China's Corporate Bond Market: A Transaction-level Analysis*

Linlin Du Yue Hu Yang Song Wenfeng Wu

January 3, 2026

Abstract

We compile a Chinese counterpart to the TRACE dataset and provide the first trade-level analysis of China's wholesale corporate bond market—the second largest in the world. In contrast to the dealer-dominated, core–periphery networks typical of over-the-counter markets in developed economies, China's corporate bond market shows limited dealer intermediation. Designated dealers are reluctant to make markets, and non-dealers supply the majority of liquidity, producing wider price dispersion, stronger return reversals, and lower trading activity. This weak dealer participation is not driven by information asymmetry but stems from balance sheet constraints among smaller banks and large banks' preference for profitable lending.

Keywords: Over-the-counter, Corporate bonds, Dealer behavior, Liquidity provision

JEL classification: G14, G15, G21, G24

*Du, Hu, and Wu are with the Antai College of Economics and Management at Shanghai Jiao Tong University, and Song is with the Foster School of Business at University of Washington. Email: Lynn_DU@sjtu.edu.cn, anthonyhy321@sjtu.edu.cn, songy18@uw.edu, and wfwu@sjtu.edu.cn.

1 Introduction

China's corporate bond market—the world's second largest—has expanded rapidly in scale and openness, becoming an important destination for global investors (Clayton et al., 2025). Existing research of China's corporate bond market has explored, for example, issuance mispricing (Ding et al., 2022), the determinants of credit spreads (Huang et al., 2023), and the role of implicit government guarantees (Jin et al., 2023; Geng and Pan, 2024). Despite this progress, some fundamental aspects of the world's second largest corporate bond market remain poorly understood, largely due to the lack of detailed trading data: What is the structure of China's corporate bond market? How are trades intermediated? What role do dealers play in liquidity provision? And how efficiently are trades executed?

Through compiling a Chinese version of the TRACE dataset based on comprehensive transaction-level regulatory data, we provide the first systematic evidence on the structure of China's wholesale corporate bond market. Our analyses reveal several striking differences relative to the over-the-counter (OTC) markets in the U.S. and other developed countries. Whereas U.S. corporate bonds are traded through core–periphery networks dominated by a few dealers, such structures are largely absent in China. Designated dealers by regulators—30 during our sample period from 2014 to 2019—are generally reluctant to intermediate trades. Instead, many conduct "wash trades" to satisfy quantity-based regulatory assessments. As a result, non-dealers (customers) supply the majority of liquidity, leading to substantial price dispersion and pronounced return reversals. These patterns are not driven by informed trading. Rather, our evidence points to balance sheet constraints of small dealer banks and the limited incentives of large state-owned banks, which can earn profitable margins through their lending activities, as important drivers of weak dealer intermediation.

While the TRACE dataset has long enabled transaction-level research on U.S. corporate bonds, we compile the first comparable dataset for China's corporate bond markets. Specifically, we obtain regulatory records from the Shanghai Clearing House (SHCH), covering all

interbank corporate bond trades from 2014 to 2019.[1] Because the interbank OTC market accounts for about 90% of China's corporate bond trading volume (Amstad and He, 2019; Hu and Wang, 2022), our dataset captures overall majority of corporate bond trading activity in China. As in TRACE, each record contains the time, amount, and price of the trade, and allows us to identify designated dealers. More importantly, the data provide anonymized but consistent identifiers for both counterparties, enabling us to observe the identities of buyers and sellers across trades (for example, whether the buyer is a corporate bond mutual fund and the seller is a commercial bank). These features allow us to examine, for the first time, the trading network, the role of dealers in liquidity provision, and the efficiency of trade execution in China's corporate bond market.

We begin by analyzing the overall trading network and find that it is markedly flatter and more decentralized than the core–periphery structures typical of OTC markets observed in the U.S. and other develop countries. While the designated dealers maintain extensive connections, transacting with an average of 1,137 counterparties, non-dealers trade more frequently with one another than with dealers: on average, each non-dealer transacts with nearly 15 other non-dealers but only 2 dealers. Strikingly, some non-dealers are exceptionally well connected, trading with over 6,000 unique counterparties—levels of connectivity that rival even the most active dealers.

We next assess dealers' role in liquidity provision and find that it is much smaller than in typical OTC markets, such as the U.S. corporate bond market. At the trade level, using the Lee–Ready algorithm as in Biswas et al. (2015) and Collin-Dufresne et al. (2020), we estimate that dealers supply less than one-third of total liquidity, with non-dealers providing nearly 70%, leading to a decentralized liquidity provision structure rather than the dealer-dominated model observed in developed economies. Among the roundtrip trade pairs,[2] following Goldstein and Hotchkiss (2020), we measure the share of volume intermediated

[1] China's corporate bond market consists of two primary segments: the exchange market and the wholesale interbank OTC market—which, despite its name, is open to most nonbank financial institutions.

[2] We define a roundtrip as an instance in which an intermediary buys and subsequently sells the same bond in the same quantity within a short time window.

by dealers. Consistent with the trade-level evidence, dealer participation is modest: they account for just 28.70% of roundtrip volume within a one-week horizon, with their involvement highest for intraday trades (38.75%) but declining sharply with longer holding periods, underscoring a reluctance to take on inventory risk.

Interestingly, we also find strong evidence that dealers strategically inflate trading volumes through "wash trades" aimed at improving their rankings in China's quantity-based regulatory performance metrics. In particular, we observe frequent intraday roundtrips executed at zero spreads, often clustered near the end of regulatory reporting quarters. Such behavior artificially boosts reported trading activity, enhancing dealers' apparent standing with regulators while contributing little to actual liquidity provision.

Dealers' reluctance to provide liquidity makes it harder for market participants to find counterparties and complete transactions. In addition, as non-dealers lack the requisite expertise to engage in intermediation activity, execution quality should deteriorate in customer-to-customer trades (O'Hara and Zhou, 2025). Consistent with this, we find that price dispersion is markedly higher when liquidity comes from non-dealers, where we measure dispersion as the intraday difference between the highest and lowest trade prices following O'Hara and Zhou (2021). For example, on bond-days when dealers provide liquidity, average dispersion in prices is 619.96 basis points. By contrast, when dealers are absent, dispersion rises by an additional 808.25 basis points. This increase is particularly pronounced when liquidity is provided by passive buy-and-hold investors, such as insurance companies and pension funds. We also find that trades intermediated by non-dealers also show substantially stronger return reversals, consistent with transaction costs being subsequently unwound: customer-to-customer trades exhibit a stronger reversal that is about 15.3% larger than trades involving dealers.

The limited dealer intermediation also contributes to limited trading activities. We document that in China's corporate bond market, the average zero-trading-day ratio—the share of trading days in a month with no trades—is 0.87, significantly higher than the zero-trading-

day ratio of 0.52 in the U.S. corporate bond market (Chen and Choi, 2024). Similarly, the average number of trades per bond per month is just 8.04 in China, which is also significantly lower than the level in the U.S., which is over 80 based on the estimate of (Schestag et al., 2016).

Having established dealers' limited role in liquidity provision and its consequences, we next examine why the designated dealers are reluctant to intermediate trades. Drawing on both the literature and China's institutional context, we focus on three potential channels: balance sheet constraints, loan competition, and information asymmetry.

First, we find evidence that balance sheet constraints are a key factor influencing the majority of the designated dealers. Most designated dealers in China are commercial banks, and—apart from a few largest state-owned banks—many operate under tight regulatory limits on capital and leverage. Consistent with these constraints, we find that such banks are significantly less willing to hold inventory for extended periods, limiting their capacity to intermediate trades.

Second, even the least constrained dealers—large state-owned commercial banks, including Industrial and Commercial Bank of China, Agricultural Bank of China, Bank of China, China Construction Bank, Bank of Communications, and Postal Savings Bank of China (henceafter, Big Six)—exhibit limited incentives to intermediate. In principle, these institutions should be well positioned to provide liquidity given their ample balance sheet capacity. Yet under China's universal banking model, intermediation competes directly with lending for balance sheet resources. Consistent with this tradeoff, we find that these large state-owned banks reduce holding periods and require higher intermediation returns when lending opportunities are more profitable. The effect is pronounced among these large state-owned banks as they enjoy privileged access to state-owned enterprise (SOE) borrowers backed by implicit government guarantees (Cong et al., 2019; Chen et al., 2023b). Faced with this low-risk, high-return lending option, these large state-owned banks have little incentive to allocate capacity to market making of corporate bonds.

Third, we find little evidence that information asymmetry deters dealer intermediation. In particular, measures of informed trading show no significant effects on dealers' intermediation behavior. Additionally, we find that the aggregate trading of different types of market participants do not appear to contain superior information to predict future bond returns in meaningful way. Information asymmetry, therefore, is unlikely to be a central driver of dealers' reluctance to provide liquidity.

To summarize, we provide the first trade-level evidence on the structure of China's wholesale corporate bond market. We show that designated dealers are reluctant to intermediate trades and that the core–periphery dealer networks typical of OTC markets are largely absent. As a result, non-dealers supply most liquidity, leading to greater price dispersion, stronger return reversals, and lower overall market activity. These outcomes are not driven by information asymmetry. Instead, they reflect the limited incentives of large dealers—primarily large state-owned commercial banks, which can earn profitable margins from lending—and the binding balance sheet constraints faced by smaller dealers. Together, our findings underscore how institutional features and dealer incentives shape liquidity provision in one of the world's largest bond markets.

Literature review Our paper contributes to the growing body of research on China's corporate bond market by compiling the first TRACE-like dataset and providing a comprehensive trade-level analysis of market structure and liquidity provision. Prior studies have focused on particular dimensions—such as the rollover of local government financing (Chen et al., 2020), issuance pricing anomalies (Ding et al., 2022), short-term credit spread determinants (Huang et al., 2023), bond pledgeability (Chen et al., 2023a), and the role of implicit guarantees (Jin et al., 2023; Geng and Pan, 2024). In contrast, systematic evidence on market structure and dealer behavior has been scarce. We show that dealers' reluctance to intermediate trades is a central driver of the poor liquidity observed in China's corporate bond market.

Our paper also contributes to the extensive literature on OTC market structure and dealer intermediation. A large body of work emphasizes the central role of dealers in shaping liquidity and price formation through core–periphery networks and intermediation chains (Di Maggio et al., 2017; Hollifield et al., 2017). By contrast, our analysis shows that in China's corporate bond market, dealers play a far less dominant role: the network lacks a core–periphery structure, and customer-to-customer trading accounts for the majority of activity. This novel evidence broadens the scope of OTC market studies beyond developed economies and highlights the heterogeneity of intermediation arrangements across institutional contexts.

Our paper also contributes to the literature on non-dealer (customer) liquidity provision and its consequences. Existing work shows that customer trading typically relies on dealers for intermediation and that limited dealer participation can lead to higher transaction costs and execution risk (Bao et al., 2018; Kargar et al., 2021; Choi et al., 2024). Our results extend this line of research by documenting that when customers themselves provide liquidity, execution quality deteriorates: price dispersion widens, return reversals strengthen, and overall market activity declines. This evidence underscores the potential fragility of liquidity provision when it shifts from dealers to non-dealers. Our findings therefore resonate with recent calls for upgrading OTC market infrastructure and enhancing competition in liquidity provision (Duffie and Krishnamurthy, 2016; Duffie, 2018).

