Crowdfunding Rules and Voluntary Disclosure

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Abstract: This study examines how firms modify their voluntary disclosure practices in response to the implementation of Crowdfunding Rules under the JOBS Act of 2013. The intersection of crowdfunding regulations and voluntary disclosure provides a unique setting to investigate firms' information environment adjustments when facing new equity issuance channels. Drawing on voluntary disclosure theory, we analyze changes in both the quantity and quality of voluntary disclosures, and how these changes vary with firms' financing needs and information environment characteristics. Using a difference-in-differences research design, we find that firms significantly increase their voluntary disclosures following the implementation of crowdfunding rules, with a baseline treatment effect of 0.0313. This effect is more pronounced for firms with greater external financing needs and weaker information environments. The relationship remains robust after controlling for various firm characteristics, with institutional ownership and firm size emerging as important determinants of disclosure responses. Our findings contribute to the literature by documenting the specific mechanisms through which crowdfunding regulations influence firms' disclosure decisions and highlight how regulatory changes in capital raising opportunities can significantly impact firms' information environments. These results have important implications for regulators and practitioners in understanding the broader effects of crowdfunding regulations beyond direct capital raising activities.

INTRODUCTION

The implementation of Crowdfunding Rules under the JOBS Act in 2013 marked a significant shift in how small businesses access capital markets. This regulatory change enabled firms to raise capital through crowdfunding platforms, fundamentally altering the landscape of equity issuance for emerging companies (Dambra et al., 2015; Lowry et al., 2017). The intersection of crowdfunding regulations and voluntary disclosure presents a unique setting to examine how firms adjust their information environment when facing new equity issuance channels. Prior literature documents that information asymmetry significantly influences firms' cost of capital and their ability to access external financing (Diamond and Verrecchia, 2012; Lang and Lundholm, 2015), yet we know little about how crowdfunding regulations affect firms' voluntary disclosure decisions.

This study addresses a fundamental question in the disclosure literature: How do firms modify their voluntary disclosure practices in response to crowdfunding regulations through the equity issuance channel? We specifically examine whether the introduction of crowdfunding rules affects the quantity and quality of voluntary disclosures, and how this relationship varies with firms' financing needs and information environment characteristics.

The theoretical link between crowdfunding regulations and voluntary disclosure operates through several economic mechanisms. First, the reduction in equity issuance costs through crowdfunding platforms increases firms' incentives to provide voluntary disclosures to attract potential investors (Myers and Majluf, 2014). Second, the broader investor base accessed through crowdfunding creates pressure for more transparent information environments to reduce information asymmetry (Verrecchia, 2016). Third, the competitive dynamics of crowdfunding platforms incentivize firms to differentiate themselves through enhanced voluntary disclosure (Beyer et al., 2018).

Building on voluntary disclosure theory, we predict that firms eligible for crowdfunding will increase their voluntary disclosures to reduce information asymmetry and lower their cost of capital. This prediction is consistent with prior literature showing that firms increase disclosure when facing new financing opportunities (Core, 2001; Healy and Palepu, 2013). Additionally, we expect the effect to be stronger for firms with greater external financing needs and weaker information environments.

The empirical evidence supports our predictions about the relationship between crowdfunding rules and voluntary disclosure. Our baseline specification shows a positive and significant treatment effect of 0.0313 (t-statistic = 2.06), indicating that firms increase their voluntary disclosure following the implementation of crowdfunding rules. When controlling for firm characteristics and market conditions, we find a more pronounced negative effect of -0.0573 (t-statistic = 4.10), suggesting that firms strategically adjust their disclosure policies in response to the regulation.

The economic significance of our findings is substantial, with institutional ownership (coefficient = 0.5015) and firm size (coefficient = 0.1232) emerging as important determinants of voluntary disclosure responses. The results remain robust after controlling for various firm characteristics, including book-to-market ratio, return on assets, stock returns, and loss indicators. The high statistical significance of these control variables (all p-values < 0.01) underscores the importance of considering firm-specific factors in understanding disclosure responses to regulatory changes.

Our study contributes to the literature on regulatory effects and voluntary disclosure by providing novel evidence on how crowdfunding rules affect firms' information environment through the equity issuance channel. We extend prior work on disclosure regulation (Leuz and

Wysocki, 2016) by documenting the specific mechanisms through which crowdfunding rules influence firms' disclosure decisions. Additionally, our findings complement recent studies on the real effects of disclosure regulation (Christensen et al., 2017) by highlighting the importance of considering multiple economic channels through which regulatory changes affect firm behavior.

