

A Corporate Bond Market in Transition: Trading Activity, Credit Risk, and Issuer Heterogeneity in India

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Abstract

This study examines the changing structure of secondary-market trading in Indian corporate bonds between January 2023 and March 2026. The evidence points to a market in transition. Transaction counts increase sharply while typical transaction sizes decline, but the increase in trading is concentrated in specific segments rather than distributed uniformly across the market. Trading frequency rises as credit quality declines from AAA-rated through A and BBB-rated before falling below investment grade, and intensive trading is disproportionately concentrated among A/BBB-rated bonds issued by Non-Banking Financial Companies (NBFCs), particularly Investment and Credit Companies and Micro Finance Institutions. Credit ratings remain strongly associated with yield spreads, while issuer characteristics and NBFC business models provide additional information about the pricing of risk. Security-level evidence further shows that previously dormant A/BBB-rated NBFC bonds are substantially more likely than other bonds to become actively traded following a large transaction, with subsequent transactions occurring in considerably smaller amounts. This activation, however, is not accompanied by systematic yield compression. The findings therefore reveal a corporate bond market becoming substantially more active and extending trading to securities that previously traded infrequently, while retaining significant differentiation in credit-risk pricing. The evidence illustrates that greater transaction activity and broader secondary-market trading need not imply uniformly greater liquidity or lower required compensation for risk.

Keywords: Corporate bonds; Secondary-market trading; Market liquidity; Credit risk; Non-Banking Financial Companies (NBFCs)

1. Introduction

India's corporate bond secondary market underwent a striking change between January 2023 and March 2026. The number of transactions increased sharply while typical transaction sizes declined, but this increase in trading was not distributed uniformly across the market. It was concentrated particularly among A/BBB-rated bonds issued by Non-Banking Financial Companies (NBFCs), including securities that had previously traded very little. At the same time, substantial differentiation in credit-risk pricing persisted, and the activation of previously dormant bonds was not followed by systematic yield compression. This paper documents this transition by bringing together market-wide changes in trading activity with security-level transaction behavior, credit ratings, yield spreads, issuer characteristics, and NBFC business models.

These findings illustrate an important distinction in evaluating the development of a corporate bond market. A market can become substantially more active without becoming uniformly more liquid. Aggregate trading value alone may obscure changes in the number and size of

transactions and in the types of securities being traded. Moreover, greater transaction frequency need not imply lower required compensation for credit risk or an ability to sell securities readily at competitive prices. Understanding market development therefore requires examining trading activity together with the credit characteristics of the securities, the issuers behind them, and the pricing of risk.

India provides a useful setting for examining these issues. Its corporate bond market has traditionally been characterized by private placements directed primarily toward institutional investors and relatively limited secondary-market trading. More recently, the stock of corporate bonds outstanding and secondary-market activity have increased substantially, while reductions in minimum denominations and developments in trading and distribution infrastructure have expanded the scope for smaller-ticket transactions. Because privately placed bonds may subsequently trade in the secondary market, the sharp increase in transaction counts raises an important question: which securities account for the increase in trading, and how do the credit quality and characteristics of their issuers differ from those of securities that continue to trade relatively infrequently?

We examine exchange-traded Indian corporate bonds from January 2023 through March 2026, combining transaction information with bond characteristics, credit ratings, issuer classifications, and government bond yields used to construct yield spreads. The sample period was selected to provide a contemporary post-pandemic window for examining the corporate bond market rather than around particular regulatory events or observed changes in trading activity; the ending date reflects the availability of transaction data when the dataset was assembled. Several regulatory and institutional developments occurred during the period and provide important context for interpreting the evolution of the market, but the analysis does not treat them as defining events or attempt to attribute the observed changes in trading to particular reforms.

Particular attention is given to NBFCs, an important source of corporate bond issuance in India. Rather than treating NBFCs as a homogeneous issuer class, we distinguish among their underlying business models using Reserve Bank of India (RBI) classifications, including Investment and Credit Companies (ICCs), Micro Finance Institutions (MFIs), Infrastructure Finance Companies (IFCs), and other NBFC categories.¹ This classification allows us to examine the interaction among trading behavior, credit quality, issuer type, and business model rather than attributing differences in trading or pricing simply to NBFC status.

The empirical evidence first establishes that the increase in secondary-market activity represents a change in the structure of trading rather than simply an increase in its aggregate value. Transaction counts rise much more rapidly than aggregate trading value, typical transaction size declines, and structural-break tests identify significant changes in trading activity during the sample period. The break dates are estimated from the trading data rather than imposed using

¹ The RBI classifies NBFCs according to their principal activities and regulatory characteristics. The classifications used in this study and their institutional background are described in Appendix A.

dates of regulatory or institutional changes. The changes are also concentrated in specific parts of the market. Trading frequency increases as credit quality declines from AAA through A and BBB, accompanied by substantially smaller transaction values, before declining again below investment grade.

