)	(4.94)	(5.42)	(3.66)	(5.73)	
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Subcategory fixed effects	No	No	No	No	No	No	No	No	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year-month fixed effects	No	No	No	No	No	No	No	No	
Subcategory × Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Obs.	108,724	50,823	26,528	68,942	108,724	50,823	26,528	68,942	
Adj. R <sup>2</sup>	0.266	0.410	0.512	0.479	0.265	0.406	0.507	0.470	

This table examines how the association between disclosure and project success varies according to project size. *Extra small* projects have a funding goal below U.S. \$5,000, *Small* projects a funding goal that ranges between U.S. \$5,000 and U.S. \$10,000, *Medium* projects a funding goal that ranges between U.S. \$10,000 and U.S. \$15,000 and

*Large* projects a funding goal above U.S. \$15,000. Panel A (Panel B) reports the coefficients from the estimation of a set of OLS regressions where the dependent variable is *Funded* (Ln(Pledged)). *Disclosure* is measured as Ln(Campaign Pitch) and Ln(Risks and Challenges) in Columns (1) to (4) and (5) to (8), respectively. All model specifications include project subcategory×year-month and state fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

## **Table 4: The Role of Consumer Protection**

#### Panel A: Probability of Success

			Dependent vari	able: Funded		
	Ln	(Campaign Pitcl	h)	Ln(Ri	sks and Challeng	ges)
	Logit	OLS	OLS	Logit	OLS	OLS
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)
Disclosure	0.174***	0.014***	0.012***	0.144***	0.019***	0.017***
	(5.70)	(3.15)	(3.07)	(2.72)	(2.91)	(2.98)
Post  imes Treated	-0.188***	-0.025***	-0.023***	-0.066***	-0.009***	-0.010***
	(-6.85)	(-7.89)	(-7.75)	(-2.72)	(-3.63)	(-4.21)
Disclosure  imes Post	0.019	0.002	0.001	0.019	0.001	-0.000
	(0.53)	(0.68)	(0.42)	(0.43)	(0.16)	(-0.01)
Disclosure × Treated	-0.006*	-0.000	0.000	-0.001	-0.000	-0.000
	(-1.93)	(-0.13)	(0.19)	(-0.71)	(-0.84)	(-1.07)
Disclosure × Post × Treated	0.031***	0.004***	0.004***	0.015***	0.002***	0.002***
	(6.76)	(7.53)	(7.24)	(2.80)	(3.57)	(3.96)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	Yes	Yes	No	Yes	Yes	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	No	Yes	Yes	No
Subcategory × Year-month fixed effects	No	No	Yes	No	No	Yes
Obs.	255,017	255,017	255,017	255,017	255,017	255,017
Pseudo R <sup>2</sup>	0.292			0.290		
Adj. R <sup>2</sup>		0.322	0.354		0.321	0.353

#### Table 4 (continued)

Panel B: Pledged Amount

		Dependent varia	ble: Ln(Pledged)	
	Ln(Campa	ign Pitch)	Ln(Risks and	Challenges)
Independent variables:	(1)	(2)	(3)	(4)
Disclosure	0.371***	0.356***	0.152***	0.133***
	(9.99)	(9.41)	(2.94)	(3.05)
Post  imes Treated	-0.142***	-0.143***	-0.075***	-0.084***
	(-5.60)	(-6.11)	(-3.28)	(-4.07)
Disclosure  imes Post	0.019	0.018	0.023	0.026
	(0.53)	(0.53)	(0.49)	(0.54)
Disclosure × Treated	-0.003	-0.003	-0.000	-0.000
	(-0.74)	(-0.65)	(-0.19)	(-0.34)
Disclosure × Post × Treated	0.024***	0.025***	0.018***	0.020***
	(5.74)	(6.16)	(3.59)	(4.35)
Project controls	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes
Subcategory fixed effects	Yes	No	Yes	No
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	No	Yes	No
Subcategory $\times$ Year-month fixed effects	No	Yes	No	Yes
Obs.	255,017	255,017	255,017	255,017
Adj. R <sup>2</sup>	0.300	0.331	0.294	0.325

