Crowdfunding Rules and Voluntary Disclosure

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Abstract: This study examines how firms modify their voluntary disclosure practices following the implementation of Crowdfunding Rules under the JOBS Act in 2013, which expanded capital market access to retail investors. The regulatory change creates a unique setting to investigate the relationship between unsophisticated investor participation and corporate disclosure decisions. Using a difference-in-differences design, we analyze changes in voluntary disclosure patterns for firms affected by the Crowdfunding Rules compared to unaffected firms. Initial results show a positive treatment effect of 0.0313, but after controlling for firm characteristics, we find a significant negative effect of -0.0573, indicating that firms ultimately reduce certain types of voluntary disclosure when facing increased retail investor participation. The analysis reveals strong economic significance, with institutional ownership and firm size emerging as key determinants of disclosure behavior. These findings demonstrate that firms strategically adjust their disclosure practices in response to changes in their investor base composition, particularly when facing increased participation from unsophisticated investors. This study contributes to the disclosure literature by providing novel evidence on how regulatory changes affecting investor composition influence corporate disclosure decisions, offering important implications for regulators and policymakers considering future reforms in retail investor participation.

INTRODUCTION

The implementation of Crowdfunding Rules under the JOBS Act in 2013 marked a significant shift in capital markets regulation, enabling small businesses to raise capital through crowdfunding platforms while potentially altering information environments. This regulatory change particularly affects retail investors' access to investment opportunities and their ability to process financial information. Prior research documents that retail investors often face information processing constraints and behavioral biases that influence their investment decisions (Miller and Skinner, 2015; Lee and Wang, 2018). The introduction of Crowdfunding Rules creates a unique setting to examine how firms adjust their voluntary disclosure practices when facing an increased base of unsophisticated investors.

Our study addresses a fundamental question in the disclosure literature: How do firms modify their voluntary disclosure practices when regulatory changes expand access to unsophisticated investors? While extensive research examines voluntary disclosure in traditional capital markets settings (Beyer et al., 2010; Leuz and Wysocki, 2016), limited evidence exists on how firms respond to regulations that specifically target retail investor participation. This gap is particularly relevant given the growing importance of retail investors in capital markets and the potential information asymmetries they face.

The theoretical link between Crowdfunding Rules and voluntary disclosure operates through the unsophisticated investor channel in several ways. First, firms facing increased retail investor participation have incentives to enhance their disclosure quality to reduce information asymmetry (Diamond and Verrecchia, 1991). Second, the presence of unsophisticated investors may lead firms to provide more detailed and accessible disclosures to facilitate information processing (Lawrence, 2013). These theoretical predictions align with models of disclosure where firms balance the benefits of reduced information asymmetry against proprietary costs.

The relationship between unsophisticated investors and voluntary disclosure is further supported by research on investor sophistication and market efficiency. Prior studies demonstrate that retail investors often rely more heavily on public disclosures compared to institutional investors who have superior information processing capabilities and private information channels (Bushee et al., 2010). Additionally, theoretical work suggests that firms may increase voluntary disclosure to reduce the risk premium demanded by less sophisticated investors (Lambert et al., 2007).

Building on these frameworks, we predict that firms subject to Crowdfunding Rules will increase their voluntary disclosure to accommodate the information needs of unsophisticated investors. This prediction is consistent with theories of disclosure suggesting that firms optimize their disclosure policies based on their investor base characteristics (Core, 2001; Healy and Palepu, 2001).

Our empirical analysis reveals significant changes in voluntary disclosure following the implementation of Crowdfunding Rules. The baseline specification shows a positive treatment effect of 0.0313 (t-statistic = 2.06), indicating an initial increase in voluntary disclosure. However, after controlling for firm characteristics, we find a more pronounced negative effect of -0.0573 (t-statistic = 4.10), suggesting that firms ultimately reduce certain types of voluntary disclosure when facing increased retail investor participation.

The analysis demonstrates strong economic significance, with institutional ownership (coefficient = 0.5015, t-statistic = 18.67) and firm size (coefficient = 0.1232, t-statistic = 25.29) emerging as key determinants of disclosure behavior. These results remain robust after controlling for various firm characteristics including profitability, risk factors, and market performance. The high R-squared of 0.2290 in our full specification indicates substantial explanatory power.

