

THE PURSUIT OF FAIR AND EFFICIENT PRICING

OCTOBER 23, 2024 | SAN FRANCISCO, CALIFORNIA

SESSION ONE

Contributing Factors and
Potential Solutions to New
Issuance Pricing Inequities

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Look for....

Public Debt Management: Strategy and Evidence

Forthcoming - Cambridge University Press

Questions for Today

- What determines the prices on new issue municipal bonds?
- What is “fair pricing” for issuers?
- What are pricing inequities, and what explains them?
- How can issuers address those inequities?

Key Takeaways

- The pricing of new issue municipal bonds is more reliable, transparent and competitive than ever.
- Smaller issuers enjoy advantages and disadvantages in new issue pricing.
- Smaller issuers can address those disadvantages/inequities - at least partially - through better disclosure, investor relations, and debt management practices.

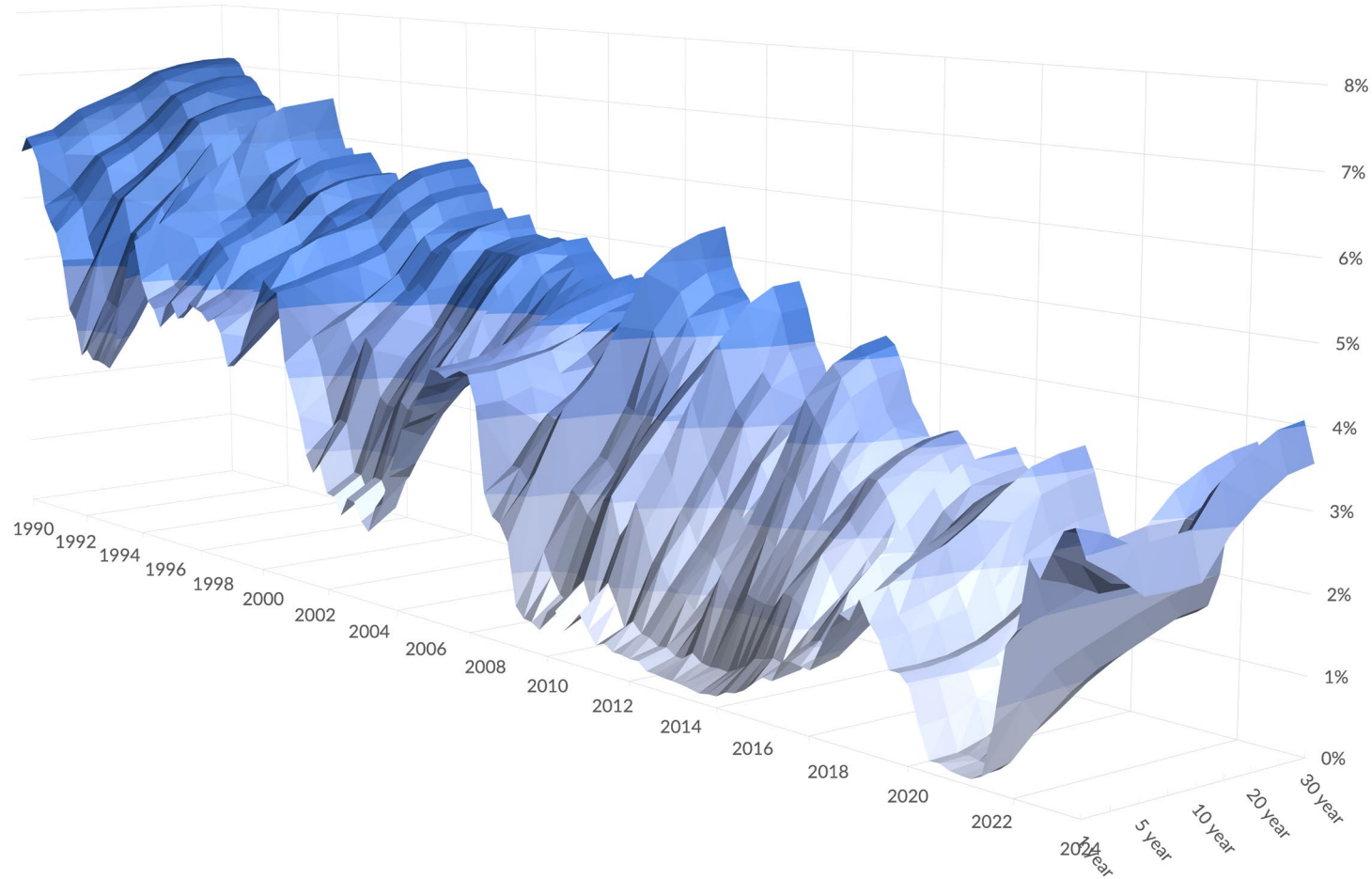
What Determines New Issue Municipal Prices?

The Investor's "Three Factor" Framework for Municipals

- **Tax Risk** - Will the interest payments remain tax-exempt?
Will they remain attractive, relative to taxables?
- **Credit Risk** - Will the issuer repay the bonds on time and in full?
- **Liquidity Risk** - If I need to sell these bonds, can I find a buyer?
 - Segmentation - Pool of potential buyers is limited and specialized
 - Supply and demand factors - i.e. "technicals" - are dynamic

Back on Track?

Municipal yield levels have returned to historical averages, despite a comparatively flat curve



Source: Author's calculations based on Refinitiv data. Shows the MMD AAA yield curve from January 1990 through April 2024. Municipal yield levels and slopes are returning to historical averages.

Exemption Dynamics

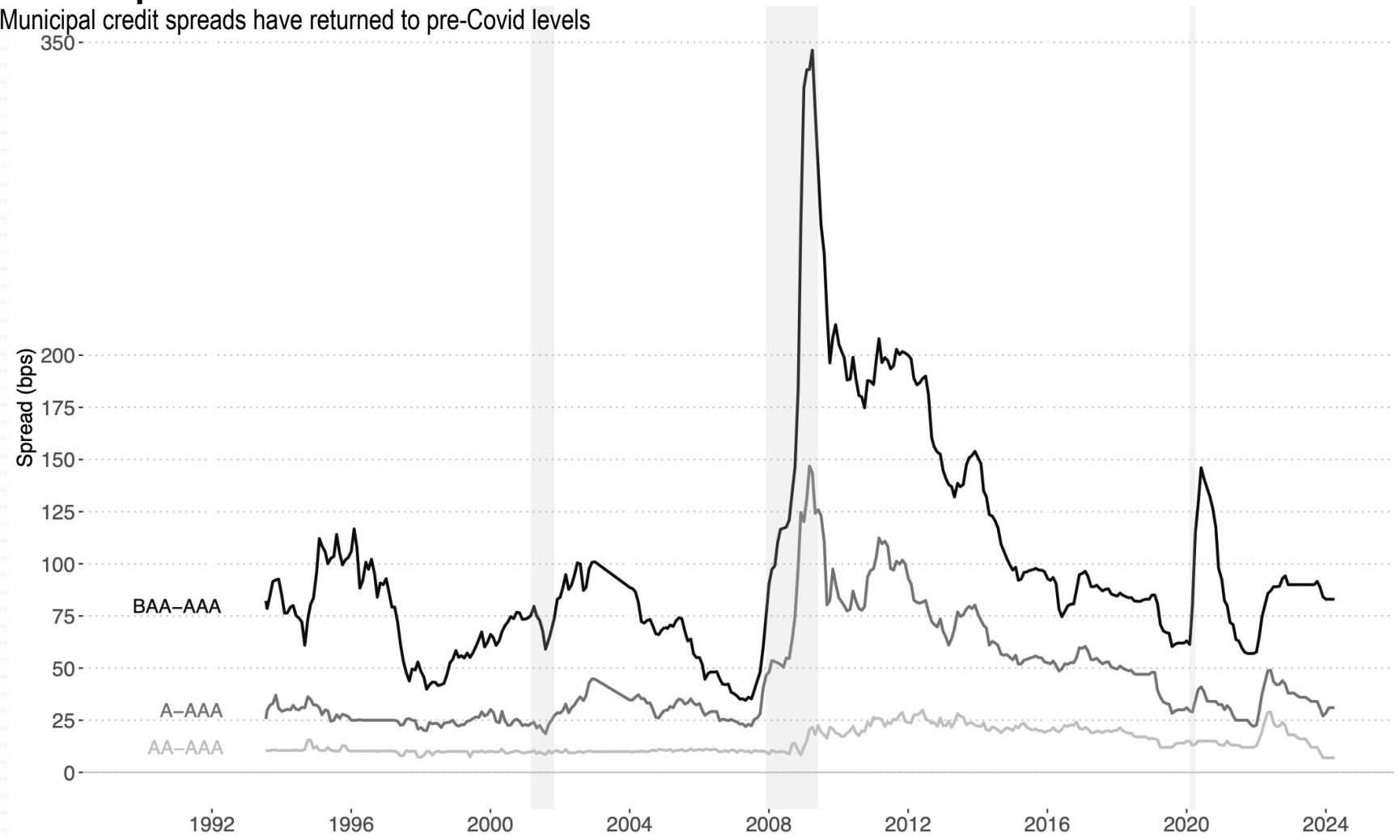
The ratio of US Treasury yields to tax-exempt municipal yields has been more dynamic than ever



Source: Author's calculations based on Refinitiv data.

Credit Spreads Back to Normal?