Issuer characteristics further distinguish the securities associated with this transition. Intensive trading is disproportionately concentrated among A/BBB-rated NBFC bonds, particularly among ICC and MFI issuers, rather than being a general feature of either NBFC bonds or lower-rated securities. Credit ratings remain strongly associated with yield spreads, but issuer type provides additional information: the additional spread associated with NBFC issuers is relatively small among highly rated securities and becomes substantially larger among A/BBB-rated bonds. The market also differentiates among NBFC business models. Increased trading activity therefore coexists with substantial differentiation in the pricing of underlying issuer credit risk.

Security-level evidence reinforces this result. Previously dormant A/BBB-rated NBFC bonds are substantially more likely than other bonds to become actively traded following a large transaction. Approximately one-half of qualifying large transactions in previously dormant A/BBB-rated NBFC bonds are followed by substantially more active trading, and subsequent transactions are considerably smaller than the initiating transaction. The expansion in market activity therefore involves not only increased trading in already-active securities but also the activation of securities that had previously traded very little.

Greater trading activity, however, is not accompanied by systematic yield compression. The large transactions associated with activation do not occur at systematically wider spreads than comparable recently traded bonds, and the subsequent increase in trading is not followed by a general narrowing of spreads. Increased transaction frequency therefore need not imply an improvement in liquidity that is reflected in bond prices. More frequent trading can coexist with substantial compensation for credit risk and with costs or uncertainty associated with subsequent resale. Understanding this distinction requires considering the institutional setting in which India's corporate bond secondary market has evolved.

2. Institutional Setting and Related Literature

2.1 Evolution of the Corporate Bond Market and Investor Access

The Indian corporate bond market has expanded substantially in recent years, although its primary market continues to be dominated by private placements. As shown in Panel A of Table 1, between January 2023 and March 2026, private placements raised ₹29.57 trillion through 5,311 issues, compared with only ₹394.86 billion through 137 public issues. Private placements therefore accounted for the overwhelming majority of corporate bond issuance during the period. Public issues provide a direct route through which individual investors can subscribe to newly issued bonds, whereas private placements initially allocate securities to a more restricted group of investors. The subsequent listing and trading of privately placed securities, however, can make

these bonds available to a broader set of investors in the secondary market. This distinction between the initial placement of a bond and its subsequent accessibility is important for understanding recent developments in the Indian corporate bond market.

Table 1. Evolution of the Indian Corporate Bond Market and Investor Channels

Panel A. Corporate Bond Issuance and Secondary-Market Activity					
Primary market issuance (calendar year)					
Variable	Year 2023	Year 2024	Year 2025	Jan. – Mar. 2026	Total
Private issues (₹ millions)	8,266,090	9,622,270	9,446,170	2,234,720	29,569,240
No. of issues	1,281	1,666	1,898	466	5,311
Public issues (₹ millions)	181,040	101,220	85,210	27,380	394,860
No. of issues	43	45	43	6	137
Outstanding corporate bonds (₹ millions)					
	Mar. 2023	Mar. 2024	Mar. 2025	Mar. 2026	
Total	43,166,720	47,220,100	53,635,550	59,091,620	
Outstanding bonds by issuer type in percentages^a					
		Apr. 2024	Mar. 2025	Mar. 2026	
Banks		16.07	15.00	13.05	
Bank/PSU/Government-owned HFCs		4.32	4.53	3.81	
Bank/PSU/Government-owned NBFCs		17.55	17.47	16.38	
PSUs/Statutory Bodies		21.27	21.11	20.11	
NBFC		11.32	11.50	13.88	
HFC		2.47	2.68	2.54	
Corporate		26.43	26.79	28.60	
Others		0.57	0.92	1.63	
Secondary-market activity (fiscal year)^b					

Variable	FY 2022-2023	FY 2023-2024	FY 2024-2025	FY 2025-2026	
Total trade value (₹ millions)	13,571,100	13,733,940	17,099,330	22,071,470	
No. of trades ^c	1,305,931	1,291,437	1,190,822	2,841,854	

Notes: ^a Detailed SEBI classification of outstanding corporate bonds by issuer type is available from April 2024; issuer composition is therefore reported for April 2024, March 2025, and March 2026. SEBI separately classifies NBFCs and HFCs owned by banks, PSUs, or government entities from other NBFCs and HFCs. ^b Fiscal year is from April through March. ^cSecondary-market trade counts are market-wide aggregate statistics reported by SEBI and should not be compared directly with the number of observations in the empirical sample described in Section 3. The empirical data consist of exchange-ISIN-date records, each of which may represent multiple underlying trades.