Our paper is also related to the literature on constraints to dealer intermediation. Recent studies of U.S. and European markets document that capital regulation and balance sheet costs significantly limit dealers' willingness to intermediate (Adrian et al., 2017; Andersen et al., 2019; Cenedese et al., 2021; Goldberg and Nozawa, 2021; O'Hara and Zhou, 2025). Our findings are consistent with this mechanism but highlight important differences across dealer types in China. Smaller banks, which face tighter capital and leverage constraints, are especially reluctant to take inventory. Large state-owned banks, by contrast, face looser constraints but nevertheless scale back intermediation due to competition from their loan

departments. This mechanism links our paper to research on universal banking and the allocation of balance sheet capacity across business lines (Kroszner and Rajan, 1994; Puri, 1996; Pan and Zeng, 2017).

Lastly, we add to the literature on Chinese financial markets. Prior work has highlighted the rapid growth of China's bond market and the unique roles of shadow banking, state-owned institutions, and regulatory distortions (Brunnermeier et al., 2022; Allen et al., 2023; Cao et al., 2023; Acharya et al., 2025). We complement this literature by providing the first trade-level evidence on the structure and functioning of the corporate bond market, documenting how institutional features of China's banking system and regulatory environment shape intermediation incentives.

The remainder of the paper is organized as follows: Section 2 provides institutional details, describes the data sources, and presents summary statistics. Section 3 outlines the structure of China's corporate bond market. Section 4 documents the decentralized nature of intermediation in the market. Section 5 investigates why dealers are often reluctant to provide liquidity. Section 6 concludes.

2 Institutional Details and Data

In this section, we provide background on China's corporate bond market and describe the novel dataset used in our study.

2.1 Institutional background

China's corporate bond market consists of two primary segments: the exchange market and the interbank OTC market. The interbank bond market—commonly known as the China Interbank Bond Market (CIBM)—has become the dominant venue for bond issuance and trading. Established in 1997, it has expanded rapidly over the past two decades and, by the end of 2019, accounted for roughly 89% of all outstanding bonds in China, with the

remaining 11% in the exchange market. As a wholesale OTC market, participation in the interbank segment is limited to qualified institutional investors, including commercial banks, mutual funds, insurance companies, securities firms, and, increasingly, foreign institutions (Amstad and He, 2019; He and Wei, 2023).

Specifically, the interbank corporate bond market features two distinct trading mechanisms: dealer-based mechanism and brokered trading mechanism. Under the dealer-based mechanism, non-dealers (customers) trade bilaterally with dealers, who intermediate transactions and provide liquidity. By contrast, in the broker-based system, customers transact directly with one another by submitting anonymous inquiries through electronic platforms. A designated broker facilitates the matching process but does not take part in the trade, and the identities of buyers and sellers remain undisclosed.

Dealer-based trading mechanism The interbank bond market was the first financial market in China to formally adopt a dealer-based trading system. The framework began as a pilot in 2001, when the People's Bank of China (PBC) approved nine commercial banks as the initial cohort of bilateral quoting institutions, laying the groundwork for a dealer-based market structure. After several years of experimentation, the PBC institutionalized the system in January 2007 by issuing "the Rules on Dealers in the Interbank Bond Market," the first policy document to formally define the concept of a dealer in a manner broadly consistent with U.S. practice.[3] In 2008, the National Association of Financial Market Institutional Investors (NAFMII) introduced "the Dealer Evaluation Guidelines," later revised in 2010, to establish a standardized framework for performance assessment of dealers.

Under this framework, designated dealers are expected to provide continuous two-way quotations to support market liquidity. In practice, however, the central bank does not impose binding requirements on the scope or frequency of quotes. As a result, dealers retain broad discretion and often quote selectively, with limited pressure to supply liquidity across

[3]Dealers are financial institutions approved by the PBC to engage in market-making activities in the interbank market, with designated rights and corresponding obligations.

the full range of bonds. Moreover, because dealer evaluations focus primarily on transaction volume,[4] anecdotal evidence suggests that dealers have strong incentives to inflate activity to improve their regulatory rankings. Finally, unlike in some other markets, primary underwriters in China are not required to act as liquidity providers in the secondary market (Bessembinder et al., 2020).

Brokered trading mechanism In addition to the dealer-based system, China's interbank bond market also features a broker-based trading mechanism. Six brokers are authorized to operate in this market: Tullett Prebon Sitico (China) Limited; Shanghai International Money Broking Co., Ltd.; Ping An Tradition International Money Broking Company Ltd.; China Credit BGC Money Broking Company Limited; Central Tanshi Money Broking Company Ltd.; and Ueda Yagi Money Broking (China) Co., Ltd. These entities function exclusively as brokers: they facilitate communication and negotiation between counterparties but do not trade on their own accounts.

A typical brokered trade begins when a customer submits an order specifying the bond, price, and quantity to a designated broker. The broker then posts the order details—bond, price, quantity, and broker identity—on an electronic information-sharing platform.[5] Other customers can view these postings in real time and may contact the broker if interested. Acting as intermediaries, brokers observe both sides and facilitate negotiation, but do not themselves take trading positions.

We note that China's broker-based platforms differ in two key respects from U.S. multi-dealer systems. First, the primary liquidity providers differ: in China, liquidity on the broker-based platforms is frequently supplied by non-dealers, whereas in the U.S. it is typically provided by dealers (Goldstein and Hotchkiss, 2020; O'Hara and Zhou, 2021). Second, the degree of anonymity is stronger. On the platforms in U.S., customers send RFQs to

[4]For public disclosures by dealers, see https://file.cmbchina.com/cmbir/20150319/16804635-9644-4c96-9fbf-6bbdf6689f3a.pdf (Page 67) and https://www.cmbchina.com/cmbinfo/awards/awardsinfo.aspx?guid=6458d6c8-0930-492c-9721-d815a6882cf7.

[5]Several providers support these platforms, including Wind, Dealing Matrix (DM), Qeubee (QB), and iDeal.

multiple dealers, and their identities are disclosed upon inquiry, revealing trading intentions (Hendershott and Madhavan, 2015). By contrast, China's system preserves anonymity throughout: although brokers know the counterparties' identities, customers remain unaware of each other until after execution.[6] It is also noteworthy that the anonymity in China's broker-intermediated trade may also impede relationship building between customers and fails to help reduce transaction cost (Di Maggio et al., 2017). Meanwhile, as noted by O'Hara and Zhou (2025), most buy-side institutions lack sophisticated pricing capabilities, so their role as backup liquidity providers does not necessarily ensure a lower transaction cost and a better market quality.

The coexistence of these two trading mechanisms gives rise to two salient features. First, dealers in China's corprate bond markets are not obligated to provide continuous liquidity. Consequently, the level of dealer intermediation could be lower than that observed in dealer-dominated markets. Second, the long-standing presence of the broker-based platform allows all market participants to engage directly in customer-to-customer (C2C) trading. This capability means that some customers can step in and assume the role of liquidity providers when dealers fall short. This unique institutional structure suggests that C2C trading could play a prominent role in the market's trading network, possibly leading to a more decentralized structure that diverges from the typical dealer-dominated core-periphery model.

2.2 Dataset and summary statistics

Our transaction data come from the Shanghai Clearing House (SHCH) and cover all corporate bond trades in the interbank market between January 2014 and December 2019. Since the interbank market accounts for more than 89% of total trading volume in China's corporate bond market (Amstad and He, 2019), our dataset captures nearly the entire trading

[6] If the submitted order is non-negotiable (i.e., take-it-or-leave-it), the trade is executed once another customer accepts the posted offer. If negotiable, the broker facilitates anonymous bilateral negotiation between customers.

activity of corporate bonds in China. In particular, our dataset spans the major bond types traded in the interbank market—medium-term notes (MTNs), short-term commercial papers (SCPs), and private placement notes (PPNs)—and provides detailed information on each transaction, including the bond code, execution date and time, trade price and volume, the type of counterparty (e.g., a bank or a mutual fund), and anonymized but consistent identifiers for both counterparties.

To analyze market structure, we first identify dealers based on the list of designated market makers by regulators. During our sample period, 30 institutions were designated as dealers, of which 25 were banks. Table 1 details the composition: 6 large state-owned commercial banks (the Big Six),[7] 1 policy bank, 8 joint-stock commercial banks, 7 urban commercial banks, 3 foreign banks, and 5 securities firms.

[Insert Table 1 here]

Since the dataset includes anonymous identifiers for the designated dealers, we classify all corporate bond trades into three categories: (*i*) interdealer trades (both counterparties are dealers), (*ii*) dealer–customer trades (one dealer and one non-dealer), and (*iii*) intercustomer trades (both counterparties are non-dealers). The breadth and granularity of our dataset enable us to systematically examine the structure of China's corporate bond market and the role of dealers in liquidity provision.

To link transactions with bond-level and issuer-level characteristics, we merge the dataset of trading records with the WIND database, which provides credit ratings, issuance and maturity dates, and total par amount issued. Following standard practice in the literature, we impose several filters: (*i*) exclude bonds with floating coupon rates; (*ii*) remove bonds not publicly traded in the interbank market (i.e., private placements); (*iii*) exclude bonds with an original maturity shorter than one year; (*iv*) exclude Chengtou bonds issued by local government financing vehicles; and (*v*) drop canceled transactions and adjust those

[7]The Big Six includes Industrial and Commercial Bank of China, Agricultural Bank of China, Bank of China, China Construction Bank, Bank of Communications, and Postal Savings Bank of China.

subsequently corrected or reversed. The resulting sample comprises 560,997 trades in 4,469 bonds issued by 1,326 firms.

Table 2 reports summary statistics for corporate bonds and their issuers. Panel A shows that the bonds in our sample have an average time to maturity of 2.5 years, which is shorter than the 5.34-year average of U.S. corporate bonds (Goldstein and Hotchkiss, 2020). The average coupon rate is 5.2%, close to the U.S. average of 5.5% (Chen and Choi, 2024), and the average issuance size is 1.4 billion RMB.

[Insert Table 2 here]

The most striking difference from the U.S. market is in credit ratings. The median corporate bond in China is rated AAA, and the average rating is approximately AA+ (a numerical rating of 1.7, where 1 = AAA, 2 = AA+, and 3 = AA or AA−), reflecting the inflated and weakly informative nature of ratings in China (Jiang and Packer, 2019; Gao et al., 2025). The lowest rating in our sample is AA−, but such bonds are rare (1.36% of all observations). In China's corporate bond market, even AA bonds are viewed as having relatively poor credit quality. For this reason, we combine AA and AA− into a single category in our empirical analysis.

Panel B of Table 2 summarizes issuer characteristics. Consistent with Geng and Pan (2024), only 23.1% of bonds are issued by publicly listed companies. In addition, state-owned enterprises dominate the market, accounting for more than 77% of issuance, and their bonds are overwhelmingly rated AAA.

[Insert Table 3 here]

We next examine the participation of different types of institutions in China's corporate bond market. Table 3 reports trading activity by participant type, including both trading volume and number of transactions. Banks and securities firms are the dominant participants, and the 30 designated dealers are drawn from these two groups. Together, banks and

securities firms account for more than half of the market in both total volume and number of transactions.

Shadow banks are the third-largest group, responsible for about 20% of purchases and 13% of sales. They typically take the form of wealth management products (WMPs) or investment vehicles sponsored by banks, trust companies, or securities firms (Chen et al., 2020; Allen et al., 2023).[8] Mutual funds also play a meaningful role, similar to their presence in the U.S. market (Choi and Kronlund, 2018). By contrast, insurance companies and pension funds remain relatively minor participants. Other institutional investors together account for only about 5% of total trading volume.

