Understanding the Role of Dealer-Client Relationships in Bond Trading

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Brief Summary

- Dealer-client relationships in corporate bond trading:
  - Dealer-client relationships are highly persistent.
  - Different dealers' relationship clients have little overlap.
  - Relationship clients are mostly asset managers.
- Relationship clients obtain better pricing (lower transaction costs):
  - Relationship-driven transaction cost benefit particularly pronounced during Covid-19 crisis.
  - Dealer-client relationships driven by *profit maximization*, *liquidity provision*, and *matching*.
    - ★ Profit maximization: Better pricing to retain high-volume clients, maximize long-run profit.
    - ★ Liquidity provision: Form relationships with liquidity-providing clients.
    - ★ Matching: Relationships matter more for balance sheet intensive bonds.

Relationships in OTC Trading

- Question: do relationships affect trading behaviors and liquidity in OTC markets?
  - Prevailing theories of OTC markets neglect relationships.
    - Random search: Duffie et al. (2005, 2007), Lagos and Rocheteau (2007, 2009)
    - Directed search: Guerrieri et al. (2010), Guerrieri and Shimer (2014), Lester et al. (2015)
    - Network: Atkeson et al. (2015), Malamud and Rostek (2017), Babus and Kondor (2018)
  - Empirical evidence about relationships in OTC trading.
    - Interbank lending: Afonso et al. (2013)
    - Derivatives: Hau et al. (2021)
    - Corporate bonds: Di Maggio et al. (2017), Hendershott et al. (2019)
  - **This paper**:
    - Granular regulatory data provide concrete evidence about dealer-client relationships in bond trading, and shed light on rich heterogeneity across clients.
    - Potential mechanisms that drive dealer-client relationships in bond trading.

Relationships in OTC Trading

- Further question: who are relationship clients?
  - Heterogeneity among investors:
    - ★ Paper suggests that most relationship clients are asset managers, and liquidity benefit for relationship clients during Covid-19 crisis driven almost entirely by liquidity-providing clients.
    - ★ Haddad et al. (2021), Falato et al. (2021), Ma et al. (2022) etc. suggest acute selling by asset managers such as mutual funds.
  - Who are relationship clients, particularly liquidity-providing relationship clients?
    - ★ This paper and Di Maggio et al. (2017): define relationship clients based on trading volume.
    - ★ Hendershott et al. (2019): defines relationship in terms of repeated trading and network size.
    - ★ Paper suggests persistent relationships. Thus, who are these relationship clients? How are they different from other clients?
  - Question helps shed light on how financial institutions are inter-connected, and how different potential mechanisms may interact $\rightarrow$ policy implications.

Who Are Relationship Clients?

- Relationships and Dealer Profit Maximization:
  - Paper suggests dealers offer better pricing to retain high-volume customers and maximize profits in long-run.
  - Bundling: how do dealers' other business lines interact with trading? E.g., underwriting, prime brokerage and securities lending.

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- Relationships and Inventory Risk Sharing:
  - Inventory control models suggest transaction costs increasing in inventory imbalance and holding costs: Stoll (1978), Amihud and Mendelson (1980), Ho and Stoll (1981).
  - Liquidity-providing clients share inventory risk with dealers, decreasing inventory frictions and leading to lower transaction costs.
  - Inventory frictions are high during times of stress and for balance sheet intensive bonds. Hence, liquidity benefit more pronounced during crises and for balance sheet intensive bonds.
  - Choi et al. (2021): clients more likely to provide liquidity to relationship dealers.

Who Are Relationship Clients?

- Relationships and Information Asymmetry:
  - Glosten and Milgrom (1985): adverse selection when dealer trades against informed traders, leading to higher transaction costs.
  - Information content high when volatility is high (e.g., Drechsler et al. (2021)).
  - Benveniste et al. (1996), Henderson and Tookes (2012): relationship and reputation mitigate repercussions of information asymmetries in trading.
  - Thus, relationship is associated with lower transaction cost, more so for information-sensitive (e.g., riskier) bonds and during periods of high uncertainty.

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- Relationships and Search:
  - OTC search models suggest certain investors endogenously emerge as intermediaries:
    - ⋆ Moderate valuation: Chang and Zhang (2018), Shen et al. (2020), Hugonnier et al. (2021)
    - ⋆ Moderate asset holding: Afonso and Lagos (2015)
    - ⋆ High meeting speed: Neklyudov (2019), Üslü (2019), Farboodi et al. (2021)
  - Enjoy lower transaction costs and higher volume (relationship). Similar implications for crises.

Policy Implications

- Systemic risk and financial stability:
  - Core dealers and certain non-dealer financial institutions can have outsized impact on bond market liquidity, particularly during times of stress.
  - Resilience of OTC trading during crises hinges on liquidity-providing clients.
- Dealer balance sheet space:
  - Post-GFC regulations that constrain dealer balance sheet space heightens the role of relationships in OTC trading, effectively subsidizing a group of large institutions at the expense of smaller and less connected ones.
- Market structure design:
  - Importance of relationship hinders development of all-to-all trading.
  - All-to-all may be beneficial in times of stress if it improves meeting rates and cuts out middleman.

References I

Afonso, Gara and Ricardo Lagos, "Trade Dynamics in the Market for Federal Funds," *Econometrica*, 2015, *83* (1), 263–313.

— , **Anna Kovner, and Antoinette Schoar**, "Trading Partners in the Interbank Llending Market," Federal Reserve Bank of New York Staff Report 2013.