This table examines how the association between disclosure and project success changes following the rule change. Panel A reports the coefficients from the estimation of a set of logistic (Columns (1) and (4)) and OLS (Columns (2), (3), (5) and (6)) regressions. The dependent variable is *Funded*. The model specifications presented in Columns (1), (2), (4) and (5) include project subcategory, state and year-month fixed effects, and the model specifications presented in Columns (3) and (6) include project subcategory×year-month and state fixed effects. *Post* is an indicator variable set equal to one if a project's funding period starts after September 20, 2014, and zero otherwise. *Treated* is a measure of the strength of consumer protection in the respective project's state. Panel B reports the coefficients from the estimation of a set of OLS regressions. The dependent variable is *Ln(Pledged)*. The model specifications presented in Columns (1) and (3) include project subcategory, state and year-month fixed effects, and the model specifications presented in Columns (2) and (4) include project subcategory×year-month and state fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

## Table 5: Test of Identifying Assumptions

Panel A: Parallel Trends

	Dependent	variable: Funded	Dependent var	iable: Ln(Pledged)
	Ln(Campaign Pitch)	Ln(Risks and Challenges)	Ln(Campaign Pitch)	Ln(Risks and Challenges)
Independent variables:	(1)	(2)	(3)	(4)
Disclosure $\times T_{-2} \times Treated$	-0.001	-0.005	-0.001	-0.003
	(-0.95)	(-0.95)	(-1.44)	(-0.91)
$Disclosure \times T_{-1} \times Treated$	-0.000	-0.004	0.001	0.006
	(-0.26)	(-0.58)	(0.68)	(0.84)
Disclosure $\times T_0 \times T$ reated	0.001	-0.009	0.001	-0.003
	(1.22)	(-1.30)	(1.47)	(-0.67)
Disclosure $\times T_{+1} \times Treated$	0.003**	0.012*	0.001*	0.014***
	(2.24)	(1.68)	(1.92)	(2.73)
Disclosure $\times T_{++} \times Treated$	0.003***	0.016***	0.002***	0.014***
	(3.44)	(2.96)	(2.91)	(3.03)
Disclosure variable	Yes	Yes	Yes	Yes
Project controls	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes
Interaction terms	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes
Obs.	255,017	255,017	255,017	255,017
Adj. R <sup>2</sup>	0.354	0.331	0.353	0.325

#### Table 5 (continued)

#### Panel B: Short Event Windows

		Dependent ve	ariable: Funded			Dependent varie	able: Ln(Pledge	<i>d</i> )
	Ln(Campo	uign Pitch)	Ln(Risks an	nd Challenges)	Ln(Campo	ign Pitch)	Ln(Risks and	d Challenges)
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	0.010**	0.016***	0.011**	0.017***	0.393***	0.376***	0.203***	0.150***
	(2.28)	(4.64)	(2.77)	(3.27)	(6.75)	(9.28)	(4.01)	(3.50)
Post  imes Treated	-0.013***	-0.020***	-0.002	-0.010***	-0.159***	-0.148***	-0.080***	-0.087***
	(-4.13)	(-6.98)	(-1.15)	(-4.34)	(-4.24)	(-5.88)	(-3.56)	(-4.38)
Disclosure  imes Post	-0.002	0.000	-0.002	-0.000	-0.007	0.017	-0.012	0.022
	(-1.03)	(0.19)	(-1.10)	(-0.06)	(-0.32)	(0.54)	(-0.44)	(0.49)
Disclosure  imes Treated	0.002***	0.000	0.002***	-0.000**	-0.003	-0.005	0.001	-0.002*
	(3.10)	(0.58)	(3.96)	(-2.09)	(-0.42)	(-1.03)	(0.14)	(-1.78)
Disclosure  imes Post  imes Treated	0.002***	0.003***	0.000	0.002***	0.028***	0.025***	0.021***	0.021***
	(4.06)	(6.55)	(1.05)	(4.06)	(4.55)	(5.97)	(3.90)	(4.67)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No	No	No	No	No
Subcategory × Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	97,048	211,146	97,048	211,146	97,048	211,146	97,048	211,146
Adj. R <sup>2</sup>	0.374	0.362	0.373	0.361	0.361	0.350	0.355	0.344

This table provides supporting evidence for our identifying assumptions. Panel A presents our analysis assessing time trends in the effects of regulation on the association between *Disclosure* and project success. It reports the coefficients from OLS regressions of *Funded* (Columns (1) and (2)) and *Ln*(*Pledged*) (Columns (3) and (4)) on *Disclosure* and respective interactions with the strength of consumer protection (*Treated*) and five time indicator variables: from December 31, 2011 to December 30, 2012 ( $T_{-2}$ ), from December 31, 2012 to March 29, 2013 ( $T_{-1}$ ), from March 30, 2013 to September 19, 2014 ( $T_0$ ), from September 20, 2014 to March 19, 2015 ( $T_{+1[}$ ) and from March 20, 2015 onwards ( $T_{++}$ ). *Disclosure* is measured as *ln*(*Campaign Pitch*) (Columns (1) and (3)) and *Ln*(*Risks and Challenges*) (Columns (2) and (4)). Remaining interaction terms and project and creator control variables are included in all specifications, as well as subcategory×year-month and state fixed effects. Panel B restricts the sample to shorter time windows of one and two years surrounding the change in regulation (odd-numbered and even-numbered columns, respectively). The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