For most institution types, purchases exceed sales, reflecting the rapid expansion of China's corporate bond market during our sample period. Banks and securities firms are exceptions: they typically sell more than they buy, consistent with their underwriting role in the primary market, where they acquire large allocations of new issues and subsequently resell them in the secondary market (Ding et al., 2022).

3 Structure of China's Corporate Bond Market

In this section, we analyze the structure of China's corporate bond market by examining the trading network among market participants. We distinguish between dealers and non-dealers (customers) and assess how dealers are positioned relative to non-dealers within the network.

3.1 Absence of a core–periphery structure

Based on the detailed and comprehensive transaction-level data, in this section, we demonstrate that the trading network in China's corporate bond market does not exhibit the

[8] Shadow banking in China primarily functions as a channel for banks' regulatory arbitrage rather than as an independent source of credit or liquidity. For example, Acharya et al. (2025) show that small and medium-sized banks issue WMPs as substitutes for deposits to circumvent regulatory constraints. Because of their varied structures and generally small scale, shadow banks are especially numerous.

pronounced core–periphery structure typical of OTC markets in developed economies. Instead of a small group of dealers dominating as central intermediaries, the network in China's corporate bond market is relatively flat and more decentralized.

Figure 1 illustrates the trading network structure, where nodes represent market participants and edges denote directed trades. In Panels A and B, node size reflects each participant's total transaction volume over the entire sample period. Panel A shows the full network based on all transactions, while Panel B restricts the sample to institution pairs whose cumulative trading volume exceeds RMB 50 billion. In both panels, the network does not exhibit a dealer-dominated core, as trading activity is broadly distributed across dealers and non-dealers, with several non-dealers emerging as network hubs. In Panels C and D, node size instead reflects the number of counterparties rather than transaction volume. The resulting networks display a more balanced role of dealers and non-dealers, consistent with a relatively flat and decentralized market structure.

[Insert Figure 1 here]

To quantify this pattern, we measure participants' connectivity using *degree centrality*, defined as the number of distinct counterparties with which an institution trades. This metric captures both local connectedness and broader importance of a market participant within the network. Table 4 reports degree centrality for both the designated dealers and non-dealers, and the results reinforce the decentralized nature of China's corporate bond market.

[Insert Table 4 here]

From Panel A of Table 4, each institution interacts on average with only 2.38 dealers but with 17.56 non-dealers, underscoring that much of the market operates outside dealer intermediation. Panel B shows that dealers are highly interconnected—each transacts with an average of 22.30 other dealers, nearly the entire dealer network—and also maintain broad

relationships with non-dealers, averaging 1155.10 counterparties. Yet this distribution is sharply skewed: while a few large dealers connect with more than 6,000 non-dealers, the median dealer trades with fewer than 600. Panel C highlights the central role of non-dealers in China's corporate bond market. On average, each non-dealer transacts with just 2.34 dealers but 15.25 other non-dealers, and some achieve extraordinary connectivity, engaging with thousands of peers and rivaling the most active dealers.

Taken together, these results in Figure 1 and Table 4 indicate that China's corporate bond market is not organized around the designated dealers. Instead, non-dealers sustain more trading relationships with each other than with dealers, making inter-customer trading a defining feature of the market's network structure.

3.2 Distribution of trading activity

In this section, we provide further evidence that customer-to-customer (C2C) trading constitutes the largest share of trading activity in China's corporate bond market, while dealer intermediation, though essential, plays a comparatively smaller role.

Table 5 reports the distribution of trading volume and transaction counts across intercustomer, dealer–customer, and interdealer segments. In 2019, for instance, intercustomer trades totaled 4,587 billion RMB, surpassing 2,688 billion RMB in the dealer–customer segment and 250 billion RMB in the interdealer market. Transaction counts reveal the same pattern: 112,032 intercustomer trades compared with 40,675 dealer–customer trades and 2,428 interdealer trades. Across the entire sample, trades among non-dealers, i.e., trades without dealer involvement, consist about 50% of all trading volume. In addition, among the dealer–customer trades, purchases by dealers from non-dealers consistently exceed their sales to non-dealers.

[Insert Table 5 here]

Overall, these patterns highlight the central role of intercustomer trading in China's

corporate bond market, while also showing that dealers remain important participants—but without the dominant position they typically hold in the typical OTC markets in developed economies.

4 Intermediation in China's Corporate Bond Market

Building on the evidence that China's corporate bond market lacks a core–periphery dealer network, in this section, we examine how dealers and non-dealers intermediate trades and the implications for market functioning.

4.1 Liquidity provision beyond dealers

We begin by analyzing liquidity provision from both the transaction-level and round-trip perspectives. To identify liquidity providers from each trade, we follow Biswas et al. (2015) and Collin-Dufresne et al. (2020) and use the Lee and Ready (1991) algorithm, which infers trade direction by comparing each transaction price with the preceding trade price. A buyer is classified as the liquidity demander (initiator) and the seller as the provider when the trade occurs at a higher price than the previous transaction; the roles are reversed when the price is lower than the previous trade.

Table 6 summarizes the distribution of trading volume and trade counts between liquidity demanders and providers, broken down by dealer status and institution type. Panel A presents trading volumes, while Panel B reports trade counts. Dealers supply only about 25% of total trading volume and less than 17% of trades when acting as liquidity providers. While more than 80% of the designated dealers are banks, banks in total supply about 35% liquidity in terms of trading volume and 21% in terms of number of trades. These figures, consistent with the earlier evidence in Table 4 and Table 5, highlight that dealers play a comparatively smaller role in supplying liquidity than non-dealers in China's corporate bond market.

[Insert Table 6 here]

To more precisely evaluate dealer intermediation in China's corporate bond market, we focus on transactions where dealers act as intermediaries—temporarily holding inventory to facilitate trades. We define a roundtrip as an instance in which an intermediary buys and subsequently sells the same bond in the same quantity within a short time window, consistent with intermediation rather than long-term investment. Leveraging the anonymous but consistent identifiers in our dataset, we track each market participant over time. For each purchase, we follow subsequent trades in chronological order and match sales of the same bond until the initial purchase quantity is fully offset (Green et al., 2007). To ensure that this measure reflects secondary-market intermediation, we exclude roundtrips occurring within 60 days of bond issuance or maturity, following Goldstein and Hotchkiss (2020).

[Insert Table 7 here]

Table 7 reports market concentration in roundtrip activity and the dealer share of intermediation. Panel A categorizes roundtrips by holding period—the number of calendar days between a dealer's purchase and sale—into seven groups: intraday, within 1 day, within 3 days, within 7 days, within 14 days, within 30 days, and within 60 days (the broadest window, covering all identified roundtrips). For each group, we calculate the share of roundtrip volume attributable to the top five investors, the top ten investors, and all dealers.[9] These shares are reported both relative to their respective category and to total roundtrip volume.

The results in Table 7 confirm the patterns observed at the transaction level: roundtrip activity is weakly concentrated, and dealers account for only a modest share of intermediation. For example, Panel A shows that dealers collectively represent just 21.47% of total roundtrip volume (within 60 days), with their activity heavily concentrated at shorter horizons—falling from 38.75% of intraday roundtrips to 27.85% within 60 days. Panel B

[9]The top five and top ten investors are not necessarily dealers; they may also include non-dealer banks, securities firms, or shadow banks.

underscores this point more sharply: measured against the entire roundtrip market, dealers account for only 12.47% of the total number of trades.

Figure 2 further illustrates the persistent low shares of dealer intermediation measured by roundtrip trading. For each bond-quarter, we calculate the share of dealer-intermediated volume and trade count relative to total activity, as well as an indicator for whether any dealer engaged in at least one roundtrip. Across all measures, dealers remain consistently underrepresented. Panel A shows that in more than 40% of bond-quarters, no dealer participates in roundtrip trading. Panel B, which groups bonds by credit rating, reveals a clear monotonic pattern: dealer participation is lowest for lower-rated bonds (AA and AA−) and highest for AAA bonds. Yet even among AAA securities, dealers are absent in over 30% of bond-quarters. This persistence across credit qualities suggests that limited dealer involvement reflects systemic constraints rather than bond risk alone.

[Insert Figure 2 here]

Together, these results in this section highlight dealers' reluctance to hold inventory and confirm that intermediation in China's corporate bond market is not dealer-dominated.

4.2 Dealers' wash trading

In this section, we provide further evidence of dealers' reluctance to engage in genuine intermediation by documenting their involvement in wash trading, whereby trading volume is artificially inflated to meet regulatory performance assessments.

The People's Bank of China evaluates dealer performance primarily on the basis of total trading volume.[10] In response, some dealers—seeking to fullfill regulatory evaluation and signal market influence—appear to execute wash trades, which we define as same-day, same-price roundtrips.

To see this practice of wash trading , we measure intraday cycles of zero-spread roundtrip trades, intermediated by the designated dealers. We find that more than 12% of all roundtrips

[10]For official documents, see https://www.chinamoney.com.cn/chinese/.

intermediated by dealers occur at zero spread, indicating that such trades are non-negligible. These zero-spread cycles have an average holding period of only 0.16 days, yet their average size reaches 0.13 billion RMB—more than twice that of non-zero-spread roundtrips. By contrast, roundtrips with positive and negative spreads display much longer holding periods (134.30 and 82.40 days, respectively) and significantly smaller average volumes (0.061 and 0.056 billion RMB, respectively).

An alternative explanation is that these intraday cycles reflect dealers' matchmaking activities rather than wash trading—that is, facilitating buyer–seller matching without taking on risk—as documented in Goldstein and Hotchkiss (2020) and Saar et al. (2023). To distinguish between these possibilities, we test whether zero-spread roundtrips exhibit systematic cyclical patterns. If regulators' reliance on volume-based evaluation motivates such trades, we would expect a disproportionate concentration near quarter-end, when regulatory reporting typically occurs (Cao et al., 2023). By contrast, if these cycles reflect ordinary market-making behavior, no such quarter-end spike should be observed.

[Insert Figure 3 here]

Figure 3 presents the results. Dividing each quarter into weekly intervals, we calculate the share of total trading volume attributable to zero-spread roundtrips. A pronounced spike emerges in the final week of each quarter, consistent with strategic timing aimed at inflating reported volumes before regulatory reporting. Taken together, this evidence indicates that zero-spread roundtrips primarily reflect volume inflation through wash trading rather than genuine intermediation.

4.3 Consequences for market quality

Building on the evidence of limited dealer intermediation in China's corporate bond market, we now examine its implications for trading quality.

Because dealers are often unwilling to provide liquidity, liquidity demanders may be

forced to transact with another non-dealer (customer). Compared to dealers, however, most customers lack the requisite pricing knowledge to engage in intermediation activity. As a result, execution quality should deteriorate in customer-to-customer trades (O'Hara and Zhou, 2025).

To test this prediction, we study whether execution quality is lower when non-dealers supply liquidity. Specifically, following O'Hara and Zhou (2021), we measure execution quality using intraday price dispersion—the difference between the highest and lowest trade prices. Panel A of Table 8 shows clear evidence consistent with this prediction. When dealers supply liquidity, the average dispersion is 619.96 basis points. By contrast, when non-dealers are involved, dispersion rises by 808.25 basis points. Columns (2)–(4) confirm that this result is robust to alternative fixed effects.