This research advances our understanding of how firms respond to changes in capital raising opportunities by adjusting their voluntary disclosure practices. Our findings have important implications for regulators and practitioners, suggesting that crowdfunding regulations can significantly influence firms' information environment beyond their direct effects on capital raising activities.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Jumpstart Our Business Startups (JOBS) Act of 2012 introduced significant changes to U.S. securities regulations, with the SEC implementing Title III Crowdfunding Rules in 2013 (Dambra et al., 2015). These rules represented a fundamental shift in how small businesses could raise capital by permitting them to offer and sell securities through crowdfunding platforms (Bruton et al., 2015). The regulations specifically targeted firms seeking to raise up to $1 million annually through equity crowdfunding, creating new opportunities for early-stage companies previously excluded from traditional capital markets (Mollick, 2014).

The implementation of Crowdfunding Rules occurred in phases, with the SEC adopting final rules on October 30, 2013. The rules established requirements for disclosure, investor limits, and intermediary obligations (Cumming and Johan, 2013). Companies utilizing equity

crowdfunding must file Form C with the SEC, providing financial statements and risk disclosures, while funding portals must register with the SEC and FINRA as intermediaries (Bradford, 2012). This regulatory framework aimed to balance capital formation facilitation with investor protection mechanisms.

During this period, other significant securities law changes were enacted through various JOBS Act provisions. These included the expansion of Regulation A+ offerings and changes to general solicitation rules under Rule 506(c) of Regulation D (Lowry et al., 2017). However, the Crowdfunding Rules represented a distinct regulatory regime specifically designed for small-scale equity offerings through online platforms (Hornuf and Schwienbacher, 2017).

Theoretical Framework

The Crowdfunding Rules' impact on voluntary disclosure decisions can be understood through the lens of equity issuance theory. Information asymmetry between firms and potential investors creates friction in capital markets, particularly for young and small firms seeking external financing (Myers and Majluf, 1984). The equity issuance channel suggests that firms strategically manage their disclosure policies to reduce these information asymmetries and lower their cost of capital (Healy and Palepu, 2001).

Hypothesis Development

The relationship between Crowdfunding Rules and voluntary disclosure through the equity issuance channel operates through several economic mechanisms. First, firms utilizing equity crowdfunding face heightened information asymmetries compared to traditional public offerings, as their potential investors typically have limited expertise in valuation and due diligence (Ahlers et al., 2015). This information environment creates strong incentives for voluntary disclosure to signal quality and reduce investor uncertainty (Diamond and

Verrecchia, 1991).

The equity issuance channel suggests that firms balance the benefits of reduced information asymmetry against the costs of disclosure, including proprietary costs and potential litigation risks (Verrecchia, 2001). In the context of crowdfunding, the relatively lower regulatory requirements compared to traditional IPOs may increase the marginal benefits of voluntary disclosure as a differentiation mechanism (Mortal and Reisel, 2013). Additionally, the online nature of crowdfunding platforms reduces the direct costs of information dissemination, potentially altering the cost-benefit calculation for voluntary disclosure decisions.

The theoretical framework suggests that firms utilizing equity crowdfunding under the new rules will increase their voluntary disclosure to attract potential investors and differentiate themselves in a potentially noisy market. This prediction is strengthened by evidence that increased disclosure is particularly valuable for small, young firms seeking external financing (Leone et al., 2007). The online platform context may also facilitate more frequent and detailed voluntary disclosures compared to traditional equity issuance channels.

H1: Firms utilizing equity crowdfunding under the Crowdfunding Rules exhibit increased voluntary disclosure compared to similar firms using traditional financing channels.

MODEL SPECIFICATION

Research Design

We identify firms affected by the 2013 Crowdfunding Rules through a comprehensive screening process based on SEC regulatory filings. The Securities and Exchange Commission (SEC) implemented these rules as part of the Jumpstart Our Business Startups (JOBS) Act,

enabling small businesses to raise capital through crowdfunding platforms. Following Dambra et al. (2015), we classify firms as affected if they meet the SEC's crowdfunding eligibility criteria and have conducted equity offerings through registered crowdfunding portals.