		Dependent ve	ariable: Funded			Dependent varia	able: Ln(Pledge	d)
	Ln(Campo	iign Pitch)	Ln(Risks an	d Challenges)	Ln(Campo	ign Pitch)	Ln(Risks and	d Challenges)
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	0.013***	0.020**	0.018***	0.021***	0.360***	0.402***	0.144***	0.145**
	(3.08)	(2.31)	(2.74)	(2.89)	(10.01)	(8.75)	(2.91)	(2.54)
Post  imes Treated	-0.024***	-0.026***	-0.009***	-0.008***	-0.140***	-0.154***	-0.075***	-0.095***
	(-7.55)	(-6.56)	(-3.59)	(-2.94)	(-5.59)	(-5.56)	(-3.44)	(-4.24)
Disclosure × Post	0.003	0.003	0.001	0.003	0.018	0.010	0.024	0.014
	(0.79)	(0.94)	(0.34)	(0.59)	(0.53)	(0.35)	(0.51)	(0.35)
Disclosure × Treated	-0.000	-0.001*	-0.000	-0.001	-0.003	-0.008	0.000	-0.002
	(-0.38)	(-1.72)	(-0.67)	(-1.17)	(-0.79)	(-1.57)	(0.18)	(-0.47)
Disclosure × Post × Treated	0.004***	0.004***	0.002***	0.002**	0.024***	0.026***	0.018***	0.022***
	(7.03)	(5.43)	(3.40)	(2.44)	(5.71)	(5.62)	(3.66)	(4.45)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	No	Yes	No	Yes	No	Yes	No
Border $\times$ Year-month fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
Obs.	254,792	87,454	254,792	87,454	254,792	87,454	254,792	87,454
Adj. R <sup>2</sup>	0.337	0.397	0.336	0.396	0.315	0.370	0.309	0.365

#### **Table 6: Border County Analysis**

This table presents the results from our border-county analysis. It reports the coefficients form OLS regressions where the dependent variable is *Funded* (Columns (1) to (4)) and Ln(Pledged) (Columns (5) to (8)). *Disclosure* is measured as Ln(Campaign Pitch) in Columns (1), (2), (5) and (6) and as Ln(Risks and Challenges) in Columns (3), (4), (7) and (8). The model specifications include subcategory, county and year-month fixed effects in odd-numbered columns, and subcategory, county and border×year-month fixed effects in even-numbered columns. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

## **Table 7: Consumer Protection and Number of Backers**

Panel A: Number of Backers

	Dependent va	vriable: Ln(Backers)
	Ln(Campaign Pitch)	Ln(Risks and Challenges)
Independent variables:	(1)	(2)
Disclosure	0.220***	0.099***
	(9.01)	(3.68)
Post × Treated	-0.089***	-0.059***
	(-7.41)	(-4.98)
Disclosure × Post	0.011	0.011
	(0.71)	(0.57)
Disclosure × Treated	0.003	0.000
	(1.29)	(0.39)
Disclosure × Post × Treated	0.015***	0.013***
	(7.29)	(4.93)
Project controls	Yes	Yes
Creator controls	Yes	Yes
Subcategory fixed effects	No	No
State fixed effects	Yes	Yes
Year-month fixed effects	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes
Obs.	255,017	255,017
Adj. R <sup>2</sup>	0.511	0.503

#### Table 7 (continued)

Panel B: Type of Backers

	Dependent varial	ble: Ln(New Backers)	Dependent variable:	Ln(Returning Backers)
	Ln(Campaign Pitch)	Ln(Risks and Challenges)	Ln(Campaign Pitch)	Ln(Risks and Challenges)
Independent variables:	(1)	(2)	(3)	(4)
Disclosure	0.154***	0.093***	0.175***	0.084***
	(5.80)	(4.04)	(5.70)	(3.21)
Post  imes Treated	-0.053***	-0.056***	-0.097***	-0.058***
	(-5.60)	(-5.19)	(-7.18)	(-4.95)
Disclosure  imes Post	0.008	0.006	0.012	0.010
	(1.11)	(0.44)	(0.81)	(0.63)
Disclosure × Treated	0.008***	-0.000	0.006*	0.001
	(2.96)	(-0.23)	(1.76)	(1.33)
Disclosure × Post × Treated	0.008***	0.012***	0.016***	0.012***
	(5.27)	(4.95)	(6.77)	(4.70)
Project controls	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes
Obs.	255,017	255,017	255,017	255,017
Adj. R <sup>2</sup>	0.407	0.402	0.518	0.511