[Insert Table 8 here]

To better understand this effect, we divided the non-dealer category into two groups: passive investors (commercial banks that are not designated dealers, pension funds, and insurance companies) who often follow a buy-and-hold strategy, and the remaining non-dealers (Chodorow-Reich et al., 2021). Our findings show that when liquidity is provided by non-passive customers, the cost increases by 122.52 basis points, and the effect is not statistically significant. However, when a passive non-dealer, i.e., a likely buy-and-hold investor, is involved in liquidity provision, the cost skyrockets to over 630.88 basis points. This suggests that buy-side institutions, especially passive ones, may lack enough pricing expertise, leading to significantly higher liquidity provision costs, consistent with O'Hara and Zhou (2025). This substantial gap, combined with results discussed in Section 3, supports the view that while customers step in to back up liquidity provision, they cannot replace dealer's role in liquidity provision, thereby resulting in a worse execution quality.

To further evaluate the effects of customer liquidity provision, we examine whether customer-to-customer (C2C) trades display stronger price reversals. If the higher costs in C2C transactions reflect the lack of pricing expertise or opportunistic pricing by non-dealer

liquidity providers, we should observe more pronounced reversals. By contrast, if the costs simply compensate for adverse selection—such as from anonymity on broker platforms—we should not observe stronger price reversals.

The trade-level regressions in Panel B in Table 8 support the former interpretation. C2C trades exhibit 2.3% stronger price reversals—about 15.3% larger (0.023/0.150)—than non-C2C trades. These findings suggest that higher costs in C2C trades are not driven by information asymmetry.

Finally, we examine the overall trading frequency in China's corporate bond market. We find that the average zero-trading day—defined as the fraction of trading days in a month when a bond is not traded—is 0.87, compared with 0.52 in the U.S. market. Trading frequency is similarly low: Chinese bonds average just 8.0 trades per bond per month, versus about 80.6 in the U.S. These statistics highlight the sparsity of trading and the limited liquidity of China's corporate bond market.

Taken together, the evidence shows that weak dealer intermediation has significant implications for market quality. When customers, rather than dealers, provide liquidity, execution costs rise, price reversals intensify, and trading activity remains subdued. These patterns underscore the critical role of dealers in sustaining market liquidity. Although customers step in to replace dealers as liquidity suppliers, the liquidity they provide is more costly and does not fulfill the role that dealers typically play.

5 Why Dealers Are Reluctant to Provide Liquidity

Our analysis so far points to a central feature of China's corporate bond market: designated dealers are generally reluctant to intermediate trades. In this section, we explore the underlying reasons for this behavior. Drawing on both the literature and China's institutional context, we focus on three potential channels: (*i*) balance sheet constraints that restrict banks' capacity to hold inventory, (*ii*) competition from the lending business that raises the

opportunity cost of market making, and (*iii*) information asymmetry that may increase the risks of intermediation.

5.1 Role of balance sheet constraints

The vast majority of dealers in China are commercial banks (25 out of 30), which are subject to strict regulatory oversight, including capital adequacy ratios and leverage limits. These constraints are particularly binding for smaller banks, which face tighter balance sheet restrictions. As a result, the cost of holding inventory is higher, reducing their willingness to provide liquidity (Acharya et al., 2025; Liu and Shim, 2024).

Panel A of Table 9 shows that the six largest state-owned banks (the Big Six) maintain significantly stronger capital positions than other banks. In Column (1), the average capital adequacy ratio for other banks is 12.281%, whereas large state-owned banks exhibit ratios 1.802% higher—a difference that is statistically significant at the 1% level. After controlling for quarter fixed effects in Column (2), the gap becomes even more pronounced. A similar pattern emerges for the leverage ratio,[11] with large state-owned banks operating at higher levels, suggesting they face less regulatory pressure than their counterparts.

[Insert Table 9 here]

To assess whether regulatory constraints affect intermediation behavior, we examine dealer banks' willingness to take inventory. Specifically, we calculate the share of round-trip trading volume held beyond various thresholds—such as more than seven days—relative to total round-trip volume for each dealer bank. Panel B of Table 9 reports the results of a bank-quarter panel regression. The Big Six appear more willing than smaller banks to hold inventory. For smaller banks, the share of positions held declines sharply as the threshold increases—from 56.4% for trades held more than one day to 39.8% for those held more than seven days. In addition, the gap between large and small banks widens with

[11] An important regulatory metric of the People's Bank of China, calculated as the ratio of net Tier 1 capital to adjusted on- and off-balance sheet assets.

the holding-period threshold, rising from 21.1% at one day to 25.9% at seven days. These patterns suggest that large state-owned banks, operating under less-binding balance sheet constraints, are more willing to maintain longer inventory positions.

Overall, these results highlight that large state-owned banks are significantly more willing to hold inventory than their smaller counterparts, consistent with the view that balance sheet constraints play an important role in shaping dealer intermediation behavior.

5.2 The Loan Competition Channel

If balance sheet constraints are one main factor behind small dealer banks' reluctance to intermediate corporate bond trades, then large state-owned banks with the capacity—particularly the Big Six—would be expected to play a more active role. Their participation should at least partially offset the intermediation shortfall created by smaller banks operating under tighter regulatory limits.

In practice, however, these large state-owned banks also appear inactive. A plausible explanation is that the Big Six, despite facing fewer balance sheet pressures, enjoy preferential access to central state-owned enterprises (SOEs) and major local SOEs (Cong et al., 2019). These SOEs are large, well-collateralized, and often benefit from implicit government guarantees (Geng and Pan, 2024), making them especially attractive lending clients relative to intermediation activity.

Because both intermediation (e.g., holding inventory) and loan origination draw on balance sheet capacity, lending to SOEs represents an especially attractive alternative for large banks. In effect, it functions as an outside option to market making. Under China's universal banking model, this creates internal competition: the market-making department competes with the lending department for balance sheet resources. When lending opportunities are more profitable, the opportunity cost of bond market intermediation rises, reducing banks' willingness to provide liquidity in bond market. Even institutions with ample balance sheet capacity may rationally shift resources toward loan origination. In equilibrium, this sub-

stitution implies a negative relationship between net interest margins (NIM) and inventory holding, and a positive relationship between NIM and the returns banks require to intermediate.

[Insert Table 10 here]

To test this mechanism, we examine the relationship between commercial bank dealers' intermediation behavior and net interest margins. Table 10 reports the panel regression results.[12] Consistent with the loan competition channel, we find that higher NIMs are significantly associated with shorter holding periods and higher annualized intermediation returns for the Big Six. By contrast, smaller banks exhibit no clear relationship between NIMs and intermediation behavior. A likely explanation is that smaller banks have fewer clients with implicit government guarantees, and thus face less direct competition from their lending operations (Lu and Sun, 2013; Dell'Ariccia et al., 2021). These results suggest that when lending becomes more profitable, banks reallocate balance sheet capacity away from inventory holding, weakening their incentives to intermediate.

Overall, the evidence indicates that competition from lending weakens large state-owned bank' incentives to intermediate by increasing the opportunity cost of using balance sheet capacity. Together with balance sheet constraints, loan competition helps explain why even large banks with ample capacity often provide limited intermediation in China's corporate bond market.

5.3 The information asymmetry channel

The third potential channel is information asymmetry. The market microstructure literature suggests that asymmetric information between informed and uninformed traders raises the

[12] As noted earlier, we cannot perfectly identify each dealer bank from transaction-level data. Since most underwriters in China are banks or securities firms, we approximate dealer banks by identifying entities whose first recorded trade is a sell transaction near the bond issuance date (Ding et al., 2022). In the interbank bond market, underwriters both place bonds for clients and purchase them for their own accounts, as overallocation and post-issuance stabilization—common in the U.S.—are prohibited. This institutional feature enables us to fully identify the Big Six, but only a subset of joint-equity and urban commercial banks.

cost and risk of intermediation, possibly discouraging dealers from trading (Glosten and Milgrom, 1985; Easley and O'hara, 2004). We test this mechanism using two complementary approaches, and we do not find evidence supporting this channel.

First, we examine whether a greater presence of informed traders reduces the likelihood of dealer participation. Following Chen et al. (2007), we classify trades as buyer- or seller-initiated using the Lee and Ready (1991) algorithm, and define a trade as informed if a buyer-initiated (seller-initiated) trade is followed by a price increase (decrease). Our key variables, %Informed Vol and %Informed Num, measure the proportion of informed trading by volume and by number of trades, respectively. Panel A of Table 11 shows that neither measure is significantly related to the probability of dealer participation, under either logit or OLS specifications. This suggests that information asymmetry is unlikely to be the primary force limiting dealer activity.

[Insert Table 11 here]

Second, we assess whether institutional trades contain predictive information about future bond returns. If dealers avoided intermediation out of fear of trading against informed investors, then institutional trading should systematically forecast returns. Panel B of Table 11 reports regressions of subsequent bond returns on order imbalances by institution type. For most types—including banks, securities firms, shadow banks, and insurers—the coefficients are statistically insignificant, implying that their trades are not systematically informed. Although order imbalance from mutual funds shows a positive relation with future returns, the effect is economically small: a one-standard-deviation increase in mutual fund trading predicts only a 1.2 basis point rise in next-month returns, far too small to explain dealers' reluctance to intermediate.

In short, the evidence in this section indicates that information asymmetry does not play a major role in discouraging dealer intermediation in China's corporate bond market.

6 Conclusion

This paper provides the first comprehensive analysis of the structure of China's corporate bond market, the second largest market in the world. By compiling the Chinese TRACE-like dataset based on regulatory trade records, we document several features that distinguish this market from conventional OTC markets such as those in the United States. First, the trading network lacks a core–periphery structure: dealers do not dominate the network, and customer-to-customer trades account for the majority of transactions. Second, dealers are reluctant to provide liquidity, with many bonds experiencing little or no dealer participation. Third, when customers step in as liquidity providers, execution quality deteriorates, reflected in wider price dispersion, stronger return reversals, and reduced market activity.

We then explore the drivers of this limited dealer intermediation. Our evidence suggests that balance sheet constraints, especially for smaller banks, significantly restrict their ability to hold inventory. At the same time, large state-owned banks with more balance sheet capacity face internal competition from the lending business, which offers more attractive opportunities than market making. By contrast, we find little support for information asymmetry as a primary deterrent to intermediation.

Taken together, our findings underscore the diversity of OTC market structures and the critical role of institutional context in shaping dealer behavior. In China, where non-dealers take the role of liquidity provision, the market suffers from lower resilience and poorer execution quality. These results highlight the risks of underdeveloped dealer intermediation and point to the importance of regulatory and institutional design in ensuring well-functioning secondary markets. More broadly, our analysis contributes to the understanding of how OTC markets may evolve when dealer incentives are weak, offering lessons for policymakers considering the regulation and development of bond markets both in China and beyond.

References

Acharya, Viral V, Jun "QJ" Qian, Yang Su, and Zhishu Yang, 2025, Fiscal stimulus, deposit competition, and the rise of shadow banking: Evidence from China, *Management Science* 71, 5645–5675.

Adrian, Tobias, Nina Boyarchenko, and Or Shachar, 2017, Dealer balance sheets and bond liquidity provision, *Journal of Monetary Economics* 89, 92–109.

Allen, Franklin, Xian Gu, C. Wei Li, Jun "QJ" Qian, and Yiming Qian, 2023, Implicit guarantees and the rise of shadow banking: The case of trust products, *Journal of Financial Economics* 149, 115–141.

Amstad, Marlene, and Zhiguo He, 2019, Chinese bond market and interbank market, in Chang-Tai Hsieh, and Zheng Song, eds., *The Handbook of China's Financial System*, 105–148 (Princeton University Press).