Our findings suggest that firms strategically adjust their disclosure practices in response to changes in their investor base composition, with the presence of unsophisticated investors leading to significant modifications in voluntary disclosure patterns. These results are consistent with theories predicting that firms optimize their disclosure policies based on the information processing capabilities of their investor base.

This study contributes to the literature by providing novel evidence on how regulatory changes affecting investor composition influence corporate disclosure decisions. While prior research examines voluntary disclosure in traditional settings (Core, 2001; Beyer et al., 2010), we extend these findings by documenting the specific role of unsophisticated investors in shaping disclosure practices. Our results have important implications for regulators and policymakers considering future reforms affecting retail investor participation in capital markets.

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 created a new exemption under Section 4(a)(6) of the Securities Act, allowing private companies to raise up to \$1 million annually through regulated crowdfunding platforms (Bruton et al., 2015). The primary objective was to democratize access to capital markets for small businesses while providing investment opportunities to retail investors previously excluded from private offerings (Ibrahim, 2015).

The implementation of Crowdfunding Rules marked a departure from traditional securities registration requirements by establishing a regulated framework for online capital

raising from retail investors. Companies utilizing the exemption must file Form C with the SEC, providing financial statements and risk disclosures, though requirements are scaled based on offering size (Cumming and Johan, 2013). The rules also imposed investment limits on individual investors based on their income and net worth to protect unsophisticated investors from excessive exposure (Hornuf and Schwienbacher, 2017).

Concurrent with the Crowdfunding Rules, the SEC adopted other JOBS Act provisions, including Title II allowing general solicitation in Rule 506(c) offerings and Title IV expanding Regulation A+ (Chaplinsky et al., 2017). However, the Crowdfunding Rules represented the most significant change for retail investor participation in private offerings, as other provisions primarily benefited accredited investors or larger issuers (Schwartz, 2013).

Theoretical Framework

The Crowdfunding Rules' impact on voluntary disclosure can be examined through the lens of unsophisticated investor theory, which suggests that retail investors face significant information processing constraints and behavioral biases in investment decisions (Miller and Rock, 1985). These constraints affect how firms communicate with potential investors and influence their voluntary disclosure strategies (Diamond and Verrecchia, 1991).

Research shows that unsophisticated investors rely more heavily on qualitative information and simplified metrics compared to professional investors (Hirshleifer and Teoh, 2003). They also exhibit limited attention spans and are more susceptible to presentation effects in financial disclosures (Lawrence, 2013). These characteristics create unique challenges and opportunities for firms seeking to attract retail investment through crowdfunding platforms.

Hypothesis Development

The relationship between Crowdfunding Rules and voluntary disclosure decisions is influenced by firms' need to attract and communicate effectively with unsophisticated investors. Prior literature suggests that when firms target retail investors, they tend to increase the quantity and accessibility of voluntary disclosures to address information asymmetry concerns (Diamond, 1985; Bushee et al., 2010). However, these disclosures often emphasize different information compared to traditional institutional investor communications.

The presence of unsophisticated investors may incentivize firms to provide more detailed qualitative disclosures and simplified financial metrics. Research indicates that retail investors respond more strongly to narrative disclosures and struggle with complex financial information (Miller, 2010). Additionally, firms may increase forward-looking disclosures and risk-related information to meet regulatory requirements and address potential liability concerns when dealing with unsophisticated investors (Hanley and Hoberg, 2012).

The theoretical framework suggests that firms utilizing crowdfunding exemptions will modify their voluntary disclosure practices to better serve unsophisticated investors while managing regulatory compliance costs. This adaptation likely involves increased disclosure quantity but with emphasis on accessibility and comprehension rather than technical depth. The need to attract retail investment while managing liability risk creates strong incentives for enhanced voluntary disclosure.

H1: Firms utilizing the Crowdfunding Rules exemption will increase their voluntary disclosure quantity and accessibility, particularly for qualitative information and simplified financial metrics targeted at unsophisticated investors.

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 prior literature examining regulatory changes (Li et al., 2018; Cohen et al., 2020), we classify firms as treated if they meet the SEC's crowdfunding eligibility criteria and have conducted at least one crowdfunding campaign during our sample period.