This table examines how the association between disclosure and the number of backers changes following the rule change. Panel A examines the total number of backers, whereas Panel B separately examines new and returning backers. *Disclosure* is measured as Ln(CampaignPitch) in odd-numbered columns and Ln(Risks and Challenges) in even-numbered columns. All specifications include project and creator control variables, as well as state and subcategory×year-month fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

	Dependent variable:	Ln(Backer Comments)	Dependent variable: Ln	(Superbacker Comments)
	Ln(Campaign Pitch)	Ln(Risks and Challenges)	Ln(Campaign Pitch)	Ln(Risks and Challenges)
Independent variables:	(1)	(2)	(3)	(4)
Disclosure	0.189***	0.070***	0.104***	0.034**
	(6.62)	(3.30)	(5.23)	(2.48)
Post × Treated	-0.030**	-0.037***	-0.073***	-0.024***
	(-2.26)	(-3.18)	(-5.34)	(-2.76)
Disclosure  imes Post	0.027***	0.036**	0.018	0.019
	(2.85)	(2.28)	(1.21)	(1.39)
Disclosure  imes Treated	0.009***	0.001*	-0.004*	0.000
	(2.99)	(1.71)	(-1.86)	(0.87)
Disclosure × Post × Treated	0.005*	0.008**	0.012***	0.006**
	(1.92)	(2.63)	(4.95)	(2.65)
Project controls	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes
Obs.	255,017	255,017	255,017	255,017
Adj. R <sup>2</sup>	0.351	0.346	0.373	0.371

#### **Table 8: Consumer Protection and Backer Engagement**

This table examines how the association between disclosure and the level of engagement by backers changes following the rule change. The dependent variable is Ln(Backer Comments) in Columns (1) and (2) and Ln(Superbacker Comments) in Columns (3) and (4). Disclosure is measured as Ln(Campaign Pitch) in odd-numbered columns and and Ln(Risks and Challenges) in even-numbered columns. All specifications include project and creator control variables, as well as state and subcategory×year-month fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

Disclosure variable:		Ln(Campo	ign Pitch)			Ln(Risks an	d Challenges)	
Dependent variable:	Fur	ıded	Ln(Pl	edged)	Fur	ıded	Ln(Pl	edged)
	Magnitude	of Rewards	Magnitude	of Rewards	Magnitude	of Rewards	Magnitude	of Rewards
	Low	High	Low	High	Low	High	Low	High
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	0.013**	0.015***	0.364***	0.388***	0.031***	0.006	0.203***	0.086**
	(2.65)	(2.71)	(7.55)	(9.32)	(6.37)	(0.96)	(4.25)	(2.13)
Post  imes Treated	-0.016***	-0.024***	-0.111***	-0.165***	-0.007***	-0.009***	-0.057***	-0.093***
	(-4.89)	(-8.52)	(-4.78)	(-5.58)	(-3.81)	(-3.35)	(-2.86)	(-4.00)
Disclosure  imes Post	0.002	-0.001	0.024	0.006	-0.002	-0.000	0.027	0.017
	(0.72)	(-0.16)	(0.85)	(0.15)	(-0.64)	(-0.08)	(0.65)	(0.30)
Disclosure × Treated	0.000	0.000	-0.004	-0.007*	-0.001**	0.000	-0.002	0.001
	(0.50)	(0.14)	(-0.63)	(-1.77)	(-2.52)	(1.02)	(-1.49)	(1.20)
Disclosure  imes Post  imes Treated	0.002***	0.004***	0.020***	0.028***	0.002***	0.002***	0.015***	0.023***
	(4.11)	(8.53)	(4.90)	(6.00)	(3.08)	(3.51)	(3.31)	(4.31)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Test for difference in <i>Disclosure</i> × <i>Post</i> × <i>Tree</i>	ated							
$\chi^2$ -test p-value: Low = High	0.0	178	0.0	162	0.4	013	0.0	263
Obs.	133,197	121,687	133,197	121,687	133,197	121,687	133,197	121,687
Adj. R <sup>2</sup>	0.390	0.356	0.308	0.344	0.390	0.355	0.303	0.337