Andersen, Leif, Darrell Duffie, and Yang Song, 2019, Funding value adjustments, *The Journal of Finance* 74, 145–192.

Bao, Jack, Maureen O'Hara, and Xing Alex Zhou, 2018, The volcker rule and corporate bond market making in times of stress, *Journal of Financial Economics* 130, 95–113.

Bessembinder, Hendrik, Stacey Jacobsen, William Maxwell, and Kumar Venkataraman, 2020, Syndicate structure, primary allocations, and secondary market outcomes in corporate bond offerings, *SMU Cox School of Business Research Paper No. 20* 4.

Biswas, Gopa, Stanislava Nikolova, and Christof W Stahel, 2015, The transaction costs of trading corporate credit, *Working Paper* .

Brunnermeier, Markus K, Michael Sockin, and Wei Xiong, 2022, China's model of managing the financial system, *The Review of Economic Studies* 89, 3115–3153.

Cao, Yiming, Raymond Fisman, Hui Lin, and Yongxiang Wang, 2023, Soes and soft incentive constraints in state bank lending, *American Economic Journal: Economic Policy* 15, 174–195.

Cenedese, Gino, Pasquale Della Corte, and Tianyu Wang, 2021, Currency mispricing and dealer balance sheets, *The Journal of Finance* 76, 2763–2803.

Chen, Hui, Zhuo Chen, Zhiguo He, Jinyu Liu, and Rengming Xie, 2023a, Pledgeability and asset prices: Evidence from the chinese corporate bond markets, *The Journal of Finance* 78, 2563–2620.

Chen, Kaiji, Haoyu Gao, Patrick Higgins, Daniel F Waggoner, and Tao Zha, 2023b, Monetary stimulus amidst the infrastructure investment spree: Evidence from China's loan-level data, *The Journal of Finance* 78, 1147–1204.

Chen, Kaiji, Jue Ren, and Tao Zha, 2018, The nexus of monetary policy and shadow banking in China, *American Economic Review* 108, 3891–3936.

Chen, Qi, Itay Goldstein, and Wei Jiang, 2007, Price informativeness and investment sensitivity to stock price, *The Review of Financial Studies* 20, 619–650.

Chen, Qianwen, and Jaewon Choi, 2024, Reaching for yield and the cross section of bond returns, *Management Science* 70, 5226–5245.

Chen, Zhuo, Zhiguo He, and Chun Liu, 2020, The financing of local government in China: Stimulus loan wanes and shadow banking waxes, *Journal of Financial Economics* 137, 42–71.

Chodorow-Reich, Gabriel, Andra Ghent, and Valentin Haddad, 2021, Asset insulators, *The Review of Financial Studies* 34, 1509–1539.

Choi, Jaewon, Yesol Huh, and Sean Seunghun Shin, 2024, Customer liquidity provision: Implications for corporate bond transaction costs, *Management Science* 70, 187–206.

Choi, Jaewon, and Mathias Kronlund, 2018, Reaching for yield in corporate bond mutual funds, *The Review of Financial Studies* 31, 1930–1965.

Clayton, Christopher, Amanda Dos Santos, Matteo Maggiori, and Jesse Schreger, 2025, Internationalizing like China, *American Economic Review* 115, 864–902.

Collin-Dufresne, Pierre, Benjamin Junge, and Anders B Trolle, 2020, Market structure and transaction costs of index cdss, *The Journal of Finance* 75, 2719–2763.

Cong, Lin William, Haoyu Gao, Jacopo Ponticelli, and Xiaoguang Yang, 2019, Credit allocation under economic stimulus: Evidence from China, *The Review of Financial Studies* 32, 3412–3460.

Dell'Ariccia, Giovanni, Dalida Kadyrzhanova, Camelia Minoiu, and Lev Ratnovski, 2021, Bank lending in the knowledge economy, *The Review of Financial Studies* 34, 5036–5076.

Di Maggio, Marco, Amir Kermani, and Zhaogang Song, 2017, The value of trading relations in turbulent times, *Journal of Financial Economics* 124, 266–284.

Ding, Yi, Wei Xiong, and Jinfan Zhang, 2022, Issuance overpricing of China's corporate debt securities, *Journal of Financial Economics* 144, 328–346.

Duffie, Darrell, 2018, Financial regulatory reform after the crisis: An assessment, *Management Science* 64, 4835–4857.

Duffie, Darrell, and Arvind Krishnamurthy, 2016, Passthrough efficiency in the fed's new monetary policy setting, in *Designing Resilient Monetary Policy Frameworks for the Future. Federal Reserve Bank of Kansas City, Jackson Hole Symposium*, 1815–1847.

Easley, David, and Maureen O'hara, 2004, Information and the cost of capital, *The Journal of Finance* 59, 1553–1583.

Gao, Haoyu, Yuting Huang, Xiaoming Li, and Ruochen Wang, 2025, Reputation at risk: How bond defaults improve credit ratings quality, *Working Paper* .

Geng, Zhe, and Jun Pan, 2024, The soe premium and government support in China's credit market, *The Journal of Finance* 79, 3041–3103.

Glosten, Lawrence R, and Paul R Milgrom, 1985, Bid, ask and transaction prices in a specialist market with heterogeneously informed traders, *Journal of Financial Economics* 14, 71–100.

Goldberg, Jonathan, and Yoshio Nozawa, 2021, Liquidity supply in the corporate bond market, *The Journal of Finance* 76, 755–796.

Goldstein, Michael A, and Edith S Hotchkiss, 2020, Providing liquidity in an illiquid market: Dealer behavior in us corporate bonds, *Journal of Financial Economics* 135, 16–40.

Gomez, Matthieu, Augustin Landier, David Sraer, and David Thesmar, 2021, Banks' exposure to interest rate risk and the transmission of monetary policy, *Journal of Monetary Economics* 117, 543–570.

Green, Richard C, Burton Hollifield, and Norman Schürhoff, 2007, Financial intermediation and the costs of trading in an opaque market, *The Review of Financial Studies* 20, 275–314.

He, Zhiguo, and Wei Wei, 2023, China's financial system and economy: A review, *Annual Review of Economics* 15, 451–483.

Hendershott, Terrence, and Ananth Madhavan, 2015, Click or call? auction versus search in the over-the-counter market, *The Journal of Finance* 70, 419–447.

Hollifield, Burton, Artem Neklyudov, and Chester Spatt, 2017, Bid-ask spreads, trading networks, and the pricing of securitizations, *The Review of Financial Studies* 30, 3048–3085.

Hu, Grace Xing, and Jiang Wang, 2022, A review of China's financial markets, *Annual Review of Financial Economics* 14, 465–507.

Huang, Jing-Zhi, Bibo Liu, and Zhan Shi, 2023, Determinants of short-term corporate yield spreads: Evidence from the commercial paper market, *Review of Finance* 27, 539–579.

Jiang, Xianfeng, and Frank Packer, 2019, Credit ratings of chinese firms by domestic and global agencies: Assessing the determinants and impact, *Journal of Banking and Finance* 105, 178–193.

Jin, Shuang, Wei Wang, and Zilong Zhang, 2023, The real effects of implicit government guarantee: evidence from chinese state-owned enterprise defaults, *Management Science* 69, 3650–3674.

Kargar, Mahyar, Benjamin Lester, David Lindsay, Shuo Liu, Pierre-Olivier Weill, and Diego Zúñiga, 2021, Corporate bond liquidity during the covid-19 crisis, *The Review of Financial Studies* 34, 5352–5401.

Kroszner, Randall S., and Raghuram G. Rajan, 1994, Is the glass-steagall act justified? a study of the u.s. experience with universal banking before 1933, *American Economic Review* 84, 810–832.

Lee, Charles MC, and Mark J Ready, 1991, Inferring trade direction from intraday data, *The Journal of Finance* 46, 733–746.

Liu, Amanda, and Ilhyock Shim, 2024, Shadow loans and regulatory arbitrage: Evidence from China, *Journal of Banking and Finance* 160, 107091.

Lu, Yinqiu, and Tao Sun, 2013, *Local government financing platforms in China: A fortune or misfortune?* (International Monetary Fund).

O'Hara, Maureen, and Xing Alex Zhou, 2021, The electronic evolution of corporate bond dealers, *Journal of Financial Economics* 140, 368–390.

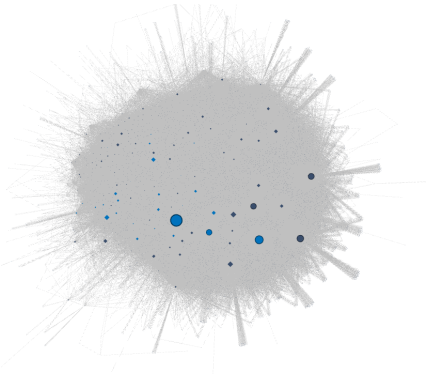
O'Hara, Maureen, and Xing Zhou, 2025, Us corporate bond markets: Bigger and (maybe) better?, *Journal of Economic Perspectives* 39, 215–234.

Pan, Kevin, and Yao Zeng, 2017, Etf arbitrage under liquidity mismatch, *Working Paper* .

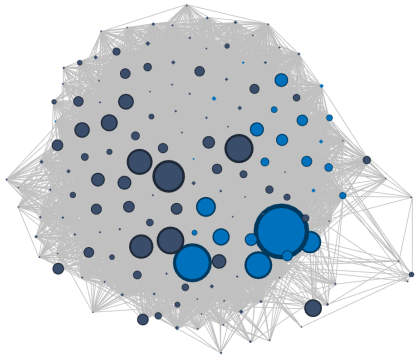
Puri, Manju, 1996, Commercial banks in investment banking conflict of interest or certification role?, *Journal of Financial Economics* 40, 373–401.

Saar, Gideon, Jian Sun, Ron Yang, and Haoxiang Zhu, 2023, From market making to matchmaking: Does bank regulation harm market liquidity?, *The Review of Financial Studies* 36, 678–732.

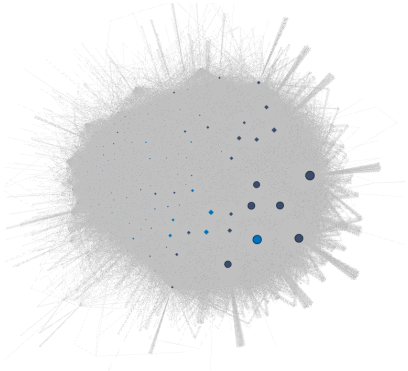
Schestag, Raphael, Philipp Schuster, and Marliese Uhrig-Homburg, 2016, Measuring liquidity in bond markets, *The Review of Financial Studies* 29, 1170–1219.