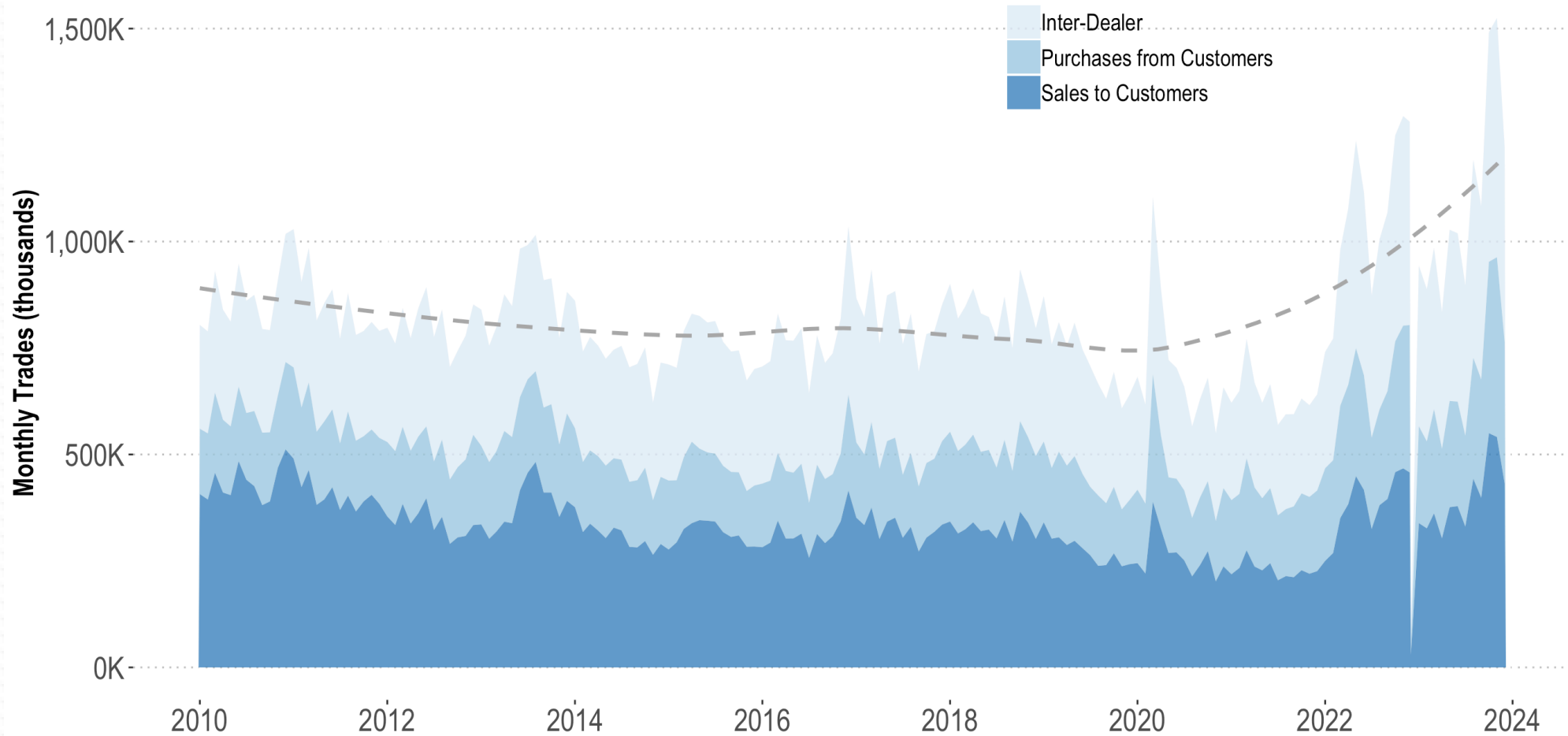
Municipal credit spreads have returned to pre-Covid levels



Source: Author's calculations based on Refinitiv data. Shows the spread (in basis points) between the 10 year MMD AAA yield and the 10 year AA, A, and BAA yields. Municipal yield levels and slopes are returning to historical averages.

Number of Trades on the Rise

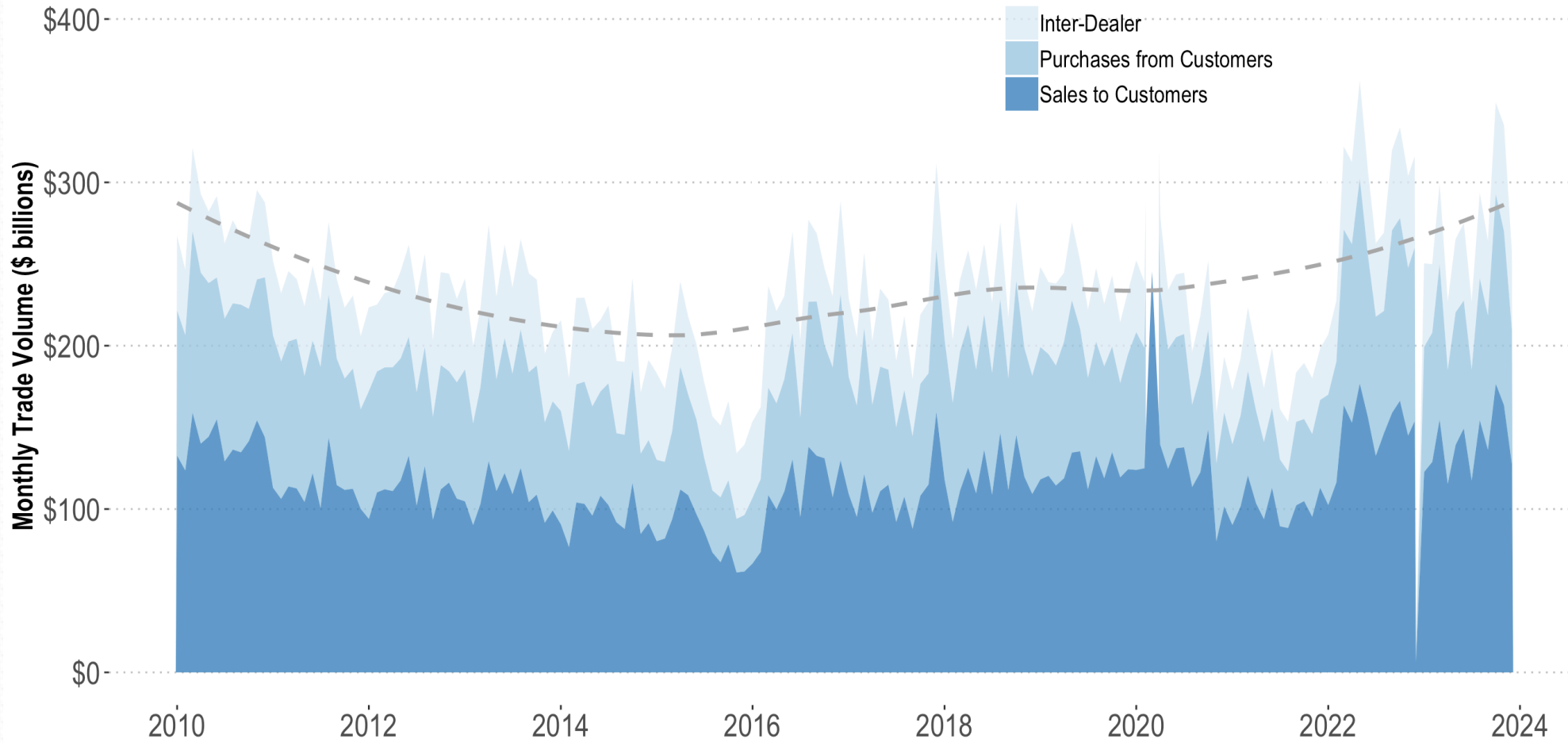
Average monthly trading activity has increased 64% since 2016.



Source: Author's calculation based on MSRB data.
Depicts the total monthly trades across the three types of trades. Dashed line is the Loess-smoothed average

Trade Volume Also on the Rise

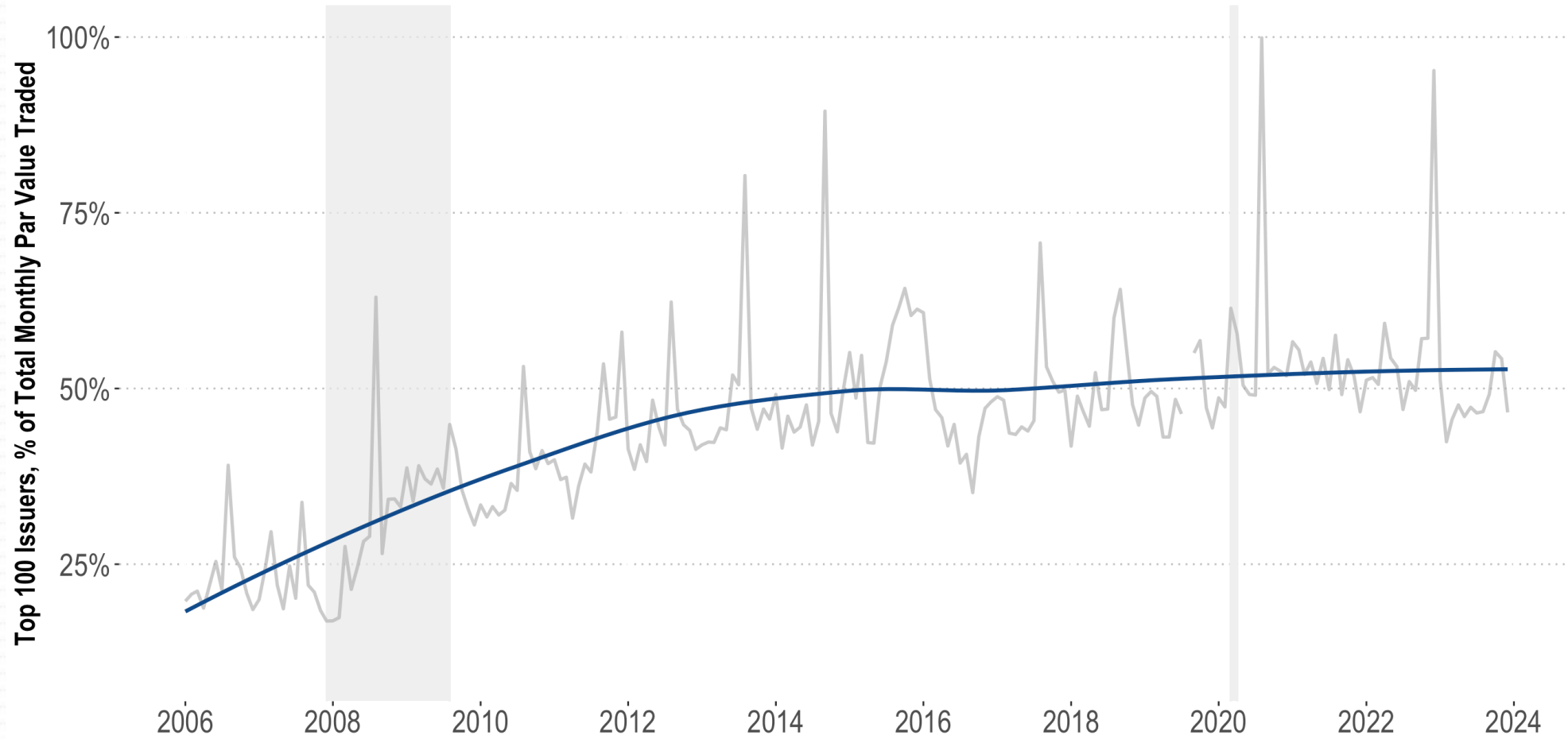
Average monthly trade volume has increased 30% since 2016.