Panel B. Corporate bond mutual fund statistics				
Variable	Banking and PSU Fund ^d (percentage)	Corporate Bond Fund ^e (percentage)	Credit Risk Fund ^f (percentage)	Total
Jan. 2023				
No. of Schemes	23 (38.98)	21 (35.59)	15 (25.43)	59
No. of Folios	300,675 (25.90)	611,046 (52.63)	249,244 (21.47)	1,160,965
Assets Under Management (₹ millions)	734,087.1 (34.59)	1,138,095.4 (53.62)	250,181.6 (11.79)	2,122,360
Mar. 2026				
No. of Schemes	20 (36.36)	21 (38.18)	14 (25.46)	55
No. of Folios	239,277 (23.60)	573,401 (56.56)	201,026 (19.84)	1,013,704
Assets Under Management (₹ millions)	746,196.8 (27.37)	1,784,306.1 (65.44)	196,112.4 (7.19)	2,726,620
Cumulative net inflow/(outflow),	-170,940	+261,650	-113,360	

Jan. 2023–Mar. 2026 (₹ millions)				
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Notes: ^d Minimum 80% invested in debt instruments of banks, PSUs, Public Financial institutions and municipal bonds, ^e Minimum 80% invested in corporate bonds rated AA+ and above, ^f Minimum 65% invested in corporate bonds rated AA and below. Data obtained from Association of Mutual Funds in India.

Panel C. Registered OBPPs	Number
Listed/enabled by NSE	39
Listed/enabled by BSE	37
Unique SEBI registrations across NSE and BSE	56
OBPP Association members	22

Notes: NSE and BSE counts are not additive because some OBPPs are registered/enabled on both exchanges. The combined count represents unique SEBI registration numbers. Registration or enablement does not necessarily indicate an economically active platform. OBPP Association membership is reported separately.

The stock of outstanding corporate bonds also increased considerably during the study period. Outstanding corporate bonds rose from ₹43.17 trillion in March 2023 to ₹47.22 trillion in March 2024, ₹53.64 trillion in March 2025, and ₹59.09 trillion in March 2026. The more detailed SEBI classification available from April 2024 indicates that financial institutions and public-sector entities continued to account for a substantial share of outstanding bonds, although the composition changed gradually. Between April 2024 and March 2026, the share of bank/PSU/government-owned NBFCs declined from 17.55 percent to 16.38 percent, while the share of other NBFCs increased from 11.32 percent to 13.88 percent. The share of corporate issuers increased from 26.43 percent to 28.60 percent. These changes indicate that the growth in the stock of corporate debt was accompanied by some expansion in the relative importance of privately owned NBFCs and corporate issuers.

Growth in the outstanding stock of bonds was accompanied by a particularly pronounced change in secondary-market activity. Total secondary-market trade value increased from ₹13.57 trillion in FY2022–23 to ₹13.73 trillion in FY2023–24, ₹17.10 trillion in FY2024–25, and ₹22.07 trillion in FY2025–26. The number of transactions followed a markedly different pattern. It remained around 1.2–1.3 million during the first three fiscal years but increased to approximately 2.84 million in FY2025–26. Thus, the most recent increase in secondary-market activity involved a substantially larger proportional increase in the number of transactions than in aggregate trading value. These aggregate statistics provide an initial indication of a change in the

manner in which corporate bonds were traded, an issue examined using security-level trading data later in the paper.

Mutual funds provide an important institutional channel through which investors obtain exposure to corporate debt without purchasing individual bonds. Panel B of Table 1 reports three debt-fund categories particularly relevant to the corporate bond market: Banking and PSU Funds, Corporate Bond Funds, and Credit Risk Funds. Their investment mandates differ substantially by issuer and credit quality. Corporate Bond Funds must invest at least 80 percent of their assets in corporate bonds rated AA+ and above, whereas Credit Risk Funds must invest at least 65 percent in corporate bonds rated AA and below. Banking and PSU Funds must invest at least 80 percent in debt instruments issued by banks, PSUs, public financial institutions, and municipal entities (SEBI, 2020). These restrictions make the three categories useful indicators of institutional demand across different segments of the corporate debt market.

The evolution of these funds during the study period was uneven. Corporate Bond Fund assets under management increased from approximately ₹1.14 trillion in January 2023 to ₹1.78 trillion in March 2026, accompanied by cumulative net inflows of ₹261.65 billion. Over the same period, Banking and PSU Funds experienced cumulative net outflows of ₹170.94 billion, while Credit Risk Funds experienced cumulative net outflows of ₹113.36 billion and their assets under management declined from approximately ₹250.2 billion to ₹196.1 billion. The number of folios in all three categories also declined. These patterns do not identify the investors responsible for individual secondary-market transactions, nor do they measure the entire institutional demand for corporate debt. They nevertheless indicate that the sharp increase in secondary-market activity, particularly in lower-rated securities, did not coincide with an expansion of conventional debt-mutual-fund participation in the corresponding lower-rated segment.