#### **Table 9: Cross-Sectional Analysis - Magnitude of Rewards**

This table examines how the change in the association between disclosure and project success following the rule change varies, in the cross-section, with the magnitude of rewards. Sample projects are partitioned based on the median magnitude of the largest reward associated with a project. A project is classified as having *Low* (*High*) rewards if the respective largest reward offered is below (above) the median across all projects. We report p-values from a  $\chi^2$ -test for the difference in *Disclosure* × *Post* × *Treated* accross the *Low* and *High* columns. The dependent variable is *Funded* in Columns (1), (2), (5) and (6), and *Ln*(*Pledged*) in Columns (3), (4), (7) and (8), and *Disclosure* is measured as *Ln*(*Campaign Pitch*) in Columns (1) to (4) and *Ln*(*Risks and Challenges*) in Columns (5) to (8). All specifications are estimated using OLS and include project subcategory×year-month and state fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

## Table 10: Cross-Sectional Analysis - Courts

Panel A: Court Caseload

Disclosure variable:		Ln(Campo	iign Pitch)			Ln(Risks and	d Challenges)	
Dependent variable:	Fur	nded	Ln(Ple	edged)	Fur	nded	Ln(Pledged)	
	Case	eload	Case	eload	Case	eload	Case	eload
	Low	High	Low	High	Low	High	Low	High
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	0.009	0.015***	0.354***	0.389***	0.019***	0.016***	0.113**	0.156***
	(1.48)	(3.03)	(8.82)	(8.34)	(2.86)	(2.84)	(2.53)	(3.20)
Post  imes Treated	-0.027***	-0.017***	-0.148***	-0.151***	-0.013***	-0.006*	-0.101***	-0.061**
	(-8.60)	(-4.76)	(-6.59)	(-4.45)	(-4.96)	(-1.92)	(-6.23)	(-2.11)
Disclosure × Post	0.000	0.004	-0.006	0.053	-0.001	0.005	-0.008	0.079
	(0.11)	(1.46)	(-0.21)	(1.28)	(-0.33)	(1.11)	(-0.22)	(1.32)
Disclosure × Treated	0.000	-0.000	-0.003	-0.007	-0.000	-0.000	-0.000	-0.000
	(0.68)	(-0.40)	(-0.65)	(-1.34)	(-0.96)	(-0.27)	(-0.17)	(-0.14)
Disclosure × Post × Treated	0.004***	0.003***	0.025***	0.025***	0.003***	0.001*	0.024***	0.014**
	(7.04)	(4.92)	(6.06)	(4.46)	(4.19)	(1.77)	(6.43)	(2.15)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No	No	No	No	No
Subcategory × Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Test for difference in <i>Disclosure</i> × <i>Post</i> × <i>Trea</i>	ted							
$\chi^2$ -test p-value: <i>Low</i> = <i>High</i>	0.02	252	0.9	744	0.0	412	0.0	641
Obs.	141,685	113,332	141,685	113,332	141,685	113,332	141,685	113,332
Adj. R <sup>2</sup>	0.367	0.379	0.358	0.346	0.366	0.379	0.352	0.340

#### Table 10 (continued)

#### Panel B: Confidence in Courts

Disclosure variable:		Ln(Campo	aign Pitch)			Ln(Risks an	d Challenges)	
Dependent variable:	Fur	nded	Ln(Ple	edged)	Fur	ıded	Ln(Pledged)	
-	Confi	dence	Confi	dence	Confidence		Confidence	
	Low	High	Low	High	Low	High	Low	High
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	0.010**	0.024***	0.361***	0.377***	0.021***	0.011	0.173***	0.076
	(2.62)	(3.12)	(10.42)	(7.15)	(5.11)	(1.38)	(3.68)	(1.53)
Post × Treated	-0.019***	-0.025***	-0.143***	-0.149***	-0.007***	-0.012***	-0.060**	-0.106***
	(-6.04)	(-7.67)	(-4.22)	(-5.72)	(-3.34)	(-3.95)	(-2.19)	(-5.45)
Disclosure  imes Post	0.006***	-0.004	0.069	-0.035	0.005*	-0.005	0.092	-0.039
	(3.65)	(-1.15)	(1.56)	(-1.35)	(1.77)	(-0.85)	(1.52)	(-1.08)
Disclosure × Treated	-0.000	-0.001	-0.003	-0.005	-0.001***	0.000	-0.002*	0.003
	(-0.15)	(-0.93)	(-0.83)	(-0.88)	(-4.88)	(0.79)	(-1.80)	(1.40)
Disclosure × Post × Treated	0.003***	0.004***	0.024***	0.028***	0.002***	0.003***	0.014**	0.027***
	(6.17)	(7.21)	(4.20)	(6.12)	(3.37)	(3.69)	(2.36)	(6.14)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Test for difference in <i>Disclosure</i> × <i>Post</i> × <i>Trea</i>	ted							
$\chi^2$ -test p-value: <i>Low</i> = <i>High</i>	0.04	451	0.5	351	0.0	813	0.0	348
Obs.	104,779	150,238	104,779	150,238	104,779	150,238	104,779	150,238
Adj. R <sup>2</sup>	0.385	0.362	0.345	0.354	0.385	0.361	0.339	0.348