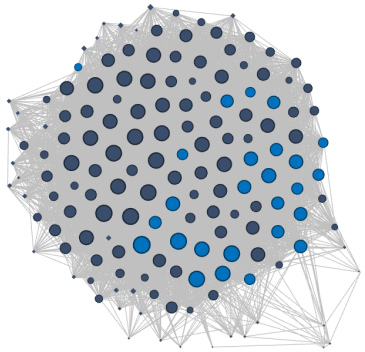
Panel A: All institutions



Panel B: Only institutions with a size over 50 billion



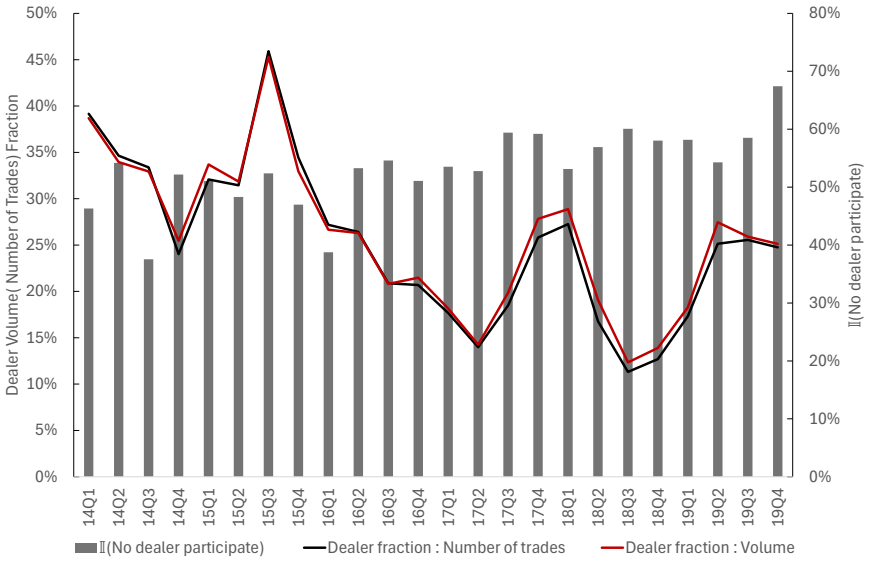
Panel C: All institutions (degree)



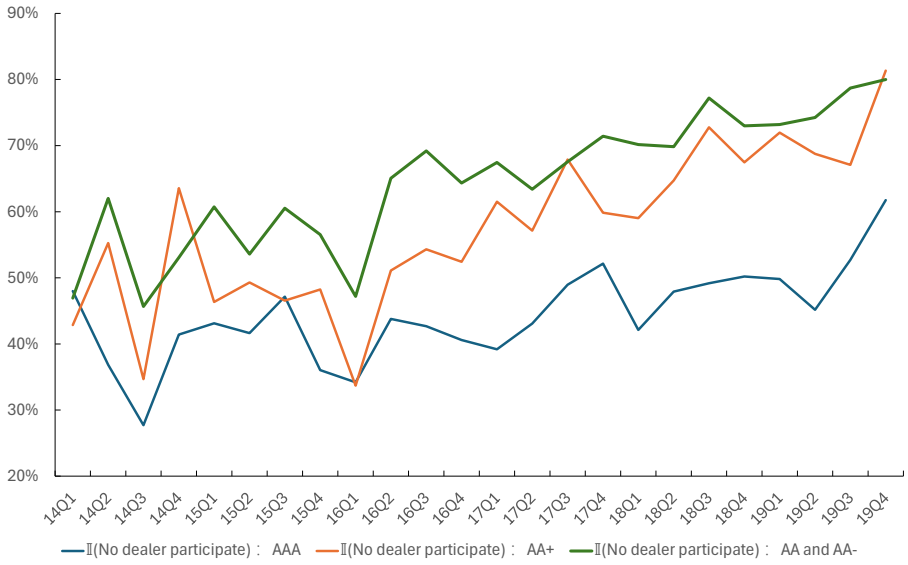
Panel D: Only institutions with a size over 50 billion (degree)

Figure 1: **Market structure of China's corporate bond market**

The figure illustrates the network structure of all participants in China's corporate bond market. Nodes represent participants and edges denote directed transactions. Node size reflects total transaction volume in Panels A and B and degree centrality in Panels C and D. Light-blue nodes denote dealers and dark-blue nodes denote non-dealers. Panels A and C include all transactions, while Panels B and D restrict the sample to institution pairs with total transaction volume exceeding RMB 50 billion over the sample period.



Panel A: All bonds



Panel B: Bonds across rating categories

Figure 2: **Low participation of dealer in intermediation**

The figure documents the extent of dealer involvement. The figure transforms all transaction data into round-trip level data, excluding periods within 60 days of issuance or maturity. For each bond in each quarter, it reports the proportion of transaction volume and number of trades executed by dealers relative to the total. 𝕀(No dealer participate) is a dummy variable indicating whether dealers participated in trading the bond during that quarter, with a value of one if dealers traded and zero otherwise. Panel A presents results for all bonds. Panel B disaggregates the analysis by bond rating groups: AAA, AA+, and below AA(AA and AA-).

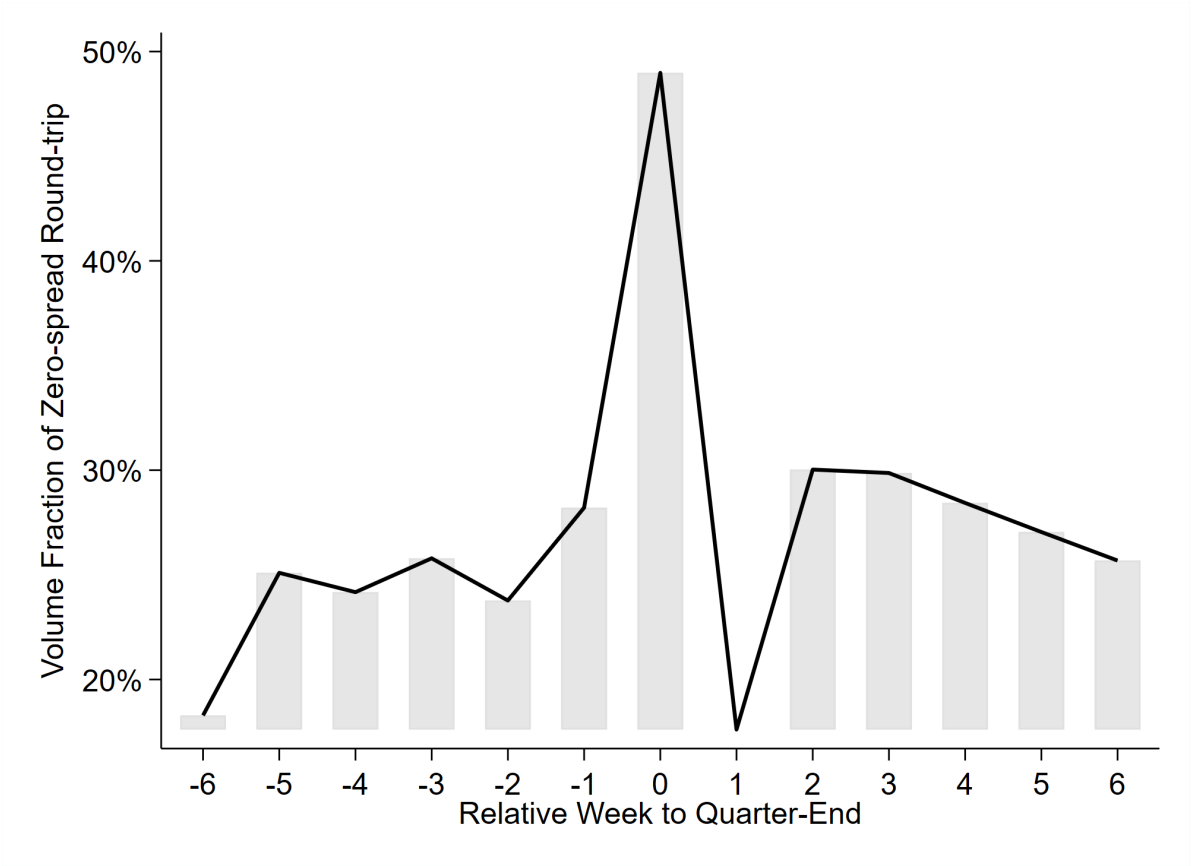


Figure 3: **Dealer wash trading**

The figure illustrates the volume manipulation behavior of dealers based on round-trip trades. The transaction data are first converted into round-trip level data, excluding periods within 60 days of issuance or maturity. Additionally, round-trip trades where the buying and selling transactions occur in different quarters are excluded. Each quarter is divided into weekly intervals, with the number of weeks relative to the quarter-end defined such that the quarter-end week is assigned a value of 0, the preceding week -1, the subsequent week +1, and so forth. For each week, the plotted measure is the fraction of trading volume attributed to round-trip trades with a spread of zero (where spread is defined as the selling price minus the buying price), relative to the total trading volume in that week.

Table 1: **List of designated dealers**

This table reports the list of designated dealers in the Chinese corporate bond market over our sample period from 2014 to 2019, including 25 banks and 5 securities firms. Among the commercial banks, six are classified as Large State-Owned Commercial Banks, eight as Joint-Equity Commercial Banks, seven as Urban Commercial Banks, three as Foreign Banks, and one as a Policy Bank.

Dealer	**Dealer type**
Industrial and Commercial Bank of China	Large State-Owned Commercial Banks
Agricultural Bank of China	Large State-Owned Commercial Banks
Bank of China	Large State-Owned Commercial Banks
China Construction Bank	Large State-Owned Commercial Banks
Bank of Communications	Large State-Owned Commercial Banks
Postal Savings Bank of China	Large State-Owned Commercial Banks
China Development Bank	Policy Bank
China CITIC Bank	Joint-Equity Commercial Banks
China Merchants Bank	Joint-Equity Commercial Banks
China Everbright Bank	Joint-Equity Commercial Banks
China Minsheng Bank	Joint-Equity Commercial Banks
Industrial Bank Co., Ltd.	Joint-Equity Commercial Banks
Hengfeng Bank	Joint-Equity Commercial Banks
Shanghai Pudong Development Bank	Joint-Equity Commercial Banks
China Guangfa Bank	Joint-Equity Commercial Banks
Hankou Bank	Urban Commercial Banks
Bank of Jiangsu	Urban Commercial Banks
Bank of Beijing	Urban Commercial Banks
Bank of Shanghai	Urban Commercial Banks
Bank of Hangzhou	Urban Commercial Banks
Bank of Nanjing	Urban Commercial Banks
Bank of Luoyang	Urban Commercial Banks
Citibank (China)	Foreign Banks
JPMorgan Chase Bank (China)	Foreign Banks
Standard Chartered Bank (China)	Foreign Banks
CITIC Securities	Securities Firms
China International Capital Corporation	Securities Firms
Guotai Junan Securities	Securities Firms
GF Securities	Securities Firms
First Capital Securities	Securities Firms

Table 2: **Summary statistics**

The table presents summary statistics for Chinese corporate bonds and their issuers. Panel A reports bond characteristics. *Period* denotes the bond tenor; *Coupon* is the issued coupon rate; *Issue Size* represents the issuance size; and *Bond Rating* is coded numerically as 1 = AAA, 2 = AA+, and 3 = below AA (including AA and AA-). *Embed* is a dummy indicating whether the bond is embedded with any option. *Callable* equals one for callable bonds, and *Puttable* equals one for puttable bonds. *Credit Spread* is the yield difference between corporate bonds and Chinese treasury bonds of the same maturity. *Maturity* refers to the remaining time to maturity as of the trading date. Panel B reports issuer characteristics. *Listed* is a dummy equal to one if the issuer is publicly listed. *SOE* is a dummy equal to one if the issuer is a state-owned enterprise. *Issuer Rating* is coded numerically as 1 = AAA, 2 = AA+, and 3 = AA or AA-.