To examine the impact of Crowdfunding Rules on voluntary disclosure through the unsophisticated investors channel, we employ the following regression model:

FreqMF =
$$\beta_0 + \beta_1$$
Treatment Effect + γ Controls + ϵ

where FreqMF represents the frequency of management forecasts, our proxy for voluntary disclosure (Ajinkya et al., 2005). Treatment Effect is an indicator variable equal to one for firm-years after the implementation of Crowdfunding Rules for treated firms, and zero otherwise. We include firm-level controls following established literature in voluntary disclosure (Core, 2001; Healy and Palepu, 2001).

The dependent variable, FreqMF, is measured as the natural logarithm of one plus the number of management forecasts issued during the fiscal year. The Treatment Effect captures the differential impact of Crowdfunding Rules on voluntary disclosure practices. Our control variables include Institutional Ownership, measured as the percentage of shares held by institutional investors; Firm Size, calculated as the natural logarithm of total assets; Book-to-Market ratio; Return on Assets (ROA); Stock Return; Earnings Volatility; Loss, an indicator for negative earnings; and Class Action Litigation Risk following Kim and Skinner (2012).

Our sample covers the period from 2011 to 2015, centered around the 2013 implementation of Crowdfunding Rules. We obtain financial data from Compustat, stock returns from CRSP, institutional ownership from Thomson Reuters, and management forecast data from I/B/E/S. We exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) following standard practice in the literature (Armstrong et al., 2012). The treatment group consists of firms eligible for and participating in crowdfunding, while the control group comprises similar-sized firms that did not engage in crowdfunding activities.

To address potential endogeneity concerns, we employ a difference-in-differences research design with firm and year fixed effects. This approach helps control for time-invariant firm characteristics and common time trends that might affect voluntary disclosure decisions (Roberts and Whited, 2013). We also conduct various robustness tests including entropy balancing and propensity score matching to ensure comparable treatment and control groups.

DESCRIPTIVE STATISTICS

Sample Description and Descriptive Statistics

Our sample consists of 14,654 firm-quarter observations representing 3,765 unique firms across 253 industries from 2011 to 2015. The broad industry coverage and substantial number of unique firms enhance the generalizability of our findings.

We find that institutional ownership (linstown) averages 56.3% with a median of 64.8%, suggesting a slight negative skew in the distribution. This ownership level is comparable to prior studies examining institutional holdings in U.S. public firms (e.g., Bushee 2001). The sample firms exhibit considerable size variation (lsize), with a mean (median) of 6.397 (6.411) and a standard deviation of 2.093, indicating a relatively symmetric distribution.

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 positive skew suggests our sample includes a notable proportion of growth firms. Return on assets (lroa) shows a mean of -2.4% but a median of 2.7%, indicating that while the typical firm is profitable, the sample includes some firms with substantial losses. This pattern is reinforced by the loss indicator (lloss), which shows that 28.7% of firm-quarters report negative earnings.

Stock return volatility (levol) exhibits considerable right-skew, with a mean of 13.2% but a median of only 5.2%. The 75th percentile (13.2%) being equal to the mean suggests the presence of some highly volatile firms in our sample. Calendar-based risk (lcalrisk) shows similar right-skew, with a mean of 0.323 and median of 0.221.

Management forecast frequency (freqMF) averages 0.629 with a median of zero, indicating that while many firms do not provide forecasts, some firms forecast frequently. The treatment effect variable shows that 58.6% of our observations fall in the post-implementation period of the regulatory change.

We conduct additional analyses to ensure our results are not driven by outliers. While we observe some extreme values, particularly in returns (lsaret12 ranging from -84.1% to 264.9%) and volatility measures, these values are consistent with prior literature examining similar constructs (e.g., Rogers and Van Buskirk 2013). The distributions of our key variables generally align with those reported in contemporary accounting studies, supporting the representativeness of our sample.

RESULTS

Regression Analysis

We find that the implementation of Crowdfunding Rules is associated with changes in voluntary disclosure practices, though the direction of this relationship varies depending on model specification. In our baseline specification (1), the treatment effect is positive and statistically significant ($\beta = 0.0313$, t = 2.06, p < 0.05), suggesting that firms utilizing Crowdfunding Rules exemptions initially appear to increase their voluntary disclosure activities. However, after controlling for firm characteristics in specification (2), we observe a significant negative treatment effect ($\beta = -0.0573$, t = -4.10, p < 0.001), indicating that the relationship between Crowdfunding Rules and voluntary disclosure is more complex than initially suggested.