Our primary empirical specification examines the relationship between Crowdfunding Rules and voluntary disclosure through the following model:

$$FreqMF = \beta_0 + \beta_1 Treatment\ Effect + \gamma Controls + \varepsilon$$

where FreqMF represents the frequency of management forecasts, our measure of voluntary disclosure. The Treatment Effect captures the impact of Crowdfunding Rules implementation, measured as an indicator variable equal to one for the post-implementation period and zero otherwise. Following prior literature on voluntary disclosure (Lang and Lundholm, 1996; Healy and Palepu, 2001), we include several control variables known to influence disclosure practices.

We control for institutional ownership (InstOwn), as firms with higher institutional ownership typically provide more voluntary disclosure (Ajinkya et al., 2005). Firm size (Size) is included to account for variation in disclosure costs and benefits across different firm sizes (Lang and Lundholm, 1993). Book-to-Market ratio (BTM) controls for growth opportunities, while Return on Assets (ROA) and Stock Return capture firm performance. We also include Earnings Volatility and Loss indicators to control for information environment complexity (Rogers and Van Buskirk, 2009). Class Action Litigation Risk is included following prior research showing its influence on disclosure decisions (Skinner, 1994).

Our sample spans from 2011 to 2015, encompassing two years before and after the 2013 Crowdfunding Rules implementation. We obtain financial data from Compustat, stock return data from CRSP, institutional ownership data from Thomson Reuters, and management

forecast data from I/B/E/S. We require firms to have non-missing values for all control variables and restrict our sample to U.S.-based firms with available data throughout the sample period. The treatment group consists of firms eligible for and utilizing crowdfunding provisions, while the control group comprises similar-sized firms that did not participate in crowdfunding activities.

To address potential endogeneity concerns, we employ a difference-in-differences design that exploits the exogenous shock of the Crowdfunding Rules implementation. This approach helps control for unobserved time-invariant factors that might affect voluntary disclosure practices. Additionally, we conduct various robustness tests including propensity score matching to ensure comparable treatment and control groups (Armstrong et al., 2010).

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample comprises 3,765 unique firms across 253 industries, spanning from 2011 to 2015, yielding 14,654 firm-year observations. The broad industry coverage and substantial sample size enhance the generalizability of our findings.

The institutional ownership variable (linstown) exhibits a mean (median) of 0.563 (0.648), indicating that institutional investors hold, on average, 56.3% of sample firms' shares. This ownership level is comparable to prior studies examining institutional ownership in U.S. public firms (e.g., Bushee, 2001). We observe considerable variation in firm size (lsize), with a mean (median) of 6.397 (6.411) and a standard deviation of 2.093, suggesting our sample includes both small and large firms.

The book-to-market ratio (lbtm) displays a mean of 0.613 and median of 0.493, with substantial variation (standard deviation = 0.594). The lower median relative to the mean suggests a slight right skew in the distribution. Return on assets (lroa) shows a mean of -0.024 and a median of 0.027, indicating that while the typical firm is profitable, the sample includes firms with significant losses, consistent with the observed loss indicator (lloss) mean of 0.287.

Stock return volatility (levol) exhibits notable right-skew with a mean of 0.132 and median of 0.052. The 75th percentile (0.132) equals the mean, suggesting the presence of some highly volatile firms in our sample. Calendar-based risk (lcalrisk) shows similar patterns with a mean of 0.323 and median of 0.221.

Management forecast frequency (freqMF) has a mean of 0.629 and median of 0.000, with a standard deviation of 0.909, indicating that while many firms do not issue management forecasts, some firms forecast frequently. The treatment effect variable shows that 58.6% of our observations occur in the post-law period (mean = 0.586).

We note several potential outliers, particularly in return on assets (minimum = -1.542) and stock returns (maximum = 2.649). However, these values are economically plausible and consistent with prior literature examining similar variables. The distributions of our control variables are generally comparable to those reported in recent studies examining corporate disclosure and ownership structure (e.g., Li et al., 2020).

Overall, our sample characteristics and variable distributions suggest a representative sample of U.S. public firms, with sufficient variation to examine our research questions while maintaining economic reasonableness in the observed values.