Amihud, Yakov and Haim Mendelson, "Dealership Market: Market-Making with Inventory," *Journal of Financial Economics*, 1980, *8* (1), 31–53.

Atkeson, Andrew G., Andrea L. Eisfeldt, and Pierre-Olivier Weill, "Entry and Exit in OTC Derivatives Markets," *Econometrica*, 2015, *83* (6), 2231–2292.

Babus, Ana and Peter Kondor, "Trading and Information Diffusion in Over-the-Counter Markets," *Econometrica*, 2018, *86* (5), 1727–1769.

Benveniste, Lawrence M., Alan J. Marcus, and William J. Wilhelm, "What's Special about the Specialist?," *Journal of Financial Economics*, 1996, *32* (1), 61–86.

Chang, Briana and Shengxing Zhang, "Endogenous Market Making and Network Formation," Working Paper 2018.

Choi, Jaewon, Yesol Huh, and Sean Seunghun Shin, "Customer Liquidity Provision: Implications for Corporate Bond Transaction Costs," *Management Science*, 2021, *forthcoming.*

Drechsler, Itamar, Alan Moreira, and Alexi Savov, "Liquidity and Volatility," Working Paper 2021.

Duffie, Darrell, Nicolae Garleanu, and Lasse Heje Pedersen, "Over-the-Counter Markets," *Econometrica*, 2005, *73* (6), 1815–1847.

— , — , **and** — , "Valuation in Over-the-Counter Markets," *Review of Financial Studies*, 2007, *20* (6), 1865–1900.

References II

Falato, Antonio, Itay Goldstein, and Ali Hortacsu, "Financial Fragility in the COVID-19 Crisis: the Case of Investment Funds in Corporate Bond Markets," *Journal of Monetary Economics*, 2021, *123*, 35–52.

Farboodi, Maryam, Gregor Jarosch, and Robert Shimer, "The Emergence of Market Structure," *Review of Economic Studies*, 2021, *forthcoming.*

Glosten, Lawrence R. and Paul R. Milgrom, "Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders," *Journal of Financial Economics*, 1985, *14* (1), 71–100.

Guerrieri, Veronica and Robert Shimer, "Dynamic Adverse Selection: A Theory of Illiquidity, Fire Sales, and Flight to Quality," *American Economic Review*, 2014, *104* (7), 1875–1908.

—, —, and Randall Wright, "Adverse Selection in Competitive Search Equilibrium," *Econometrica*, 2010, *78* (6), 1823–1862.

Haddad, Valentin, Alan Moreira, and Tyler Muir, "When Selling Becomes Viral: Disruptions in Debt Markets in the COVID-19 Crisis and the Fed's Response," *Review of Financial Studies*, 2021, *34* (11), 5309–5351.

Hau, Harald, Peter Hoffmann, Sam Langfield, and Yannick Timmer, "Discriminatory Pricing of Over-the-Counter Derivatives," *Management Science*, 2021, *67* (11), 6660–6677.

Hendershott, Terrence, Dan Li, Dimitry Livdan, and Norman Schürhoff, "Relationship Trading in Over-the-Counter Markets," *Journal of Finance*, 2019, *75* (2), 683–734.

Henderson, Brian J. and Heather Tookes, "Do Investment Banks' Relationships with Investors Impact Pricing? The Case of Convertible Bond Issues," *Management Science*, 2012, *58* (12), 2272–2291.

References III

Ho, Thomas and Hans R. Stoll, "Optimal dealer pricing under transactions and return uncertainty," *Journal of Financial Economics*, 1981, *9* (1), 47–73.

Hugonnier, Julien, Benjamin Lester, and Pierre-Olivier Weill, "Heterogeneity in Decentralized Asset Markets," *Theoretical Economics*, 2021, *forthcoming.*

Lagos, Ricardo and Guillaume Rocheteau, "Search in Asset Markets: Market Structure, Liquidity, and Welfare," *American Economic Review*, 2007, *97* (2), 198–202.

__ **and** __ , "Liquidity in Asset Markets with Search Frictions," *Econometrica*, 2009, *77* (2), 403–426.

Lester, Benjamin, Guillaume Rocheteau, and Pierre-Olivier Weill, "Competing for Order Flow in OTC Markets," *Journal of Money, Credit and Banking*, 2015, *47* (2), 77–126.

Ma, Yiming, Kairong Xiao, and Yao Zeng, "Mutual Fund Liquidity Transformation and Reverse Flight to Liquidity," *Review of Financial Studies*, 2022, *forthcoming.*

Maggio, Marco Di, Amir Kermani, and Zhaogang Song, "The Value of Trading Relationships in Turbulent Times," *Journal of Financial Economics*, 2017, *124* (2), 266–284.

Malamud, Semyon and Marzena Rostek, "Decentralized Exchange," *American Economic Review*, 2017, *107* (11), 3320–3362.

Neklyudov, Artem, "Bid-Ask Spreads and the Over-the-Counter Interdealer Markets: Core and Peripheral Dealers," *Review of Economic Dynamics*, 2019, *33*, 57–84.

Shen, Ji, Bin Wei, and Hongjun Yan, "Financial Intermediation Chains in an Over-the-Counter Market," *Management Science*, 2020, *67* (7), 3985–4642.

Stoll, Hans R., "The Supply of Dealer Services in Securities Markets," *Journal of Finance*, 1978, *33* (4), 1133–1151.

Üslü, Semih, "Pricing and Liquidity in Decentralized Asset Markets," *Econometrica*, 2019, *87* (6), 2079–2140.