Panel A : Bond-Level Characteristics

Variable	Mean	SD	Min	P25	P50	P75	Max	N
Period (years)	3.9	1.3	2.0	3.0	3.0	5.0	20	4,469
Coupon (%)	5.2	1.2	2.9	4.2	5.1	6.0	9.5	4,469
Issue Size (billions)	1.4	1.6	0.03	0.50	1.0	2.0	20	4,469
Bond Rating	1.7	0.80	1.0	1.0	1.0	2.0	3.0	4,469
Embed	0.21	0.41	0	0	0	0	1.0	4,469
Callable	0.21	0.41	0	0	0	0	1.0	4,469
Puttable	0.0022	0.047	0	0	0	0	1.0	4,469
Credit Spread (%)	2.4	1.6	0.58	1.2	1.8	3.3	8.4	35,731
Maturity (years)	2.5	1.5	0.0027	1.5	2.4	3.4	19.9	35,880

Panel B : Issuer-Level Characteristics

Variable	Mean	SD	Min	P25	P50	P75	Max	N
Listed	0.23	0.42	0	0	0	0	1.0	1,326
SOE	0.77	0.42	0	1.0	1.0	1.0	1.0	1,326
Issuer Rating	2.0	0.84	1.0	1.0	2.0	3.0	3.0	1,326

Table 3: **Summary statistics of trades: investor type**

This table reports trading activity by major participant types in the Chinese corporate bond market, including commercial banks, bond funds, securities firms, shadow banks, insurance companies, and others. Panel A presents trading volume (in billions of RMB). The first two columns report the total buy volume for each participant type and its percentage share relative to the aggregate market buy volume. The next two columns report the total sell volume and its percentage share relative to the aggregate market sell volume. Panel B reports the number of trades. The first two columns show the number of buy trades for each participant type and the corresponding share of total buy-side transactions, while the last two columns report the number and share of sell-side trades.

Panel A: Trading Volume (billions)

Investor Type	**Buy**	**Buy %**	**Sell**	**Sell %**
Commercial Banks	11639.87	33.59%	13853.32	39.98%
Bond Fund	1430.42	4.13%	803.06	2.32%
Security Firms	12178.84	35.15%	14049.83	40.55%
Shadow Banks	6782.30	19.57%	4667.47	13.47%
Insurance	719.82	2.08%	287.26	0.83%
Others	1897.79	5.48%	988.10	2.85%
All	34649.04	100%	34649.04	100%

Panel B: Number of Trades

Investor Type	**Buy**	**Buy %**	**Sell**	**Sell %**
Commercial Banks	112,168	20.12%	143,018	25.65%
Bond Fund	41,461	7.44%	25,475	4.57%
Security Firms	220,868	39.61%	271,238	48.64%
Shadow Banks	112,509	20.18%	80,389	14.42%
Insurance	14,241	2.55%	6,668	1.20%
Others	56,360	10.11%	30,819	5.53%
All	557,607	100%	557,607	100%

Table 4: **Distribution of counterparty types**

This table reports descriptive statistics for the centrality measure *Degree*, which captures the number of distinct direct trading counterparties an institution has in the Chinese corporate bond market. Panel A presents statistics for the full sample of institutions. Panel B restricts the sample to dealers, while Panel C focuses on non-dealers. Within each panel, the first row reports the distribution of *Degree* when the counterparties are dealers, and the second row reports the distribution when the counterparties are non-dealers. The final row in each panel shows the distribution of total *Degree*, combining both dealer and non-dealer counterparties.

Panel A: Dealers and Non-Dealers								
Counterparty	Mean	SD	Min	P25	P50	P75	Max	N
Dealers	2.38	3.42	0	0	1	3	29	14,311
Non-Dealers	17.56	165.64	0	2	5	10	6,611	14,311
Total	19.94	167.11	1	3	6	13	6,638	14,311
Panel B: Dealer								
Counterparty	Mean	SD	Min	P25	P50	P75	Max	N
Dealers	22.30	6.58	1	22	25	26	28	30
Non-Dealers	1115.10	1379.18	3	335	582	1,185	6,491	30
Total	1137.40	1382.15	4	359	606.5	1,212	6,519	30
Panel C: Non-Dealer								
Counterparty	Mean	SD	Min	P25	P50	P75	Max	N
Dealers	2.34	3.29	0	0	1	3	29	14,281
Non-Dealers	15.25	145.24	0	2	5	10	6,611	14,281
Total	17.59	146.55	1	3	6	13	6,638	14,281

Table 5: **Summary statistics of trades: dealers & non-dealers**

This table reports annual trading activity between dealers and non-dealers in the Chinese corporate bond market. Panel A presents trading volume (in billions of RMB), and Panel B reports the number of trades. Transactions are categorized into three types based on the identities of the trading parties: D2D refers to trades between two dealers; D2C refers to trades between a dealer and a non-dealer; and C2C refers to trades between two non-dealers.The arrow symbol (→) stands for the move of bond. The final column in each panel reports the total across all trade types.

Panel A: Trading Volume (billions)					
Year	D2D	D2C		C2C	All
		ND → D	D → ND		
2014	183.75	303.84	522.47	630.39	1,640.45
2015	703.74	983.55	1,478.39	2,586.03	5,751.70
2016	255.04	1,398.41	1,979.82	4,758.11	8,391.37
2017	284.29	565.57	860.10	3,352.32	5,052.29
2018	365.47	722.83	1,077.50	4,111.60	6,277.39
2019	250.01	1,142.23	1,546.33	4,587.26	7,525.83
Total	**2,042.30**	**5,116.43**	**7,464.60**	**20,025.71**	**34,649.04**
Panel B: Number of Trades					
Year	D2D	D2C		C2C	All
		ND → D	D → ND		
2014	1,146	3,285	6,354	12,298	23,083
2015	3,372	8,713	14,224	38,516	64,825
2016	1,452	13,344	20,132	72,839	107,767
2017	1,595	9,090	12,544	64,982	88,211
2018	2,233	11,214	17,805	87,334	118,586
2019	2,428	17,290	23,385	112,032	155,135
Total	**12,226**	**62,936**	**94,444**	**388,001**	**557,607**

Table 6: **Liquidity provision**

This table reports liquidity supply and demand in the Chinese corporate bond market, categorized by investor type. Investor types are first grouped into Dealers and Non-Dealers, and further classified into Commercial Banks, Bond Funds, Securities Firms, Shadow Banks, Insurance Companies, and Others. For each transaction, we identify the liquidity provider and demander using the Lee–Ready algorithm, which infers trade direction by comparing the transaction price with the price of the preceding trade(s). Specifically, if the transaction price is higher than the previous trade price, the seller is classified as the liquidity provider (LS) and the buyer as the liquidity demander (LD); if the price is lower, the roles are reversed. Panel A presents total trading volume (in billions of RMB), and Panel B reports the number of trades. The first two columns show the volume (or count) of trades initiated by liquidity providers (LS) and their corresponding share of total activity. The last two columns report the volume (or count) of trades initiated by liquidity demanders (LD) and their respective share.

Panel A: Trading Volume (billions)

Investor Type	**LS**	**LS %**	**LD**	**LD %**
Dealer	7,049.60	25.63%	5,858.49	21.30%
Non-Dealer	20,454.12	74.37%	21,645.23	78.70%
Commercial Banks	9700.66	35.27%	10755.06	39.10%
Bond Fund	700.99	2.55%	1194.41	4.34%
Security Firms	12002.04	43.64%	8365.19	30.41%
Shadow Banks	3903.70	14.19%	5320.97	19.35%
Insurance	320.21	1.16%	440.33	1.60%
Others	876.12	3.19%	1427.75	5.19%
All	27503.72	100%	27503.72	100%

Panel B: Number of Trades

Investor Type	**LS**	**LS %**	**LD**	**LD %**
Dealer	73,420	16.54%	61,798	13.92%
Non-Dealer	370,443	83.46%	382,065	86.08%
Commercial Banks	91,501	20.61%	106,001	23.88%
Bond Fund	20,163	4.54%	36,809	8.29%
Security Firms	239,434	53.94%	151,747	34.19%
Shadow Banks	61,115	13.77%	95,716	21.56%
Insurance	6,838	1.54%	10,146	2.29%
Others	24,812	5.59%	43,444	9.79%
All	443,863	100%	443,863	100%

Table 7: **Insufficient dealer-intermediation**

This table examines the extent of trading activity concentration in the Chinese corporate bond market across different round-trip holding periods. Panel A reports the share of round-trip trading volume executed by the top 5, top 10, and all dealers within each holding period group, as well as their share of total round-trip volume across all groups. Panel B presents the corresponding shares based on the number of trades. *Rtdays* denotes the holding period of a round-trip trade, measured as the number of calendar days between the sell date and the buy date of a round-trip trade. *Within Group* reports the share of trading volume (or trades) by each category within the corresponding *Rtdays* group. *Full Sample* reports the share relative to all round-trip trades in the sample.

Panel A : Trading Volume Fraction

	Within Group			**Full Sample**		
	Top5	Top10	All Dealers	Top5	Top10	All Dealers
Rtdays = 0	30.82%	36.64%	38.75%	5.81%	6.90%	7.30%
Rtdays $\leq$ 1	23.24%	30.48%	32.79%	9.32%	12.22%	13.15%
Rtdays $\leq$ 3	21.84%	28.48%	30.76%	11.15%	14.53%	15.70%
Rtdays $\leq$ 7	20.25%	26.35%	28.70%	12.37%	16.09%	17.53%
Rtdays $\leq$ 14	19.88%	25.98%	28.53%	13.11%	17.14%	18.81%
Rtdays $\leq$ 30	19.70%	25.52%	28.25%	14.08%	18.24%	20.19%
Rtdays $\leq$ 60	19.47%	25.02%	27.85%	15.01%	19.28%	21.47%

Panel B : Number of Trades Fraction

	Within Group			**Full Sample**		
	Top5	Top10	All Dealers	Top5	Top10	All Dealers
Rtdays = 0	18.01%	22.07%	23.97%	2.81%	3.44%	3.74%
Rtdays $\leq$ 1	15.97%	21.20%	23.69%	4.22%	5.60%	6.26%
Rtdays $\leq$ 3	15.34%	20.40%	22.93%	5.05%	6.71%	7.54%
Rtdays $\leq$ 7	14.51%	19.22%	21.85%	5.84%	7.74%	8.80%
Rtdays $\leq$ 14	14.67%	18.81%	21.59%	6.62%	8.50%	9.75%
Rtdays $\leq$ 30	14.41%	18.29%	21.21%	7.51%	9.52%	11.05%
Rtdays $\leq$ 60	14.03%	17.61%	20.61%	8.49%	10.65%	12.47%

Table 8: **Results of insufficient dealer-intermediation**

Panel A reports bond-day level regressions, where the dependent variable is *Price Dispersion*, defined as the difference between the highest and lowest transaction prices for a given bond on a given day. The key independent variable is $\mathbb{I}$(With C), a dummy equal to 1 if any liquidity provider in the bond-day is a customer, and 0 otherwise. Panel B presents transaction-level regressions, where the dependent variable is *Return*. The main independent variable is the interaction between $\mathbb{I}$(C2C) and lagged *Return*. $\mathbb{I}$(C2C) is a dummy equal to 1 if both the buyer and the seller in a transaction are customers. Control variables include *Period*, *Coupon*, *Issue Size*, *Bond Rating*, *Callable*, *Puttable*, *Credit Spread*, *Maturity*, *Listed*, and *SOE*. Columns (1)–(2) use the full sample, while columns (3)–(5) report results for subsamples defined by bond credit ratings. Standard errors are clustered at the bond level, and t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Execution Quality