Source: Author's calculation based on MSRB data.
Depicts the total monthly par value traded across the three types of trades. Dashed line is the Loess-smoothed average

Thick Liquidity

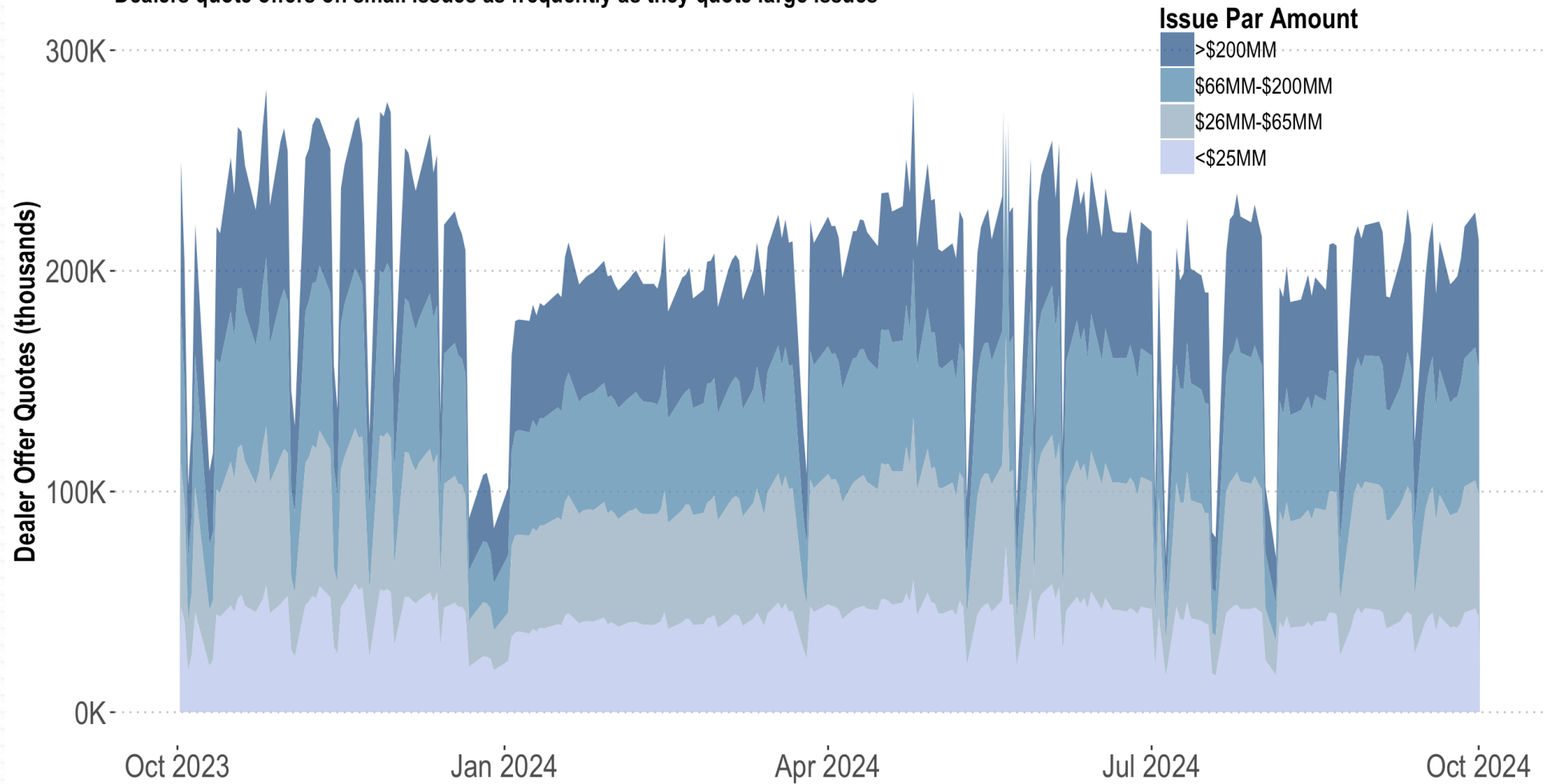
Trades in bonds from the 100 most actively-traded issuers account for more than half of all secondary market activity.



Source: Author's calculation based on data from the MSRB and S&P.
Depicts the monthly share of all trades in fixed coupon bonds due to trades in bonds issued by the 100 most actively-traded issuers.
Blue line is the Loess-smoothed average. Grey bars denote recessions.

Everyone's on Sale

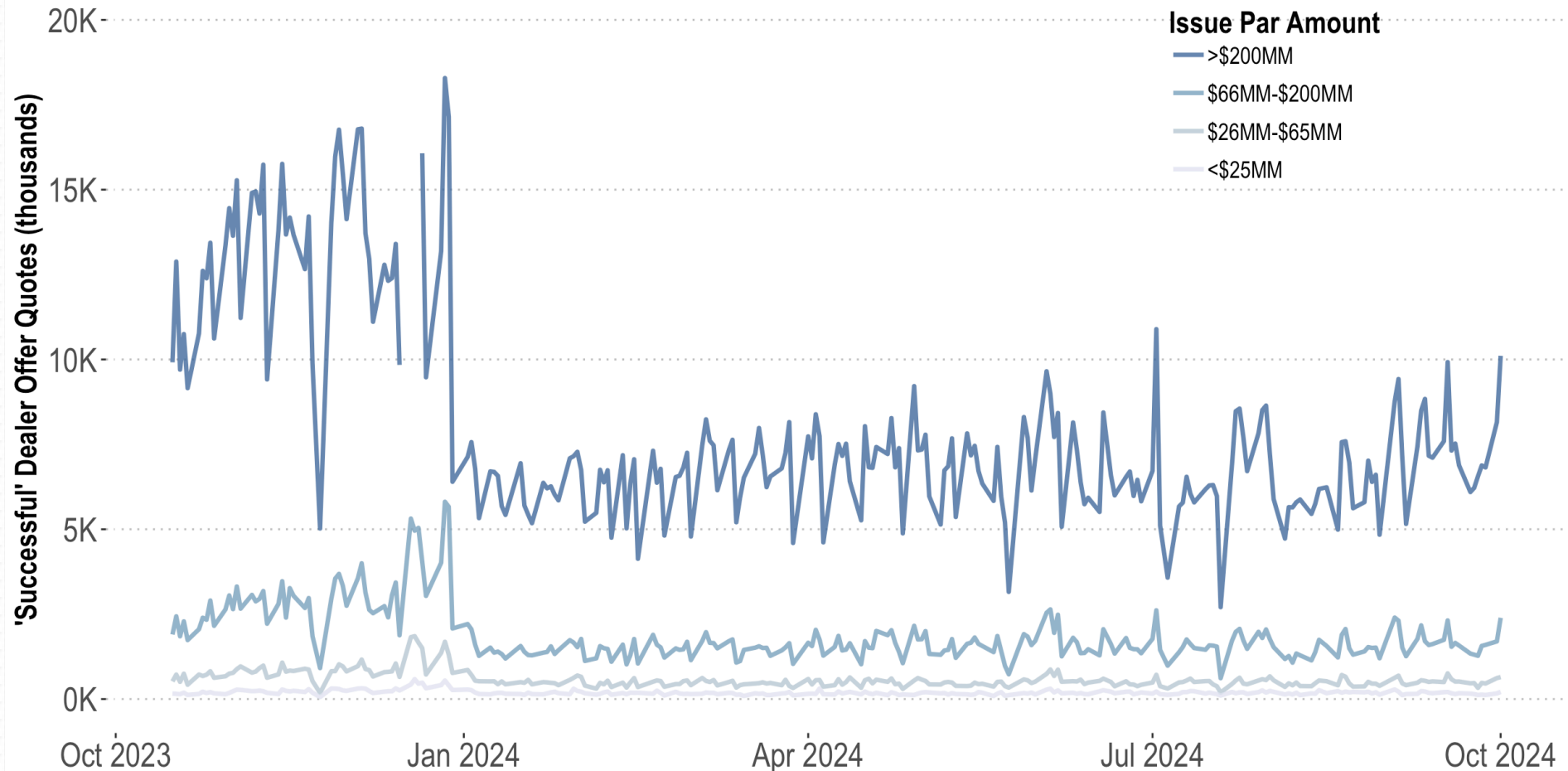
Dealers quote offers on small issues as frequently as they quote large issues



Source: Author's calculation based on data from Securities Quote Exchange.
Depicts the total CUSIP-level daily new offer quotes from participating dealers by par value of the original issue, from October 2023 through October 2024