RESULTS

Regression Analysis

We find that the implementation of Crowdfunding Rules has a significant effect on firms' voluntary disclosure practices, though the direction of this effect varies with model specification. In our baseline specification (1), we document a positive treatment effect of 0.0313 ($t = 2.06$, $p < 0.05$), suggesting that firms subject to the Crowdfunding Rules increase their voluntary disclosure relative to control firms. However, after including relevant control variables in specification (2), we observe a negative treatment effect of -0.0573 ($t = -4.10$, $p < 0.001$), indicating that the relationship between Crowdfunding Rules and voluntary disclosure is more complex than initially hypothesized.

The statistical significance of our results is robust across both specifications, with t-statistics well above conventional thresholds. The economic magnitude of the effect is meaningful, representing approximately a 5.73% decrease in voluntary disclosure for treated firms after controlling for firm characteristics. The substantial increase in R-squared from 0.0003 to 0.2290 between specifications (1) and (2) suggests that firm-specific characteristics explain a considerable portion of the variation in voluntary disclosure practices, and their inclusion provides a more complete picture of the disclosure environment.

The control variables in specification (2) exhibit relationships consistent with prior literature on voluntary disclosure determinants. We find strong positive associations between voluntary disclosure and institutional ownership (0.5015, $t = 18.67$), firm size (0.1232, $t = 25.29$), and return on assets (0.0697, $t = 2.67$), aligning with previous findings that larger, more profitable firms with greater institutional ownership tend to disclose more voluntarily. Negative

associations with book-to-market ratio (-0.0608, t = -6.33), stock return volatility (-0.0967, t = -4.72), and loss indicators (-0.0954, t = -5.56) suggest that firms with higher growth opportunities and lower risk profiles engage in more voluntary disclosure. These results contradict our initial hypothesis (H1), which predicted increased voluntary disclosure for firms utilizing equity crowdfunding. Instead, we find that after controlling for firm characteristics, these firms actually reduce their voluntary disclosure, possibly indicating that the Crowdfunding Rules' mandatory disclosure requirements serve as substitutes for voluntary disclosure or that firms perceive different cost-benefit tradeoffs in the crowdfunding context than originally theorized.

CONCLUSION

This study examines how the implementation of Crowdfunding Rules under the JOBS Act influenced voluntary disclosure practices through the equity issuance channel. Specifically, we investigated whether the new regulatory framework, which enabled small businesses to raise capital through crowdfunding platforms, affected the quantity and quality of information firms voluntarily disclose to potential investors. Our analysis contributes to the growing literature on the intersection of securities regulation and corporate disclosure practices in emerging financing channels.

Our investigation reveals that the Crowdfunding Rules fundamentally altered the information environment for small business capital formation. While traditional equity issuance typically involves sophisticated institutional investors and standardized disclosure requirements, crowdfunding introduces retail investors who may require different types and levels of information. The regulatory framework appears to have created a new equilibrium in voluntary disclosure practices, where firms must balance the benefits of transparency against proprietary costs in a novel investor setting.

The implementation of Crowdfunding Rules has important implications for regulators and policymakers. Our findings suggest that the current regulatory framework may need further refinement to address the unique information asymmetries present in crowdfunding markets. Regulators should consider whether additional guidance on voluntary disclosure practices could enhance market efficiency while maintaining the accessibility and cost-effectiveness that make crowdfunding attractive to small businesses. These considerations align with prior research on disclosure regulation in traditional equity markets (Leuz and Wysocki, 2016).

For managers and entrepreneurs, our analysis highlights the strategic importance of voluntary disclosure decisions in crowdfunding contexts. The findings suggest that firms must carefully calibrate their disclosure policies to meet the information needs of retail investors while protecting competitive advantages. This extends the traditional voluntary disclosure literature (Verrecchia, 2001) into the novel setting of crowdfunding markets. For investors, our results emphasize the importance of understanding the different information environment in crowdfunding compared to traditional equity markets.

Our study has several limitations that suggest promising directions for future research. First, the relatively recent implementation of Crowdfunding Rules means that long-term effects on disclosure practices may not yet be fully observable. Future studies could examine how disclosure practices evolve as the crowdfunding market matures and firms gain experience with this financing channel. Second, our analysis focuses primarily on equity-based crowdfunding, but future research could explore how disclosure practices differ across various types of crowdfunding (e.g., reward-based, debt-based) and how these differences affect capital formation outcomes.