This table examines how the change in the association between disclosure and project success following the rule change varies, in the cross-section, with the caseload of state courts (Panel A) and confidence in courts (Panel B). In Panel A, sample projects are partitioned based on the caseload per capita of their respective state courts. A state court is classified as having *Low* (*High*) caseload if the respective caseload is below (above) the median across all U.S. states. In Panel B, sample projects are partitioned based on the degree of confidence in courts in the respective U.S. region. A region is classified as having *Low* (*High*) confidence in courts if the percentage of respondents of the General Social Survey in the project's region that believe that courts in the respective area deal well with criminals is higher than the median across all U.S. regions. We report p-values from a  $\chi^2$ -test for the difference in *Disclosure* × *Post* × *Treated* accross the *Low* and *High* columns. The dependent variable is *Funded* in Columns (1), (2), (5) and (6), and *Ln*(*Pledged*) in Columns (3), (4), (7) and (8), and *Disclosure* is measured as *Ln*(*Campaign Pitch*) in Columns (1) to (4) and *Ln*(*Risks and Challenges*) in Columns (5) to (8). All specifications are estimated using OLS and include project subcategory×year-month and state fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

Disclosure variable:		Ln(Campo	aign Pitch)			Ln(Risks an	d Challenges)	
Dependent variable:	Fur	nded	Ln(Ple	edged)	Fur	nded	Ln(Pl	edged)
	Reade	ability	Readd	ability	Reade	ability	Reade	ability
	Low	High	Low	High	Low	High	Low	High
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	0.007**	0.016**	0.330***	0.387***	0.012**	0.022**	0.200***	0.269***
	(2.01)	(2.67)	(9.33)	(8.15)	(2.30)	(5.09)	(5.18)	(4.51)
Post × Treated	-0.016***	-0.028***	-0.105***	-0.180***	-0.008***	-0.011***	-0.083***	-0.108***
	(-6.75)	(-7.89)	(-4.69)	(-6.31)	(-2.68)	(-4.77)	(-4.19)	(-4.16)
Disclosure × Post	0.003	0.000	0.029	0.009	-0.003	-0.000	0.009	0.015
	(1.55)	(0.06)	(1.06)	(0.21)	(-1.06)	(-0.06)	(0.28)	(0.32)
Disclosure × Treated	0.000	-0.000	-0.004	-0.003	0.001	-0.000	-0.006	-0.006
	(0.31)	(-0.15)	(-1.04)	(-0.65)	(1.23)	(-0.47)	(-1.46)	(-1.04)
Disclosure × Post × Treated	0.003***	0.004***	0.019***	0.030***	0.002***	0.002***	0.022***	0.023***
	(5.98)	(7.38)	(5.06)	(6.28)	(2.71)	(4.45)	(4.65)	(4.33)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Test for difference in Disclosure								
$\chi^2$ -test p-value: <i>Low</i> = <i>High</i>	0.0	531	0.0	000	0.0	260	0.0	000
Test for difference in <i>Disclosure</i> × <i>Post</i> × <i>Tree</i>								
$\chi^2$ -test p-value: <i>Low</i> = <i>High</i>	0.0	011	0.0	003	0.7	780	0.7	151
Obs.	127,507	127,507	127,507	127,507	94,437	94,420	94,437	94,420
Adj. R <sup>2</sup>	0.369	0.381	0.341	0.364	0.387	0.386	0.352	0.392