Buyers Pass on Smaller Issues

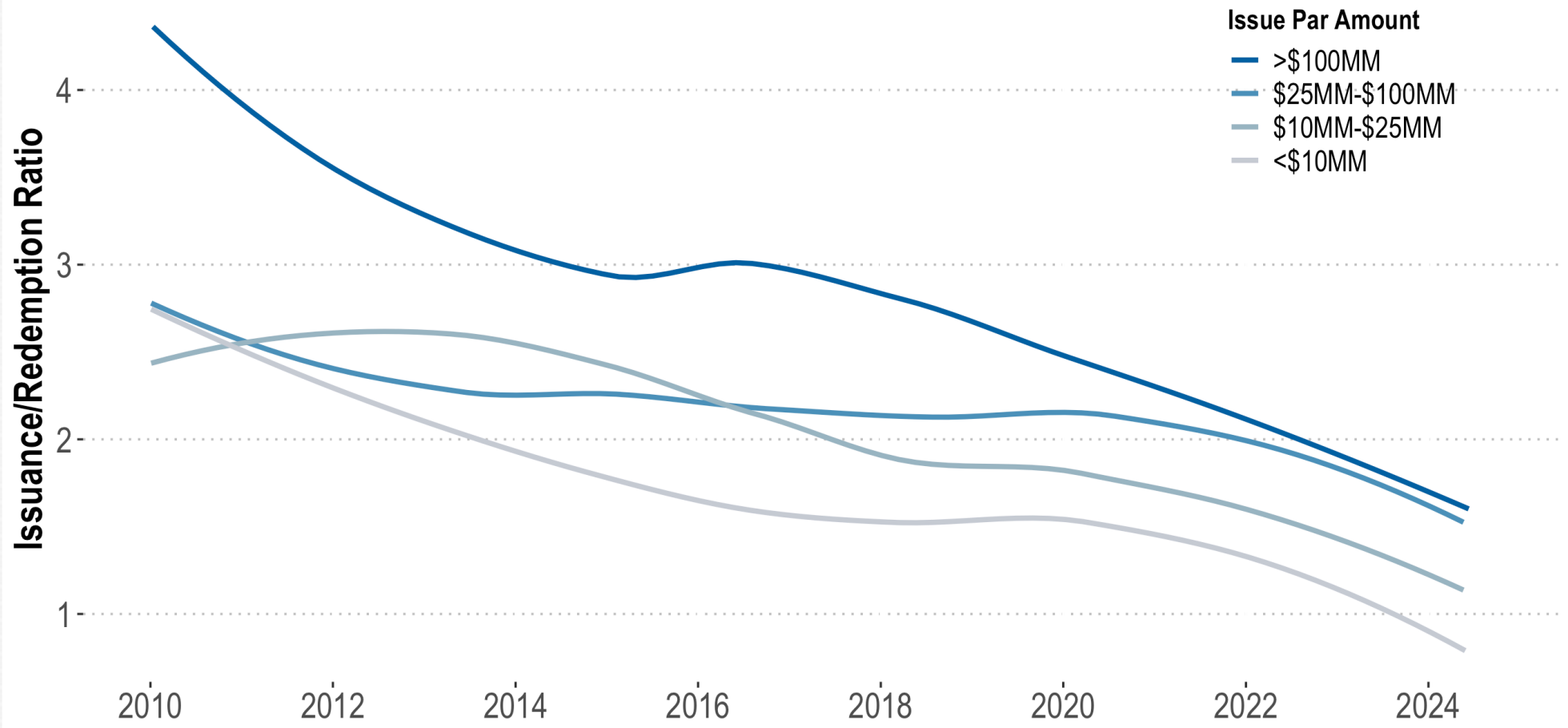
Dealer quotes on smaller issues result in far fewer actual transactions, compared to larger issues



Source: Author's calculation based on data from Securities Quote Exchange and the Municipal Securities Rulemaking Board.
Depicts the daily total secondary market trades that originated as offer quotes, by par value of the original issue, from October 2023 through October 2024

Supply-Demand Stability

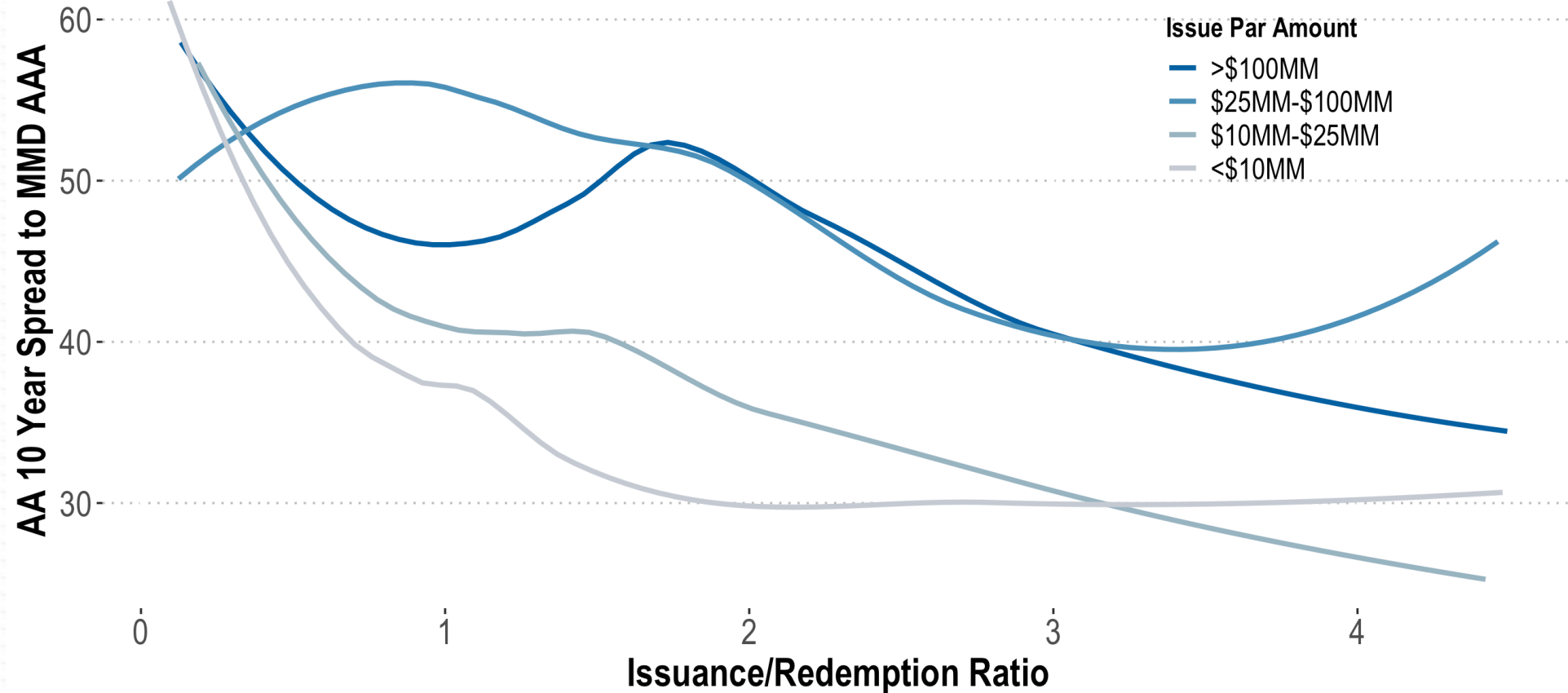
New issuance has kept pace with redemptions, especially for smaller issuers



Source: Author's calculation based on data from Ipreo/S&P.
 Depicts the three-week moving average of the weekly ratio of new issuance to redemptions from 2010-2024, by quartiles of issue par value

What Supply Pressure?

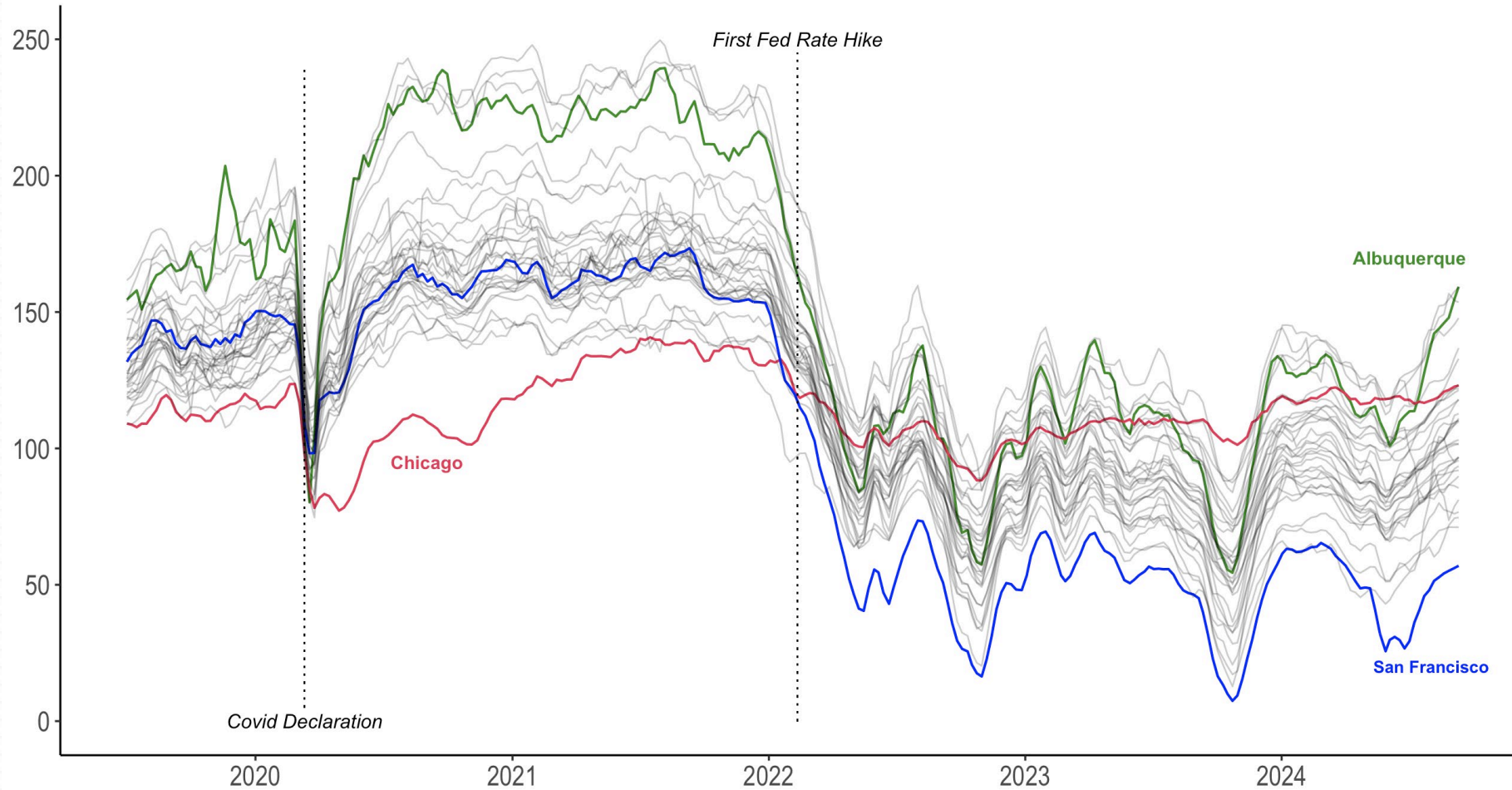
When new issuance exceeds redemptions, larger issues often price at higher spreads, but smaller issues don't



