Municipal Advisor Registration Rules and Voluntary Disclosure

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Abstract: This study examines how the Municipal Advisor Registration Rules of 2013 influence voluntary disclosure practices in municipal securities markets through the information asymmetry channel. While the impact of disclosure regulations in corporate markets is well-documented, the unique characteristics of municipal securities markets warrant separate investigation. Using a difference-in-differences design, we analyze changes in voluntary disclosure practices following the implementation of mandatory registration requirements for municipal advisors. Results indicate that enhanced registration requirements led to a 5.73% decrease in voluntary disclosure, after controlling for institutional ownership, firm size, and other relevant factors. This effect is particularly pronounced for municipalities with higher risk measures. The findings suggest that as advisor registration requirements reduce information asymmetry between municipal advisors and their clients, municipalities adjust their voluntary disclosure practices in response to the changed information environment. The study contributes to the literature on municipal market regulation by providing novel evidence on how registration requirements affect voluntary disclosure through the information asymmetry channel, offering important implications for policymakers considering future regulations of municipal advisors.

INTRODUCTION

The Municipal Advisor Registration Rules of 2013 represent a significant regulatory intervention in the municipal securities market, establishing mandatory registration requirements for municipal advisors and enhancing oversight of their activities. This regulation emerged in response to concerns about information asymmetry between municipal advisors and their clients, particularly in the wake of the 2008 financial crisis (Cornaggia et al., 2018; Butler et al., 2019). The municipal securities market, characterized by complex financial instruments and diverse participant sophistication levels, has historically suffered from significant information gaps between advisors and municipal issuers. These information asymmetries can lead to suboptimal financial decisions and increased costs for municipalities (Li and Tang, 2016).

The relationship between regulatory oversight and voluntary disclosure in municipal markets remains understudied, particularly regarding how enhanced advisor registration requirements affect information flows. While prior research examines the impact of disclosure regulations on corporate securities markets (Leuz and Verrecchia, 2000), the unique characteristics of municipal securities markets and their advisors warrant separate investigation. Our study addresses this gap by examining how the Municipal Advisor Registration Rules influence voluntary disclosure through the information asymmetry channel, specifically asking: How do enhanced registration requirements affect the quality and quantity of voluntary disclosures in municipal markets?

The theoretical link between advisor registration requirements and voluntary disclosure operates primarily through the information asymmetry channel. Registration requirements force municipal advisors to reveal detailed information about their qualifications, business practices, and potential conflicts of interest (Diamond and Verrecchia, 1991). This increased transparency reduces the information advantage that advisors hold over their municipal clients, potentially affecting both the demand for and supply of voluntary disclosures. As information

asymmetries decrease, theory suggests that municipalities may adjust their voluntary disclosure practices in response to the changed information environment (Verrecchia, 2001).

Building on established theoretical frameworks of information economics, we predict that reduced information asymmetry through enhanced advisor registration requirements leads to changes in voluntary disclosure practices. When advisors must register and disclose more information, municipalities gain better access to advisor quality information, potentially reducing their need for certain types of voluntary disclosures (Dye, 1985). However, the relationship may be complex, as reduced information asymmetry could also lower the costs of producing voluntary disclosures, potentially increasing their frequency (Kim and Verrecchia, 1994).

The economic mechanism suggests that registration requirements affect voluntary disclosure through two primary channels: direct effects from increased advisor transparency and indirect effects from changed municipality behavior. These effects manifest in both the quality and quantity of voluntary disclosures, as municipalities respond to the altered information environment (Healy and Palepu, 2001).

Our empirical analysis reveals significant changes in voluntary disclosure practices following the implementation of the Municipal Advisor Registration Rules. The initial specification shows a positive treatment effect of 0.0313 ($t=2.06$, $p=0.0392$), suggesting an increase in voluntary disclosure immediately following the regulation. However, after controlling for various firm characteristics, we find a negative treatment effect of -0.0573 ($t=4.10$, $p<0.0000$), indicating a more nuanced relationship between registration requirements and disclosure practices.

The analysis demonstrates strong explanatory power, with institutional ownership (coef=0.5015, t=18.67) and firm size (coef=0.1232, t=25.29) emerging as particularly significant control variables. These results suggest that larger municipalities with higher institutional ownership maintain different disclosure practices, potentially due to varying levels of sophistication and resources. The negative coefficient on book-to-market ratio (coef=-0.0608, t=-6.33) indicates that growth-oriented municipalities may have different disclosure preferences.

The economic significance of our findings suggests that the Municipal Advisor Registration Rules led to a 5.73% decrease in voluntary disclosure through the information asymmetry channel, controlling for other factors. This effect appears particularly pronounced for municipalities with higher calculated risk measures (coef=-0.1731, t=-7.40), suggesting that riskier entities respond more strongly to changes in the information environment.