	Dependent Variable: **Price Dispersion**			
	(1)	(2)	(3)	(4)
$\mathbb{I}$(With C)	808.254***	882.375***	363.012***	
	(6.12)	(7.08)	(2.93)	
$\mathbb{I}$(With passive C)				630.877***
				(4.47)
$\mathbb{I}$(Without passive C)				122.521
				(0.92)
Constant	619.963***	547.028***	1156.970***	1188.851***
	(5.36)	(4.74)	(9.50)	(9.75)
Quarter FE	NO	YES	NO	NO
Bond FE	NO	NO	NO	NO
Bond×Quarter FE	NO	NO	YES	YES
Observations	78,949	78,949	68,798	68,798
Adj. R^2	0.000	0.008	0.185	0.186

Panel B: Price Dynamics

	Dependent Variable: **Return**$_{j+1}$		
	(1)	(2)	(3)
$\mathbb{I}$(C2C) × Return$_j$	-0.023**	-0.021**	-0.023**
	(-2.33)	(-2.10)	(-2.32)
$\mathbb{I}$(C2C)	0.080	0.090	-0.070
	(0.14)	(0.15)	(-0.12)
Return$_j$	-0.148***	-0.144***	-0.150***
	(-22.44)	(-21.44)	(-22.90)
Controls	NO	YES	NO
Bond FE	NO	NO	YES
Day FE	YES	YES	YES
Liquidity Provider FE	YES	YES	YES
Liquidity Demander FE	YES	YES	YES
Observations	429,223	419,292	429,196
Adj. R^2	0.059	0.065	0.056

Table 9: **Balance sheet constraints**

The table presents balance sheet constraints that different types of commercial bank dealers face and how these constraints relate to dealers' willingness to take inventory. This table presents regressions at the dealer bank–quarter level. The key independent variable is $\mathbb{I}$(Large Banks), a dummy equal to 1 if the dealer bank is classified as a large state-owned commercial bank, and 0 otherwise. Panel A examines bank-level regulatory indicators. The dependent variable in Columns (1) and (2) is the capital adequacy ratio (CAR), and in Columns (3) and (4) is the leverage ratio. Panel B investigates the extent of inventory-taking by dealer banks. The dependent variable is the proportion of round-trip trading volume with holding periods (Rtdays) exceeding a given threshold relative to total round-trip volume across all holding periods. Specifically, the threshold for holding period is set to 1 day in Columns (1) and (2), 3 days in Columns (3) and (4), and 7 days in Columns (5) and (6). Standard errors are clustered at the dealer bank level, and t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Regulatory Constraints Across Banks

	CAR		LEV	
	(1)	(2)	(3)	(4)
$\mathbb{I}$(Large Banks)	1.802***	1.862***	0.951***	0.985***
	(4.06)	(3.93)	(3.16)	(3.11)
Constant	12.281***	12.261***	5.824***	5.811***
	(54.58)	(53.10)	(42.87)	(43.48)
Quarter_FE	NO	YES	NO	YES
Observations	404	404	294	294
Adj. R^2	0.204	0.275	0.136	0.158

Panel B: Willingness to Take Inventory Across Banks

	%(Rtdays > 1)		%(Rtdays > 3)		%(Rtdays > 7)	
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{I}$(Large Banks)	0.206**	0.211**	0.233*	0.239**	0.255**	0.259**
	(2.28)	(2.23)	(2.09)	(2.09)	(2.13)	(2.11)
Constant	0.565***	0.564***	0.489***	0.488***	0.399***	0.398***
	(10.64)	(10.36)	(10.03)	(10.04)	(8.74)	(8.97)
Quarter FE	NO	YES	NO	YES	NO	YES
Observations	328	328	314	314	293	293
Adj. R^2	0.074	0.077	0.088	0.088	0.108	0.095

Table 10: **Loan competition**

This table reports regression results at the dealer bank–quarter level, examining the intermediation behavior of commercial bank dealers and its relation to their quarterly net interest margins (NIMs). The dependent variables are *Rtdays*, which denotes the holding period of a round-trip trade (measured as the number of calendar days between the sell and buy dates), and *Return*, the annualized return (in percent) of round-trip trades. Both are aggregated at the dealer bank–quarter level. The key independent variable is the dealer's NIM, measured at the same level. Control variables include lagged *Size*, *Loan*, *Gap*, *LDR*, *LCR*, *EAR*, and *CAR*. Standard errors are clustered at the dealer bank level, and t-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Large Banks		Other Banks	
	Rtdays	Return	Rtdays	Return
	(1)	(2)	(3)	(4)
NIM	-22.790**	10.412**	-1.306	0.897
	(-3.29)	(2.63)	(-0.17)	(0.07)
Size	20.492	-11.442	9.158	-4.954
	(0.64)	(-1.09)	(1.17)	(-0.97)
Loan	1.212	-0.340	-0.058	1.508
	(0.39)	(-0.38)	(-0.03)	(0.60)
Gap	-4.261	2.374**	-0.145	0.796
	(-1.45)	(2.85)	(-0.44)	(1.52)
LDR	4.546**	-0.773	0.764	-1.495
	(2.97)	(-1.32)	(1.35)	(-1.44)
LCR	-0.012	0.003	0.091	-0.186
	(-0.08)	(0.04)	(0.55)	(-1.11)
EAR	0.864	8.421	-0.636	8.614
	(0.12)	(1.34)	(-0.06)	(1.67)
CAR	11.324	-19.794**	-2.098	-4.126
	(1.24)	(-3.60)	(-0.45)	(-0.70)
Control	YES	YES	YES	YES
Quarter FE	YES	YES	YES	YES
Dealer Bank FE	YES	YES	YES	YES
Observations	72	72	88	88
Adj. R^2	0.221	0.188	-0.007	-0.066

Table 11: **Information asymmetry**

Panel A reports regressions at the bond–quarter level. The dependent variable $\mathbb{I}$(No dealer participate) is a dummy variable indicating whether dealers participated in trading the bond during that quarter, with a value of one if dealers traded and zero otherwise. The key independent variable, %Informed Vol (%Informed Num) , measures the proportion of informed trading volume (or number of trades) relative to total trading activity for a given bond in a given quarter. Panel B reports bond–month level regressions. The dependent variables are corporate bond returns (%) across different holding periods. The main independent variable is the standardized monthly net order flow of each participant type. t-statistics are based on standard errors clustered at the bond level and are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Informed Trading

	$\mathbb{I}$(No dealer participate)		Dealer fraction	
	(1)	(2)	(3)	(4)
% Informed Vol	0.032		-0.018	
	(1.55)		(-1.70)	
% Informed Num		0.031		-0.018
		(1.60)		(-1.67)
Controls	YES	YES	YES	YES
Quarter FE	YES	YES	YES	YES
Observations	17,264	17,264	17,264	17,264
Adj. R^2	0.082	0.082	0.037	0.037

Panel B: Return Predictability

	(1)	(2)	(3)
	Return$_{m+1}$(%)	Return$_{m+1-m+2}$ (%)	Return$_{m+1-m+3}$ (%)
Commercial Banks	0.000	-0.002	-0.005
	(0.08)	(-0.28)	(-0.79)
Security Firms	-0.008	-0.001	-0.002
	(-1.54)	(-0.14)	(-0.38)
Shadow Banks	0.001	0.004	0.010
	(0.93)	(0.70)	(1.49)
Bond Funds	0.012***	0.012***	0.018***
	(4.01)	(2.83)	(3.63)
Insurance	-0.004	-0.007*	-0.009*
	(-1.40)	(-1.72)	(-1.84)
Others	0.004	0.004	0.004
	(1.22)	(0.73)	(0.68)
Controls	YES	YES	YES
Month FE	YES	YES	YES
Observations	44,182	42,471	40,825
Adj. R^2	0.211	0.650	0.614

A Appendix

A.1 Variable Definition

Variable	**Definition**
Period (years)	Bond maturity at issuance.
Coupon (%)	Issued coupon rate of the bond.
Issue Size(billions)	Issuance size of the bond.
Bond Rating	Coded numerically: 1 = AAA, 2 = AA+, and 3 = below AA (including AA and AA-).
Embed	Dummy variable equal to one if the bond contains any embedded option.
Callable	Dummy variable equal to one if the bond is callable.
Puttable	Dummy variable equal to one if the bond is puttable.
Credit Spread(%)	Yield difference between the corporate bond and a Chinese treasury bond of the same maturity.
Maturity (years)	Remaining time to maturity as of the trading date.
Listed	Dummy variable equal to one if the issuer is publicly listed.
SOE	Dummy variable equal to one if the issuer is a state-owned enterprise.
Issuer Rating	Coded numerically: 1 = AAA, 2 = AA+, and 3 = AA or AA-.
Degree	The number of other participants with which a given institution directly trades
Roundtrip	A roundtrip consists of a buy and sell transaction of the same dealer and same bond, day, and quantity
Rtdays	The holding period of a round-trip trade, measured as the number of calendar days between the sell date and the buy date of a round-trip trade.
Price Dispersion	The difference between the highest and lowest transaction prices of bond i on day t
Return	$$Return_j = \ln\left(\frac{\text{Trade Price}_j}{\text{Trade Price}_{j-1}}\right)$$ where Trade Price_j refers to the transaction price for trade j, Return is measured in basis points

$\mathbb{I}$(With C)	Dummy variable equal to 1 if any liquidity provider in the bond-day is a customer (non-dealer), and 0 otherwise.
$\mathbb{I}$(With passive C)	Dummy variable equal to 1 if any liquidity provider in the bond-day is a buy-and-hold customer (such as commercial banks, insurance companies, and pension funds), and 0 otherwise.
$\mathbb{I}$(Without passive C)	Dummy variable equal to 1 if any liquidity provider on the bond-day does not include buy-and-hold customers (such as commercial banks, insurance companies, and pension funds), and 0 otherwise.
$\mathbb{I}$(C2C)	Dummy variable equal to 1 if both the buyer and the seller in a transaction are customers (non-dealers), and 0 otherwise.
$\mathbb{I}$(No dealer participate)	Dummy variable equal to one if no dealers participated in trading the bond during that quarter, and 0 otherwise.
CAR	Capital Adequacy Ratio, calculated as regulatory capital divided by risk-weighted assets (in %)
LEV	The ratio of net Tier 1 capital to adjusted on- and off-balance sheet assets(in %)
Size	The natural logarithm of a bank's total assets, measured in 100 million RMB
Loan	The ratio of loans to total assets (in %)
Gap	Interest rate sensitivity gap (Income Gap) = RSA – RSL, where RSA is the amount of assets and RSL is the amount of liabilities that reprice or mature within one year. It measures the sensitivity of net interest income to interest rate changes (Gomez et al., 2021)
LDR	Loan-to-deposit ratio (in %), calculated as total loans divided by total deposits (Chen et al., 2018)
LCR	Liquidity coverage ratio of the bank (in %)
EAR	Equity-to-Asset ratio (in %)
% Informed Vol	The proportion of informed trading volume relative to total trading activity for a given bond in a given quarter. A trade is classified as informed if the trade initiator's (i.e., the liquidity demander's) buy (sell) order is followed by an increase (decrease) in the subsequent trading price

% Informed Num	The proportion of the number of informed trades relative to total trading activity for a given bond in a given quarter. A trade is classified as informed if the trade initiator's (i.e., the liquidity demander's) buy (sell) order is followed by an increase (decrease) in the subsequent trading price
Order Imbalance	The buy volume minus the sell volume of non-dealer investors in a bond during a month, divided by the bond's total issuance size