Source: Author's calculation based on data from Ipreo/S&P.
 Depicts the three-week moving average spread to the MMD AAA for newly-issued 10 year AA bonds (y axis)
 and the three-week moving average of the weekly ratio of new issuance to redemptions (x axis) from 2010-2024, by quartiles of issue par value

Headlines Matter for Municipals

CMF Muni Index for July 1, 2019 - September 15, 2024 (2018 price = 100)



Source: Center for Municipal Finance, University of Chicago
Index Based on GO Bond Secondary Market Prices for 33 Large US Cities
munifinance.uchicago.edu, jmarlowe@uchicago.edu

What is Fair Pricing?

How to Measure Fair Pricing

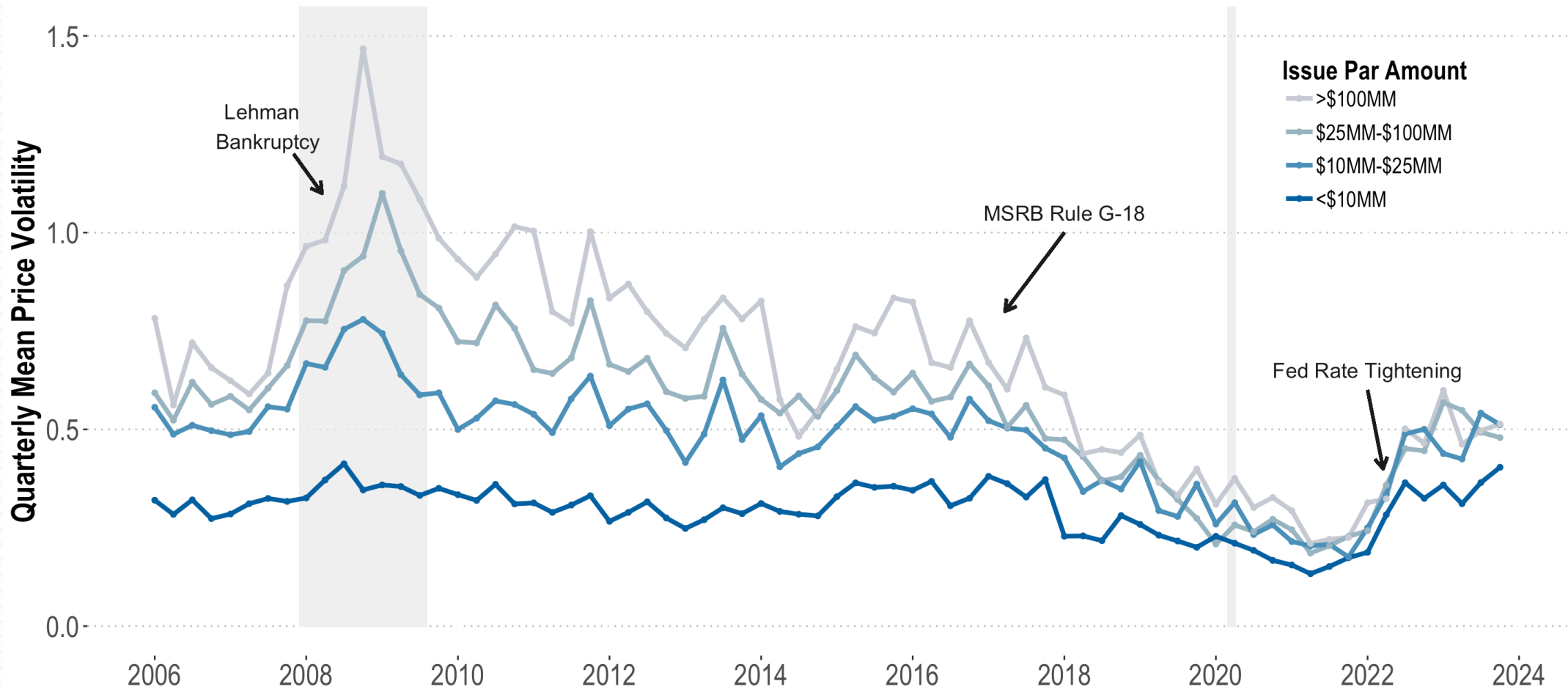
- **Price Volatility** - Does the same bond trade at different contemporaneous prices?
- **Price Evolution** - Does a bond's price increase immediately after issuance?
- **Transaction Costs** - How much do issuers pay to sell bonds?

Why Should Issuers Care?

- **Price Volatility** - Investor disagreement about pricing typically means higher yields.
- **Price Evolution** - Underpricing at issue means “money left on the table” for issuers.
- **Transaction Costs** - Higher underwriting spreads and other transaction costs increase overall borrowing costs.

The Great Price Convergence

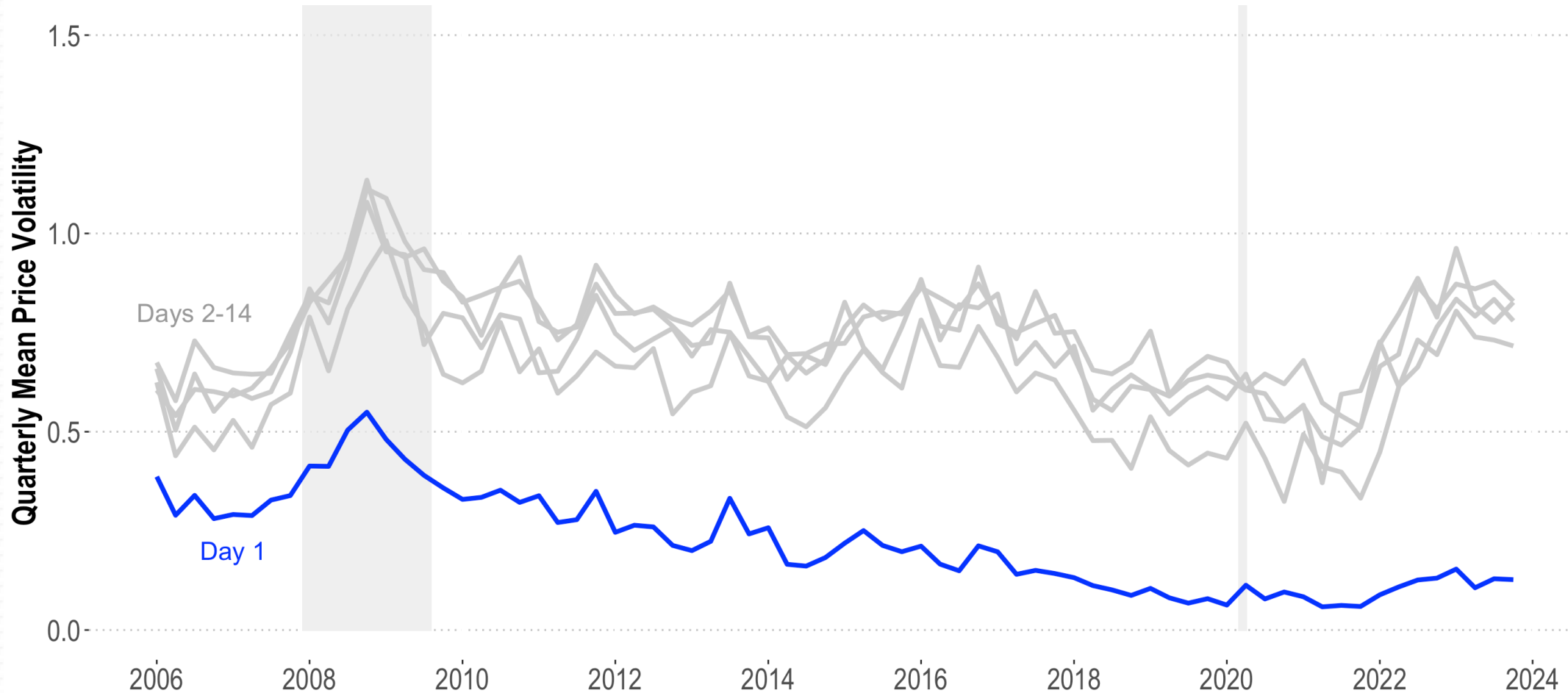
Price volatility declined steadily since the Great Recession, until the recent Fed rate tightening.



Source: Author's calculation based on data from the MSRB and S&P. Depicts the quarterly mean of the daily CUSIP-level price volatility for quartiles of new issue par value; Price Volatility = (high price-low price)/mean price. Grey bars denote recessions.