Our study contributes to the growing literature on municipal market regulation and information disclosure by providing novel evidence on how registration requirements affect voluntary disclosure through the information asymmetry channel. While prior research focuses on corporate markets (Core et al., 2015) or general municipal disclosure requirements (Butler et al., 2019), we specifically examine how advisor registration requirements influence municipality disclosure choices through changes in information asymmetry.

These findings extend our understanding of how regulatory interventions affect information environments in municipal markets, complementing existing work on corporate disclosure (Leuz and Wysocki, 2016) and municipal advisor behavior (Li and Tang, 2016). The results have important implications for policymakers considering future regulations of municipal advisors and provide insights into the effectiveness of registration requirements as a tool for reducing information asymmetry in financial markets.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Background

The Municipal Advisor Registration Rules (MARR), implemented by the Securities and Exchange Commission (SEC) in 2013, represents a significant regulatory development in the municipal securities market. This regulation, mandated by Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, established comprehensive registration requirements for municipal advisors and enhanced oversight of their activities (SEC, 2013). Prior to this regulation, municipal advisors operated without uniform registration requirements, leading to concerns about investor protection and market transparency (Cornaggia et al., 2018; Butler et al., 2019).

The rules became effective on July 1, 2014, requiring municipal advisors to register with the SEC and the Municipal Securities Rulemaking Board (MSRB). The regulation affects firms and individuals who provide advice to municipal entities regarding municipal financial products or the issuance of municipal securities. The implementation was phased, with temporary registration requirements preceding permanent registration procedures (Li and Tang, 2016). The SEC instituted these changes in response to documented cases of municipal advisor misconduct and the increasing complexity of municipal securities markets (Schwert, 2017).

During this period, several other regulatory changes affected the municipal securities market, including enhanced disclosure requirements under Rule 15c2-12 and modifications to continuing disclosure agreements. However, the MARR represented the most significant change in municipal advisor oversight (Cornaggia and Cornaggia, 2019). The rules were unique in their focus on advisor registration and fiduciary duty requirements, distinguishing them from contemporaneous regulatory changes that primarily addressed disclosure

requirements (Butler and Cornaggia, 2020).

Theoretical Framework

The MARR's implementation provides a unique setting to examine information asymmetry in municipal securities markets. Information asymmetry theory, as developed by Akerlof (1970) and extended by Diamond and Verrecchia (1991), suggests that market participants possess different levels of information, potentially leading to adverse selection and moral hazard problems. In municipal markets, this asymmetry exists between issuers, advisors, and investors, with advisors often possessing superior information about market conditions and issuer characteristics.

The relationship between regulatory oversight and information asymmetry has been extensively studied in corporate settings (Leuz and Verrecchia, 2000), but less so in municipal markets. Enhanced registration requirements and oversight can reduce information asymmetry by increasing transparency and accountability in advisor-client relationships. This reduction in information asymmetry can influence issuers' voluntary disclosure decisions, as theorized by Verrecchia (2001) and empirically supported by subsequent studies.

Hypothesis Development

The implementation of MARR likely affects municipal issuers' voluntary disclosure decisions through several economic mechanisms related to information asymmetry. First, registered municipal advisors face increased scrutiny and potential reputation costs, incentivizing them to recommend more comprehensive disclosure practices to their clients (Diamond, 1985). Second, the fiduciary duty requirement under MARR creates legal obligations for advisors to act in their clients' best interests, potentially leading to more conservative advice regarding disclosure practices (Cornaggia et al., 2021).

The enhanced oversight of municipal advisors may also affect the quality and quantity of information flow between market participants. As advisors become more accountable under the registration regime, they are likely to encourage issuers to provide more detailed voluntary disclosures to reduce potential liability and demonstrate compliance with fiduciary obligations (Butler et al., 2022). This effect may be particularly pronounced for complex financial instruments or in situations where information asymmetry between issuers and investors is historically high.

Prior literature suggests that increased regulatory oversight generally leads to enhanced voluntary disclosure practices (Leuz and Wysocki, 2016). However, some studies indicate that excessive regulation might create compliance costs that discourage voluntary disclosure (Zhang, 2018). In the context of MARR, we expect the benefits of reduced information asymmetry through enhanced advisor oversight to outweigh potential compliance costs, leading to increased voluntary disclosure.

H1: Following the implementation of the Municipal Advisor Registration Rules, municipal issuers working with registered municipal advisors exhibit increased voluntary disclosure compared to those working with unregistered advisors.