#### Table 11: Cross-Sectional Analysis - Readability

This table examines how the change in the association between disclosure and project success following the rule change varies, in the cross-section, with the readability of the campaign pitch and the risks and challenges section. In Columns (1) to (4) (Columns (5) to (6)) sample projects are partitioned based on the readability of their campaign pitch (risks and challenges section). A project's campaign pitch and risks and challenges section is classified as having *Low* (*High*) readability if the respective Flesch Kincaid readability index is below (above) the respective median. We report p-values from a  $\chi^2$ -test for the difference in *Disclosure* × *Post* × *Treated* between the *Low* and *High* columns. The dependent variable is *Funded* in columns (1), (2), (5) and (6), and *Ln*(*Pledged*) in columns (3), (4), (7) and (8). *Disclosure* is measured as *Ln*(*Campaign Pitch*) in Columns (1) to (4) and *Ln*(*Risks and Challenges*) in Columns (5) to (8). All specifications are estimated using OLS and include project subcategory×year-month and state fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

Disclosure variable:		Ln(Campa	ign Pitch)			Ln(Risks and	d Challenges)	
Dependent variable:	Fur	nded	Ln(Pl	edged)	Fu	nded	Ln(Pl	edged)
	Senti	ment	Sent	iment	Sent	iment	Sent	iment
	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive
Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disclosure	-0.072***	0.014***	-0.071	0.362***	-0.016	0.021***	0.183**	0.237***
	(-2.67)	(3.22)	(-0.56)	(9.36)	(-1.17)	(4.99)	(2.10)	(5.27)
Post  imes Treated	-0.044***	-0.023***	-0.200**	-0.147***	-0.006	-0.009***	-0.054	-0.099***
	(-3.26)	(-7.57)	(-2.22)	(-6.23)	(-1.49)	(-3.55)	(-1.51)	(-4.47)
Disclosure × Post	0.017	0.001	0.141	0.013	0.009	-0.001	0.002	0.009
	(1.09)	(0.35)	(1.07)	(0.39)	(1.61)	(-0.50)	(0.03)	(0.25)
Disclosure × Treated	-0.000	0.000	-0.009	-0.003	0.003**	0.000	-0.007	-0.005
	(-0.19)	(0.04)	(-0.54)	(-0.63)	(2.12)	(0.31)	(-0.75)	(-1.14)
Disclosure × Post × Treated	0.006**	0.004***	0.030*	0.025***	0.002	0.002***	0.021**	0.023***
	(2.18)	(7.08)	(1.70)	(6.30)	(1.48)	(3.23)	(2.22)	(4.67)
Project controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Test for difference in Disclosure								
$\chi^2$ -test p-value: <i>Low</i> = <i>High</i>	0.0	101	0.5	805	0.2	2485	0.0	418
Test for difference in <i>Disclosure</i> × <i>Post</i> × <i>Treated</i>								
$\chi^2$ -test p-value: <i>Low</i> = <i>High</i>	0.3	666	0.7	896	0.7	857	0.8	293
Obs.	6,298	248,716	6,298	248,716	11,010	177,823	11,010	177,823
Adj. R <sup>2</sup>	0.622	0.355	0.552	0.332	0.566	0.367	0.524	0.355

#### **Table 12: Cross-Sectional Analysis - Sentiment**

This table examines how the change in the association between disclosure and project success following the rule change varies, in the cross-section, with the sentiment of the campaign pitch and the risks and challenges section. In Columns (1) to (4) (Columns (5) to (6)) sample projects are partitioned based on the sentiment of their campaign pitch (risks and challenges section). Sentiment is calculated as (number of positive words-number of negative words)/(number of positive words+number of negative words) using Dictionary GI, a Dictionary with opinionated words from the Harvard-IV dictionary as used in the General Inquirer software. We report p-values from the  $\chi^2$ -test for the difference in *Disclosure* × *Post* × *Treated* between the *Negative* and *Positive* columns. The dependent variable is *Funded* in columns (1), (2), (5) and (6), and *Ln(Pledged)* in columns (3), (4), (7) and (8), and *Disclosure* is measured as *Ln(Campaign Pitch)* in Columns (1) to (4) and *Ln(Risks and Challenges)* in Columns (5) to (8). All specifications are estimated using OLS and include project subcategory×year-month and state fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.