All in the Timing

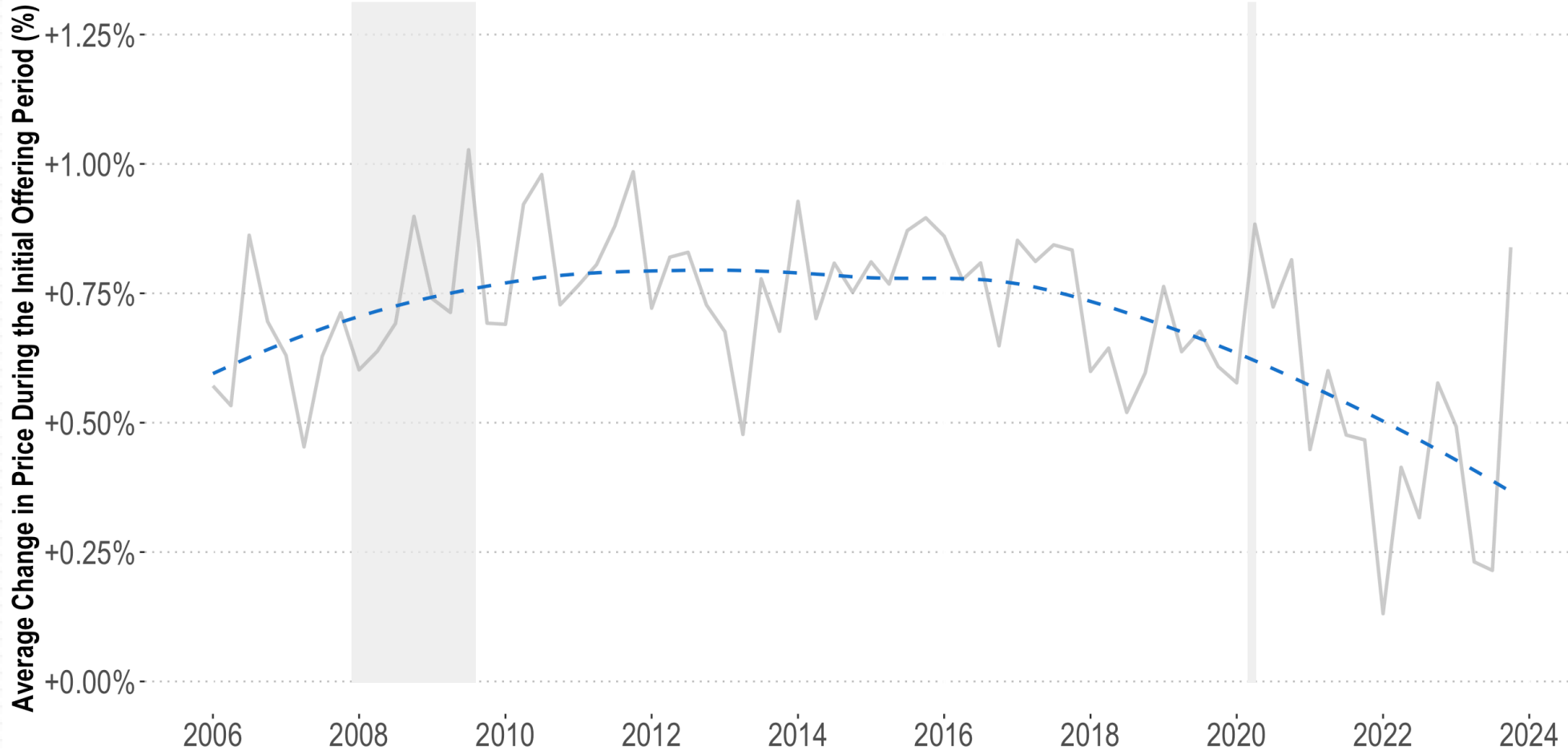
Price volatility on the day of new issue pricing is less any other day in the first two weeks of trading.



Source: Author's calculation based on data from the MSRB and S&P.
 Depicts the quarterly mean of the daily CUSIP-level price volatility for quartiles of new issue par value; Price Volatility = (high price-low price)/mean price. Grey bars denote recessions.

Less Underpricing than Ever

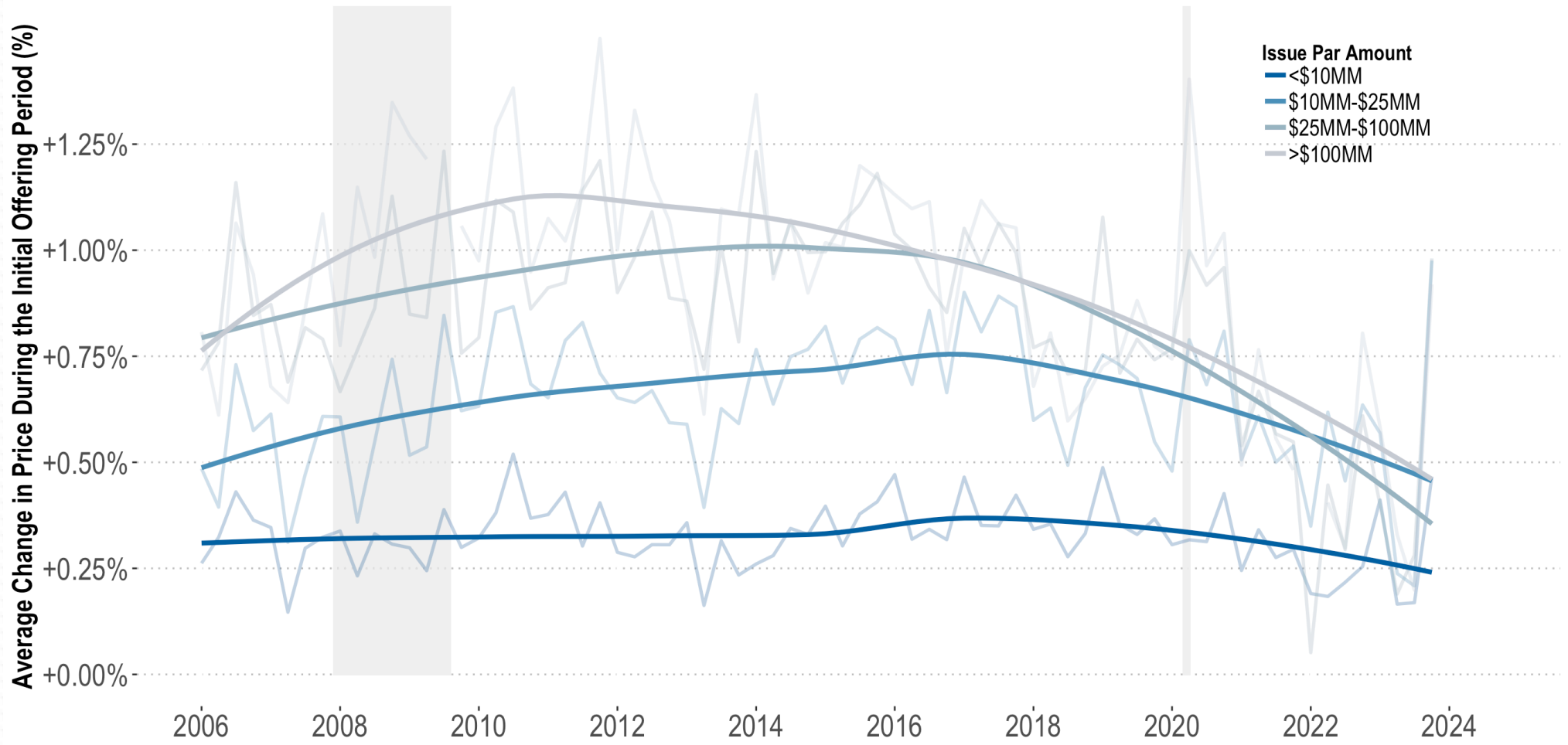
New issue underpricing has fallen by more than half in the past decade



Source: Author's calculations based on data from the MSRB, Refinitiv and S&P.
 Average change in price is the quarterly weighted average difference between the CUSIP-level reoffering yield's spread to the MMD and the average spread to the MMD for sales to customers during the 14 days after issuance, weighted by trade size, at the issue level.
 Figures shown are for all fixed coupon new issues from January 2006 through July 2024.