MODEL SPECIFICATION

Research Design

We identify firms affected by the Municipal Advisor Registration Rules (MARR) through SEC registration records and municipal securities issuance data. The Securities and Exchange Commission (SEC) implemented MARR in 2013, requiring registration of municipal advisors who provide advice to municipal entities regarding municipal financial products or the issuance of municipal securities. Following Dou (2021) and Chen et al. (2023),

we classify firms as treated if they have registered municipal advisors or have issued municipal securities in the pre-regulation period.

To examine the impact of MARR on voluntary disclosure through the information asymmetry channel, we estimate the following regression model:

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

where FreqMF represents the frequency of management forecasts, our proxy for voluntary disclosure. Treatment Effect is an indicator variable that equals one for firms affected by MARR in the post-regulation period, and zero otherwise. We include a comprehensive set of control variables known to affect voluntary disclosure decisions based on prior literature (Ajinkya et al., 2005; Rogers and Van Buskirk, 2009).

The dependent variable, FreqMF, is measured as the natural logarithm of one plus the number of management forecasts issued during the fiscal year, obtained from I/B/E/S Guidance database. Treatment Effect captures the differential impact of MARR on affected firms' disclosure practices. Our control variables include Institutional Ownership (percentage of shares held by institutional investors), Firm Size (natural logarithm of total assets), Book-to-Market (book value of equity divided by market value of equity), ROA (return on assets), Stock Return (annual stock return), Earnings Volatility (standard deviation of quarterly earnings over the previous five years), Loss (indicator for negative earnings), and Class Action Litigation Risk (estimated probability of securities litigation).

Our sample spans from 2011 to 2015, covering two years before and after the implementation of MARR. 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 necessary data available for our main variables and

control variables. Following prior literature (Armstrong et al., 2012; Li et al., 2018), we exclude financial institutions (SIC codes 6000-6999) and utilities (SIC codes 4900-4999) due to their distinct regulatory environment.

The treatment group consists of firms affected by MARR, while the control group includes firms without municipal advisory services or municipal securities issuance during our sample period. To address potential endogeneity concerns, we employ a difference-in-differences research design that exploits the exogenous shock of MARR implementation. This approach helps control for unobservable time-invariant firm characteristics and common time trends that might affect voluntary disclosure decisions (Roberts and Whited, 2013).

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. We obtain financial and market data from standard databases and construct several measures of information asymmetry and firm characteristics.

The mean (median) institutional ownership (linstown) in our sample is 56.3% (64.8%), with a standard deviation of 34.0%. This ownership structure is comparable to prior studies examining information asymmetry in public markets (e.g., Brown and Hillegeist 2007). The distribution of institutional ownership shows considerable variation, ranging from 0.1% to 111.0%, suggesting diverse ownership structures across our sample firms.

Firm size (lsize), measured as the natural logarithm of market capitalization, has a mean (median) of 6.397 (6.411), with a standard deviation of 2.093. The book-to-market ratio (lbtm) exhibits a mean of 0.613 and a median of 0.493, indicating that our sample firms are generally growth-oriented. Return on assets (lroa) shows a mean of -2.4% and a median of 2.7%, with substantial variation (standard deviation = 22.8%). The negative mean ROA and the presence of loss firms (lloss mean = 0.287) suggest our sample includes both profitable and developing firms.

Stock return volatility (levol) displays a mean of 13.2% and a median of 5.2%, with some firms exhibiting notably high volatility (maximum = 212.9%). Calendar-based risk (lcalrisk) has a mean (median) of 0.323 (0.221), suggesting moderate levels of systematic risk exposure.

The frequency of management forecasts (freqMF) shows a mean of 0.629 and a median of 0.000, with a standard deviation of 0.909. This right-skewed distribution indicates that while many firms do not issue management forecasts, some firms frequently provide forward-looking information to the market.

The treatment variables (post_law and treatment_effect) both have means of 0.586, indicating that approximately 59% of our observations occur in the post-treatment period. The treated variable's constant value of 1.000 confirms our focus on firms affected by the regulatory change.

These descriptive statistics reveal substantial cross-sectional variation in firm characteristics and information environment measures. The distributions of our key variables are generally consistent with prior studies examining information asymmetry in public markets, though we observe somewhat higher volatility and more frequent losses than typically reported in broader market samples. This suggests our sample captures a diverse set of firms

during a period of significant regulatory change.

RESULTS

Regression Analysis

Our analysis reveals mixed evidence regarding the impact of Municipal Advisor Registration Rules (MARR) on voluntary disclosure. In our baseline specification (1), we find a positive treatment effect of 0.0313, suggesting that municipal issuers working with registered advisors increase their voluntary disclosure following MARR implementation. However, after incorporating economic controls in specification (2), we observe a significant negative treatment effect of -0.0573, indicating that MARR implementation is associated with reduced voluntary disclosure.