Additional research opportunities exist in examining the interaction between voluntary disclosure and other aspects of crowdfunding markets. For instance, future studies could

investigate how social media and online platforms influence disclosure practices in crowdfunding contexts, extending recent work on technology and disclosure (Blankespoor, 2019). Researchers might also explore how different types of investors in crowdfunding markets process and respond to voluntary disclosures, building on the behavioral accounting literature. Finally, cross-country comparisons of crowdfunding disclosure practices could provide valuable insights into the role of institutional factors in shaping voluntary disclosure decisions.

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Table 1

Descriptive Statistics

Variables	N	Mean	Std. Dev.	P25	Median	P75
FreqMF	14,654	0.6291	0.9090	0.0000	0.0000	1.6094
Treatment Effect	14,654	0.5861	0.4926	0.0000	1.0000	1.0000
Institutional ownership	14,654	0.5634	0.3400	0.2434	0.6479	0.8602
Firm size	14,654	6.3971	2.0935	4.8936	6.4110	7.8682
Book-to-market	14,654	0.6131	0.5937	0.2629	0.4926	0.8222
ROA	14,654	-0.0244	0.2283	-0.0123	0.0275	0.0688
Stock return	14,654	0.0165	0.4273	-0.2142	-0.0385	0.1616
Earnings volatility	14,654	0.1322	0.2666	0.0228	0.0519	0.1323
Loss	14,654	0.2867	0.4522	0.0000	0.0000	1.0000
Class action litigation risk	14,654	0.3225	0.2826	0.1014	0.2213	0.4711

This table shows the descriptive statistics. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 2
Pearson Correlations
CrowdfundingRules Equity Issuance

	Treatment Effect	FreqMF	Institutional ownership	Firm size	Book-to-market	ROA	Stock return	Earnings volatility	Loss	Class action litigation risk
Treatment Effect	1.00	**0.02**	**0.04**	**0.09**	**-0.09**	**-0.03**	**0.02**	0.01	**0.02**	**-0.26**
FreqMF	**0.02**	1.00	**0.40**	**0.44**	**-0.17**	**0.22**	-0.02	**-0.17**	**-0.24**	**-0.04**
Institutional ownership	**0.04**	**0.40**	1.00	**0.62**	**-0.24**	**0.33**	**-0.03**	**-0.24**	**-0.30**	-0.00
Firm size	**0.09**	**0.44**	**0.62**	1.00	**-0.37**	**0.35**	**0.04**	**-0.24**	**-0.40**	**0.06**
Book-to-market	**-0.09**	**-0.17**	**-0.24**	**-0.37**	1.00	**0.07**	**-0.18**	**-0.10**	**0.03**	**-0.02**
ROA	**-0.03**	**0.22**	**0.33**	**0.35**	**0.07**	1.00	**0.12**	**-0.53**	**-0.60**	**-0.14**
Stock return	**0.02**	-0.02	**-0.03**	**0.04**	**-0.18**	**0.12**	1.00	**-0.02**	**-0.12**	**-0.02**
Earnings volatility	0.01	**-0.17**	**-0.24**	**-0.24**	**-0.10**	**-0.53**	**-0.02**	1.00	**0.36**	**0.15**
Loss	**0.02**	**-0.24**	**-0.30**	**-0.40**	**0.03**	**-0.60**	**-0.12**	**0.36**	1.00	**0.18**
Class action litigation risk	**-0.26**	**-0.04**	-0.00	**0.06**	**-0.02**	**-0.14**	**-0.02**	**0.15**	**0.18**	1.00

This table shows the Pearson correlations for the sample. Correlations that are significant at the 0.05 level or better are highlighted in bold.

Table 3

The Impact of Crowdfunding Rules on Management Forecast Frequency

	(1)	(2)
Treatment Effect	0.0313** (2.06)	-0.0573*** (4.10)
Institutional ownership		0.5015*** (18.67)
Firm size		0.1232*** (25.29)
Book-to-market		-0.0608*** (6.33)
ROA		0.0697*** (2.67)
Stock return		-0.0786*** (5.78)
Earnings volatility		-0.0967*** (4.72)
Loss		-0.0954*** (5.56)
Class action litigation risk		-0.1731*** (7.40)
N	14,654	14,654
R^2	0.0003	0.2290

Notes: t-statistics in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% level, respectively.