A Small Issuer Advantage

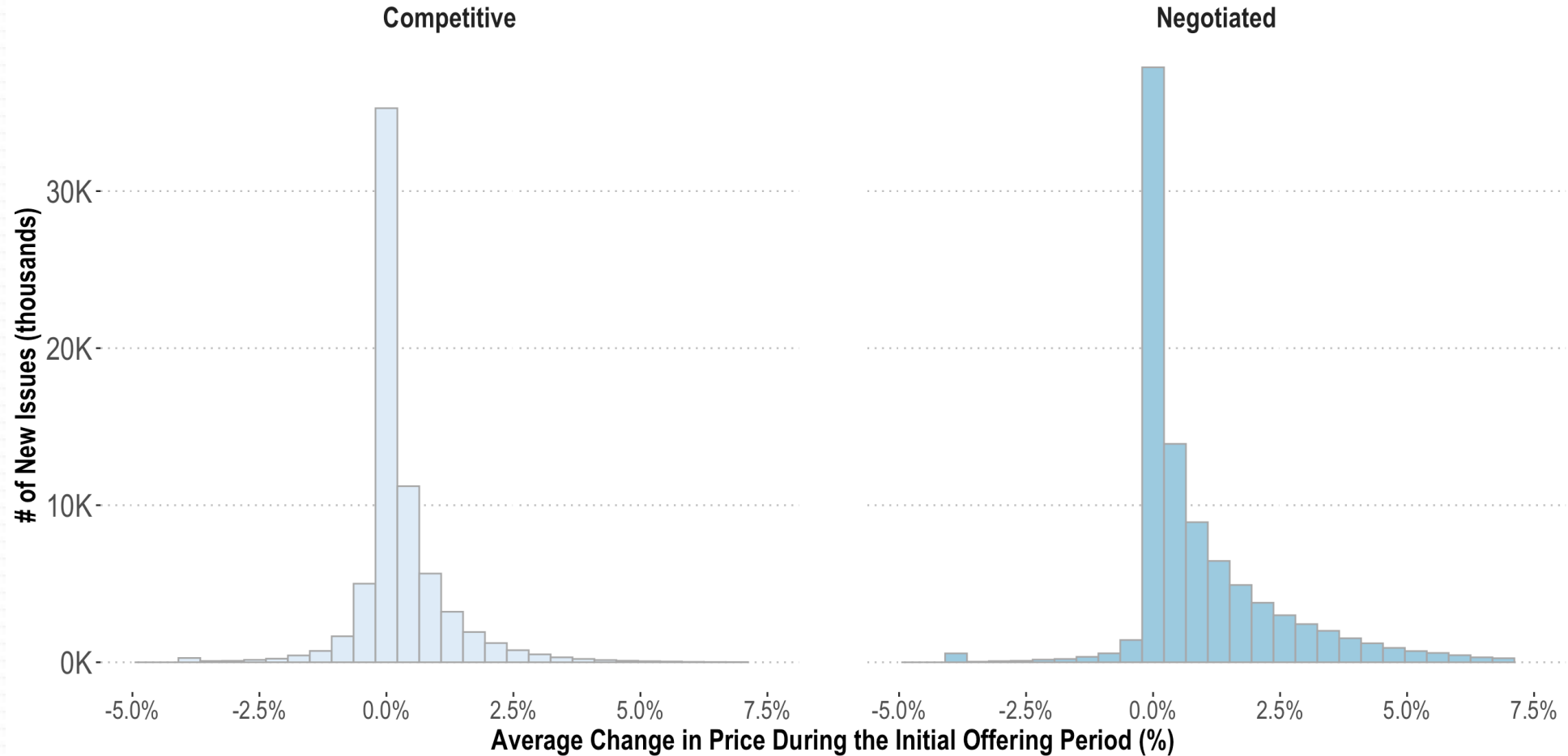
New issue underpricing has decreased over time, and remains much lower among smaller issuers.



Source: Author's calculations based on data from the MSRB, Refinitiv and S&P.
 Average change in price is the quarterly weighted average difference between the CUSIP-level reoffering yield's spread to the MMD and the average spread to the MMD for sales to customers during the 14 days after issuance, weighted by trade size, at the issue level.
 Figures shown are for all fixed coupon new issues from January 2006 through July 2024.

Prices Evolve (a Bit) Differently

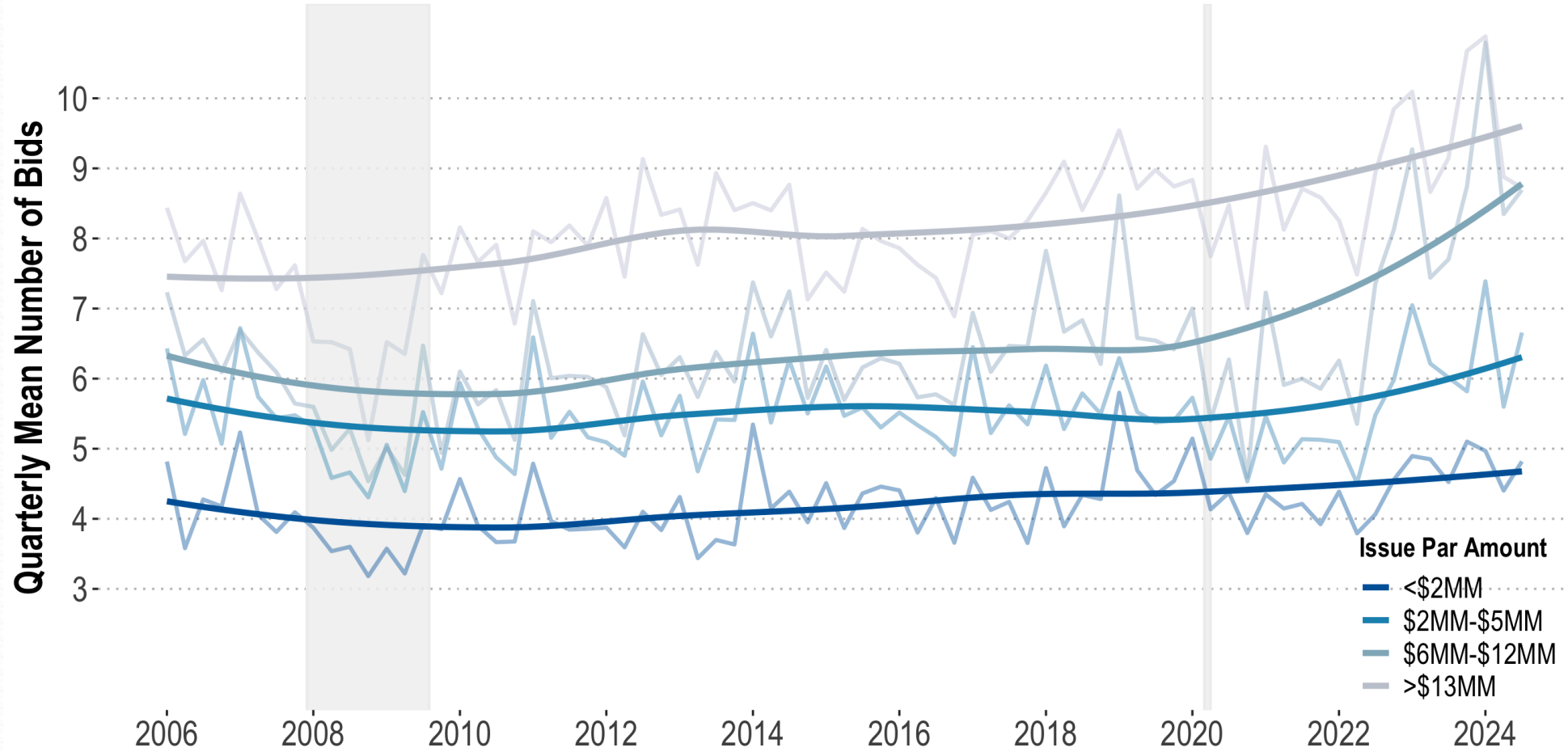
During initial offering, negotiated sales produce more price increases and fewer price decreases than competitive sales



Source: Author's calculations based on data from the MSRB, Refinitiv and S&P.
 Average change in price is the weighted average difference between the CUSIP-level reoffering yield's spread to the MMD and the average spread to the MMD for yields on sales to customers during the 14 days after issuance, weighted by trade size, at the issue level.
 Figures shown are for all fixed coupon new issues from January 2006 through July 2024.

More Participation in Competitive Sales

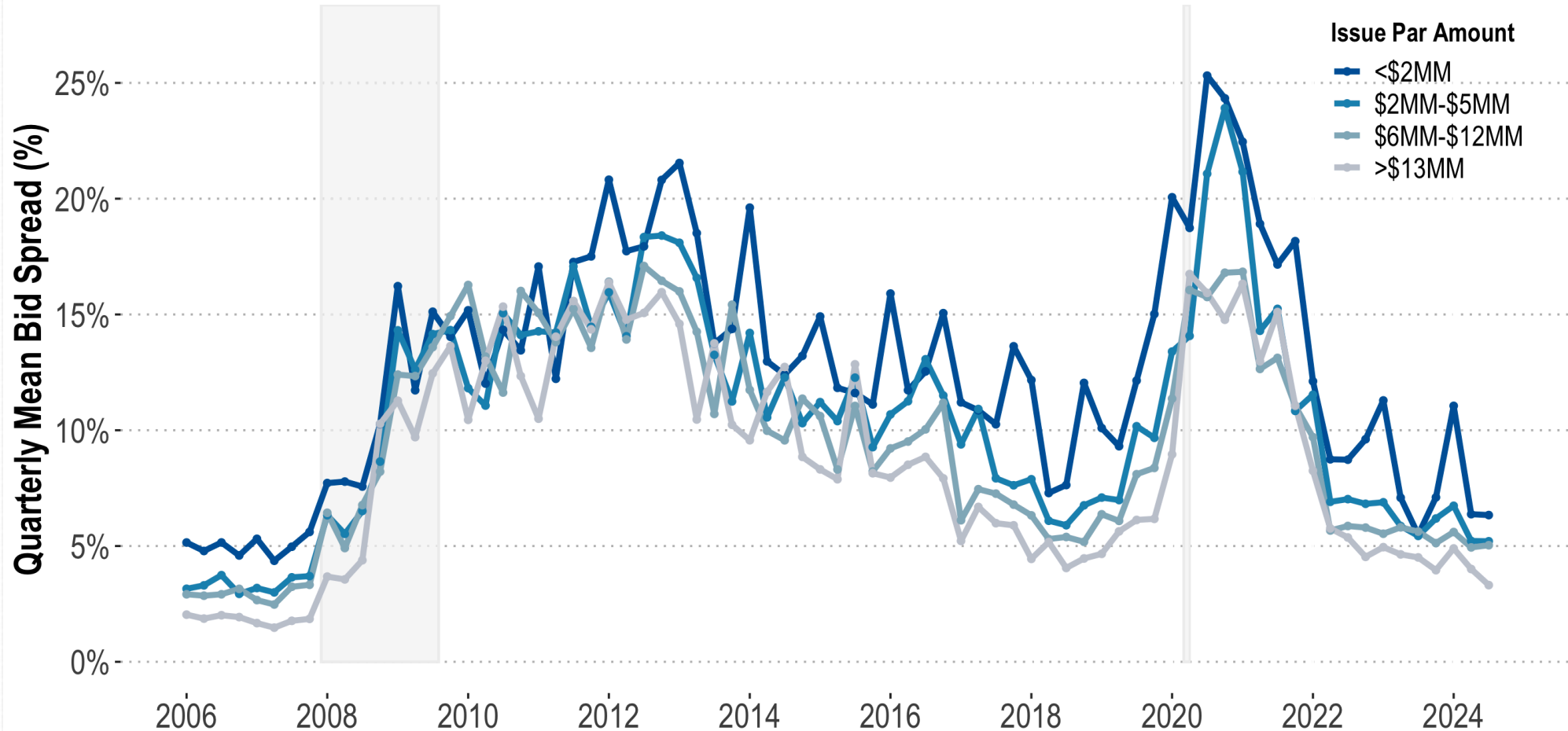
The number of bids on competitive sales has increased for all but the smallest issues



Source: Author's calculation based on data from 46,913 competitive sales awarded by TIC; Data from Ipreo/Parity/S&P.
 Depicts the quarterly mean bid spread by quartiles of issue par value; Darker lines are Loess-Smoothed; Grey bars denote recessions.