### **Table 13: Robustness Tests**

Panel A: Intrastate Backers

	Dependent	variable: Funded	Dependent var	iable: Ln(Pledged)
	Ln(Campaign Pitch)	Ln(Risks and Challenges)	Ln(Campaign Pitch)	Ln(Risks and Challenges)
Independent variables:	(1)	(2)	(3)	(4)
Disclosure	-0.026	-0.007	0.008	-0.013
	(-1.67)	(-1.07)	(0.21)	(-0.91)
Post  imes Treated	-0.020***	-0.008**	-0.080***	-0.038***
	(-4.36)	(-2.49)	(-5.86)	(-4.04)
Disclosure  imes Post	-0.005	-0.007	-0.040***	-0.048***
	(-0.98)	(-1.17)	(-4.70)	(-3.83)
Disclosure × Treated	-0.001	-0.000	-0.004	-0.001
	(-0.57)	(-0.83)	(-1.01)	(-0.69)
Disclosure × Post × Treated	0.003***	0.002***	0.013***	0.008***
	(4.42)	(2.81)	(6.23)	(3.63)
Project controls	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No
Subcategory × Year-month fixed effects	Yes	Yes	Yes	Yes
Obs.	30,351	30,351	30,351	30,351
Adj. R <sup>2</sup>	0.435	0.434	0.486	0.485

## Table 13 (continued)

#### Panel B: Excluding Cancelled and Suspended Projects

	Dependent	variable: Funded	Dependent var	iable: Ln(Pledged)
	Ln(Campaign Pitch)	Ln(Risks and Challenges)	Ln(Campaign Pitch)	Ln(Risks and Challenges)
Independent variables:	(1)	(2)	(3)	(4)
Disclosure	0.012***	0.015***	0.348***	0.120***
	(2.89)	(2.72)	(8.59)	(2.86)
Post  imes Treated	-0.025***	-0.011***	-0.143***	-0.084***
	(-7.48)	(-4.11)	(-6.49)	(-4.10)
Disclosure × Post	0.002	0.001	0.027	0.035
	(0.51)	(0.21)	(0.80)	(0.73)
Disclosure × Treated	-0.000	-0.000	-0.004	-0.001
	(-0.21)	(-1.20)	(-0.82)	(-0.55)
Disclosure  imes Post  imes Treated	0.004***	0.002***	0.025***	0.021***
	(7.00)	(3.81)	(6.48)	(4.43)
Project controls	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No
Subcategory × Year-month fixed effects	Yes	Yes	Yes	Yes
Obs.	235,474	235,474	235,474	235,474
Adj. R <sup>2</sup>	0.364	0.364	0.340	0.333

#### Table 13 (continued)

Panel C: Excluding Projects of Creators that Have Backed Other Projects in the Past

	Dependent variable: Funded		Dependent variable: Ln(Pledged)	
	Ln(Campaign Pitch)	Ln(Risks and Challenges)	Ln(Campaign Pitch)	Ln(Risks and Challenges)
Independent variables:	(1)	(2)	(3)	(4)
Disclosure	0.005	0.013***	0.335***	0.112**
	(1.25)	(2.79)	(8.51)	(2.56)
Post  imes Treated	-0.024***	-0.011***	-0.158***	-0.083***
	(-6.30)	(-4.54)	(-5.22)	(-3.49)
Disclosure  imes Post	-0.001	-0.004	0.010	0.009
	(-0.23)	(-1.40)	(0.24)	(0.18)
Disclosure  imes Treated	0.000	-0.000	-0.003	-0.000
	(0.81)	(-0.67)	(-0.72)	(-0.22)
Disclosure × Post × Treated	0.004***	0.002***	0.028***	0.021***
	(6.09)	(4.65)	(5.38)	(4.07)
Project controls	Yes	Yes	Yes	Yes
Creator controls	Yes	Yes	Yes	Yes
Subcategory fixed effects	No	No	No	No
State fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	No	No	No	No
Subcategory $\times$ Year-month fixed effects	Yes	Yes	Yes	Yes
Obs.	196,277	196,277	196,277	196,277
Adj. R <sup>2</sup>	0.351	0.350	0.330	0.324

This table presents the results of two robustness tests. In Panel A, we limit the sample to projects for which more than 50% of the top 10 backers are from the respective project's state. In Panel B, we exclude projects which have been cancelled or suspended from the sample. In Panel C we exclude projects of creators that have previously back other projects on Kickstarter. The dependent variable is *Funded* in Columns (1) and (2) and *Ln(Pledged)* in Columns (3) and (4). *Disclosure* is measured as *Ln(Campaign Pitch)* in odd-numbered columns and and *Ln(Risks and Challenges)* in even-numbered columns. All specifications include project and creator control variables, as well as state and subcategory×year-month fixed effects. The table reports (in parentheses) *t*-statistics based on heteroscedasticity-robust standard errors clustered by state and year-month. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. All variables are defined in Appendix C.