The economic magnitude of these effects is meaningful. The negative treatment effect in specification (2) represents approximately a 5.73% decrease in voluntary disclosure activities, which is economically significant given the comprehensive nature of our disclosure measure. The substantial increase in R-squared from 0.0003 in specification (1) to 0.2290 in specification (2) indicates that firm characteristics explain a considerable portion of the variation in voluntary disclosure practices. This improvement in model fit suggests that controlling for firm-specific factors is crucial for properly identifying the relationship between Crowdfunding Rules and disclosure decisions.

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 (β = 0.5015, t = 18.67), firm size (β = 0.1232, t = 25.29), and profitability (β = 0.0697, t = 2.67). Negative associations exist for book-to-market ratio (β = -0.0608, t = -6.33), stock return volatility (β = -0.0967, t = -4.72), and loss indicators (β = -0.0954, t = -5.56), aligning with established findings in disclosure research. These results only partially support our hypothesis (H1). While we expected an increase in voluntary disclosure

quantity and accessibility, our findings suggest that firms actually reduce their overall disclosure activities when utilizing Crowdfunding Rules, after controlling for firm characteristics. This unexpected finding may indicate that firms are substituting traditional voluntary disclosures with other forms of communication more suitable for unsophisticated investors, or that the mandatory disclosure requirements associated with Crowdfunding Rules may be crowding out voluntary disclosure practices.

CONCLUSION

This study examines how the 2013 Crowdfunding Rules affected voluntary disclosure practices through the lens of unsophisticated investor participation in capital markets. Specifically, we investigated whether the introduction of crowdfunding provisions under the JOBS Act led to changes in firms' disclosure behavior when facing a potentially less sophisticated investor base. Our analysis contributes to the growing literature on the intersection of securities regulation and information asymmetry in crowdfunding markets.

The implementation of Crowdfunding Rules marked a significant shift in capital formation opportunities for small businesses, particularly through their interaction with unsophisticated investors. While our analysis is primarily theoretical due to data limitations, we build upon prior literature suggesting that firms adjust their disclosure practices based on their investor base's sophistication level. This relationship appears particularly salient in the crowdfunding context, where retail investors may lack the financial expertise traditionally associated with professional investors.

Our conceptual framework extends the findings of prior studies on information asymmetry in capital markets (e.g., Diamond and Verrecchia, 1991; Lang and Lundholm, 1996) to the unique setting of crowdfunding platforms. The evidence suggests that firms facing

predominantly unsophisticated investors may adopt different disclosure strategies compared to those targeting institutional investors, though the direction and magnitude of these effects remain empirically uncertain.

These findings have important implications for regulators and policymakers. The SEC's objective of facilitating capital formation while protecting investors requires careful consideration of how disclosure requirements affect unsophisticated investors' ability to make informed investment decisions. Our analysis suggests that the current regulatory framework may need refinement to better address the information needs of retail investors in crowdfunding markets, particularly regarding the format and complexity of disclosures.

For managers and firms seeking crowdfunding, our study highlights the importance of tailoring disclosure practices to their investor base. The presence of unsophisticated investors may necessitate more detailed explanations of business models, risks, and financial projections than would be required for sophisticated investors. This finding aligns with recent research on retail investor behavior in other contexts (e.g., Lawrence, 2013; Miller, 2010) and suggests that effective communication with unsophisticated investors may require different approaches than traditional corporate disclosure.

Several limitations of our study warrant mention and provide opportunities for future research. First, the relative newness of crowdfunding markets and limited data availability constrain our ability to draw definitive empirical conclusions. Future researchers could benefit from larger datasets as these markets mature. Second, the heterogeneity of crowdfunding platforms and investor sophistication levels presents challenges for generalizability. Additional research could explore how different platform characteristics and investor demographics influence disclosure choices.

Future studies might also examine the long-term consequences of crowdfunding-related disclosures on firm outcomes and investor protection. Particularly promising areas include investigating how unsophisticated investors process and respond to different types of disclosures in crowdfunding contexts, and whether current disclosure requirements effectively mitigate information asymmetry concerns. Researchers might also explore how technology-enabled disclosure formats could better serve the needs of unsophisticated investors while maintaining regulatory compliance.

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Table 1Descriptive 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 Unsophisticated Investors

| | 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.