More Agreement on Competitive Sale Pricing

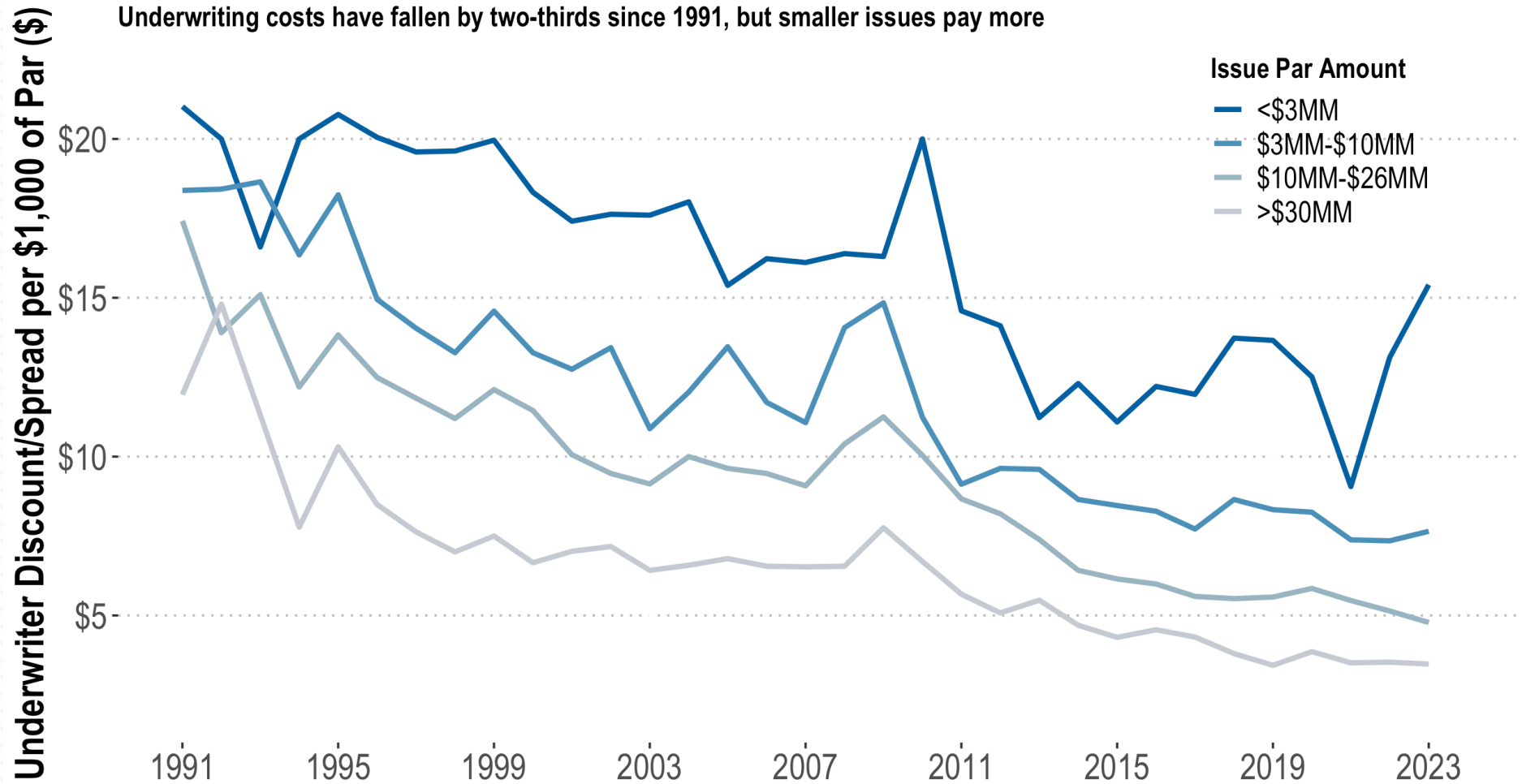
Bid spreads on competitive sales have declined over time, but remain noticeably higher for small issues.



Source: Author's calculation based on data from 46,913 competitive sales awarded by TIC; Data from Ipreo/Parity/S&P. Depicts the quarterly mean bid spread by quartiles of issue par value; Bid Spread = (high bid-low bid)/mean bid. Grey bars denote recessions.

Falling Underwriting Costs

Underwriting costs have fallen by two-thirds since 1991, but smaller issues pay more



Source: Author's calculation based on data from the California Debt and Investment Advisory Commission.
 Depicts the annual average underwriter costs on new issues from 1991-2023, by quartiles of issue par value

To Summarize:

- Today's new issue municipals price in a market that is more **liquid**, **competitive**, and **transparent** than ever
- Smaller issues/issuers **benefit** from less underpricing, less price volatility, and a stable pool of buyers
- Smaller issues/issuers have several **disadvantages**, including less liquidity, less participation in competitive sales, and higher transaction costs

How Can Issuers Respond?

What Does Research Tell Us?

- **Financial Disclosure Timeliness** - Long delays can increase new issue spreads by 10-20 bps
- **Financial Disclosure Complexity** - Complex language can add 7-10 bps
- **Underwriter and Advisor Selection** - Optimal mix of stability and change can reduce spreads by 20-30 bps
- **Investor Relations** - Customized websites, digital road shows, other tactics. Anecdotal evidence supports.
- **Debt Portfolio Management** - Optimal mix of duration, debt service average life, etc. can reduce spreads 5-10 bps

QUESTIONS?

JUSTIN MARLOWE, PhD.

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Director, Center for Municipal Finance
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Additional Resources

- Johnson, C. L., Kioko, S. N., and Wang, J. Q. (2010). State Government Debt Management: The Forgotten Tool in the Financial Manager's Triage Bag. *Municipal Finance Journal*, 31(1):21 – 40.
- Farrell, M., Murphy, D., Painter, M., and Zhang, G. (2023). The Complexity Yield Puzzle: A Textual Analysis of Municipal Bond Disclosures. *SSRN Electronic Journal*.
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- Edmonds, C. T., Edmonds, J. E., Vermeer, B. Y., and Vermeer, T. E. (2017). Does timeliness of financial information matter in the governmental sector? *Journal of Accounting and Public Policy*, 36(2):163–176.
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Additional Resources (cont.)

- Ang, A., Bhansali, V., and Xing, Y. (2014). The Muni Bond Spread: Credit, Liquidity, and Tax. *SSRN Electronic Journal*.
- Griffin, J. M., Hirschey, N., and Kruger, S. (2023). Do Municipal Bond Dealers Give Their Customers “Fair and Reasonable” Pricing? *Journal of Finance*, 78(2):887–934.
- Green, R. C., Hollifield, B., and Schürhoff, N. (2007). Financial Intermediation and the Costs of Trading in an Opaque Market. *Review of Financial Studies*, 20(2):275–314.
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SESSION TWO

Expectations of the
Financing Team to Provide
Equitable Pricing Outcomes

DAVE SANCHEZ

Director, Office of Municipal Securities
U.S. Securities and Exchange Commission





15-MINUTE

BREAK



SESSION THREE

Achieving a Level Pricing Playing Field



NIKOLAI SKLAROFF

*Capital Finance Director
San Francisco Public
Utilities Commission*



DAVID ANDERSEN

*Managing Director,
Municipal Negotiated &
Competitive Underwriting
BofA Securities*



DARREN HODGE

*Managing Director
PFM Financial Advisors*



DAVID LEIFER

*Senior Managing Director
KNN Public Finance*



FERNANDO LOPEZ

*Managing Director, Fixed
Income Division & Head of
Municipal Underwriting
Loop Capital Markets*

THE UNDERWRITER'S PERSPECTIVE



DAVID (DAVE) ANDERSEN

*Managing Director,
Municipal Negotiated
& Competitive Underwriting
BofA Securities*



FERNANDO LOPEZ

*Managing Director, Fixed Income
Division & Head of
Municipal Underwriting
Loop Capital Markets*

THE MUNICIPAL ADVISOR'S PERSPECTIVE



DARREN HODGE
Managing Director
PFM Financial Advisors



DAVID LEIFER
Senior Managing Director
KNN Public Finance

THE ISSUER'S PERSPECTIVE

NIKOLAI SKLAROFF

Capital Finance Director

San Francisco Public Utilities Commission



Fair and Efficient Pricing Topics

- Fair and Efficient Pricing?
- Subscription Levels?
- Underwriting Levels?
- Benchmarks (MMD, BVAL or More?)
- Selecting Comps?

Fair and Efficient Pricing Topics

CONTINUED 2 OF 3

- Competitive vs. Negotiated?
- Expectations of the Municipal Advisor?
- Value of Co-Managers?
- Value of Retail Order Periods?
- Value of Labeling Bonds?

Fair and Efficient Pricing Topics

CONTINUED 3 OF 3

- Value/Cost of Setting Custom Priorities?
- Valuing Optionality in Pricing?
- Syndicate Policies?
- Focusing on the right issues?

QUESTIONS?

FINAL TAKEAWAYS



THANK YOU

Please complete the seminar evaluation and leave it on your table.

UPCOMING EVENTS

**Practical Adaptations
to the Evolution of Credit Ratings**
November 19, 2024 | Webinar

**Advanced Public Funds Investing:
The Analytics of Investment Selection**
January 22–23, 2025 | Costa Mesa, CA

Municipal Market Disclosure
April 8–9, 2025 | Costa Mesa, CA

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