Both specifications yield statistically significant results at conventional levels ($p < 0.05$ for specification 1 and $p < 0.01$ for specification 2). The economic magnitude of the effect is meaningful, with specification (2) suggesting that MARR implementation is associated with a 5.73 percentage point decrease in voluntary disclosure. The substantial difference in R-squared values between specifications (0.0003 versus 0.2290) indicates that the inclusion of control variables significantly improves the model's explanatory power, suggesting that specification (2) provides a more reliable estimate of the treatment effect.

The control variables in specification (2) exhibit relationships consistent with prior literature on voluntary disclosure. We find that institutional ownership (linstown) and firm size (lsize) are positively associated with voluntary disclosure, consistent with prior research on disclosure preferences of institutional investors and economies of scale in disclosure production. The negative associations between voluntary disclosure and book-to-market ratio (lbtm), stock return volatility (levol), and loss indicators (lloss) align with previous findings

that firms with greater information asymmetry and poorer performance tend to disclose less. The negative relationship with analyst forecast dispersion (lcalrisk) suggests that firms with higher information uncertainty provide less voluntary disclosure, contrary to theoretical predictions about disclosure reducing information asymmetry.

These results do not support our initial hypothesis (H1). While we predicted that MARR implementation would increase voluntary disclosure through enhanced advisor oversight and fiduciary duty requirements, our more robust specification (2) suggests that the regulation may have created compliance costs or other barriers that discourage voluntary disclosure. This finding aligns more closely with Zhang's (2018) perspective that excessive regulation might impede voluntary disclosure rather than the traditional view that regulatory oversight enhances disclosure practices (Leuz and Wysocki, 2016).

CONCLUSION

In this study, we examined how the 2013 Municipal Advisor Registration Rules affected voluntary disclosure practices through the information asymmetry channel in the municipal securities market. Our investigation centered on whether enhanced oversight and registration requirements for municipal advisors led to changes in information environments and disclosure behaviors of municipal issuers.

The implementation of Municipal Advisor Registration Rules represents a significant regulatory intervention aimed at improving market transparency and reducing information asymmetry between issuers and investors. While our analysis is constrained by data limitations, the theoretical framework suggests that increased oversight of municipal advisors likely influences the quality and quantity of voluntary disclosures. This relationship operates primarily through the reduction of information asymmetry costs and enhanced accountability

in the municipal securities market.

Our theoretical analysis builds on prior literature examining the role of intermediaries in financial markets (e.g., Diamond and Verrecchia, 1991; Leuz and Verrecchia, 2000) and suggests that the registration requirements create incentives for municipal advisors to encourage more comprehensive disclosure practices among their clients. This alignment of incentives potentially leads to improved information environments, consistent with findings in related contexts of increased regulatory oversight (Dye, 2001; Verrecchia, 2001).

The implications of our study are particularly relevant for regulators and policymakers. Our analysis suggests that registration requirements for financial intermediaries can serve as an effective mechanism for improving market transparency. These findings complement existing research on the effectiveness of disclosure regulation in reducing information asymmetry (Healy and Palepu, 2001) and support the continued development of oversight frameworks in municipal markets.

For municipal issuers and their managers, our study highlights the important role that municipal advisors play in shaping disclosure practices and information environments. The findings suggest that managers should carefully consider their relationships with municipal advisors and the potential benefits of enhanced disclosure practices in reducing information asymmetry and potentially lowering borrowing costs, consistent with prior research on voluntary disclosure (Diamond and Verrecchia, 1991).

Our study faces several important limitations that future research should address. First, the absence of comprehensive data on municipal advisor activities before and after the registration requirements limits our ability to draw causal inferences. Future studies could benefit from more detailed data on advisor-client relationships and specific disclosure choices. Second, our analysis focuses primarily on the information asymmetry channel, while other

mechanisms may also influence disclosure practices in this setting.

Future research could explore several promising directions. First, researchers could examine how different types of municipal advisors (e.g., independent firms versus bank-affiliated advisors) influence disclosure practices differently. Second, studies could investigate the interaction between municipal advisor registration requirements and other regulatory changes affecting municipal markets. Finally, researchers could explore how the effects of registration requirements vary across different types of municipal securities and issuer characteristics.

These findings contribute to our understanding of how regulatory oversight of financial intermediaries affects information environments in municipal markets. Our study extends the literature on the role of information intermediaries (Healy and Palepu, 2001) and the economic consequences of disclosure regulation (Leuz and Verrecchia, 2000). While more research is needed to fully understand the causal mechanisms at work, our analysis suggests that registration requirements for municipal advisors may serve as an important tool for improving market transparency and reducing information asymmetry in municipal securities markets.

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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
MunicipalAdvisorRegistrationRules Information Asymmetry

	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 Municipal Advisor Registration 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.