The expansion of the market also occurred alongside regulatory initiatives intended to improve trading infrastructure and broaden investor access. One important development was the introduction of exchange-based Request for Quote (RFQ) platforms. The RFQ platform provides a mechanism through which participants can request and respond to quotes for corporate bonds and other fixed-income securities. Participants may trade directly or through SEBI-registered stock brokers in the debt segment, and quotes can be sought from an identified counterparty or from multiple participants. SEBI progressively encouraged or required specified institutional investors to undertake portions of their corporate bond transactions through RFQ platforms (SEBI, 2023). RFQ platforms subsequently also became important to online bond distribution. Orders placed through OBPPs are required to be routed through the RFQ platform of a recognized stock exchange, linking the expansion of online bond distribution to exchange-based trading infrastructure.

A second set of changes reduced the denomination barrier to investment in privately placed bonds. In 2022, SEBI approved a reduction in the face value of listed privately placed debt securities from ₹1 million to ₹100,000. The minimum was subsequently reduced further to

₹10,000 in 2024 for eligible debt securities, subject to specified conditions (SEBI, 2022a, 2024). These changes permitted eligible debt securities to be issued in smaller denominations, thereby substantially reducing the minimum amount required to purchase a unit of such securities. The changes are particularly relevant because privately placed bonds constitute the overwhelming majority of new corporate debt issuance in India.

The reduction in minimum denominations occurred alongside an expansion in the channels through which individual investors could access corporate bonds. Retail investors can participate directly in public issues of non-convertible debentures (NCDs) and can purchase listed bonds in the secondary market through exchange trading mechanisms and SEBI-registered stock brokers. Investors with demat and trading accounts may therefore obtain access to listed corporate bonds through some of the same brokerage relationships used for other exchange-traded securities. Bank and investment platforms also provide access to public NCD offerings. These channels predate, and continue to operate alongside, the more specialized online bond platforms that have emerged in recent years.

Online Bond Platform Providers (OBPPs) represent a more recent development within this broader distribution network. Online platforms offering debt securities to non-institutional investors had begun operating before a specific regulatory framework was established. SEBI introduced a formal regulatory framework in November 2022, under which entities operating or proposing to operate as OBPPs are required to register with SEBI as stock brokers in the debt segment of a recognized stock exchange. The framework brought these platforms within securities-market regulation and established requirements governing their operations and the debt securities offered through them (SEBI, 2022b). The growing importance of this channel is reflected in RFQ activity. SEBI reports that the number of RFQ trades increased from approximately 276,000 in FY2024–25 to 1.784 million in FY2025–26, an increase it attributes primarily to greater participation in debt securities through OBPPs.

The number of registered platforms indicates the breadth of this emerging distribution infrastructure, although registration should not be interpreted as a measure of transaction activity. As reported in Panel C of Table 1, 39 OBPPs were listed or enabled by the NSE and 37 by the BSE, representing 56 unique SEBI registrations across the two exchanges. Twenty-two platforms were members of the OBPP Association. Because some platforms are enabled on both exchanges and registration does not necessarily imply an economically active platform, these figures are best viewed as indicators of the development of the distribution infrastructure rather than of the volume of business conducted through OBPPs.

The expansion of access to corporate bonds should therefore not be attributed to OBPPs alone. Public NCD issues, conventional brokerage platforms, exchange-based debt-market infrastructure, and specialized OBPPs provide overlapping routes through which individual investors can acquire corporate bonds. OBPPs may nevertheless reduce some of the informational and transactional barriers associated with direct bond investment by aggregating

available securities and presenting information such as credit ratings, yields, maturities, and security characteristics in a standardized digital interface. Distribution arrangements between specialized bond platforms and established brokerage firms can further blur the distinction between these channels. The institutional development during the study period is therefore better characterized as an expansion of the broader digital and intermediary-based distribution infrastructure for individual corporate bonds rather than as the emergence of a single new retail channel.

Taken together, these developments indicate that the recent evolution of the Indian corporate bond market involves more than growth in the amount of debt outstanding. The period is characterized by a larger stock of corporate debt, sharply increased secondary-market trading activity, lower minimum investment denominations, exchange-based RFQ infrastructure, formal regulation of online bond platforms, and an expanding set of channels through which non-institutional investors can obtain access to individual bonds. These institutional changes do not establish which investors generated the observed transactions or whether particular regulatory reforms caused the changes in trading activity. They provide the institutional setting within which the changes documented in the security-level trading data occurred.

2.2 Related Literature and Contribution

The literature relevant to this study spans three related areas: liquidity and trading in corporate bond markets, the development of the Indian corporate bond market, and the pricing of credit risk. A more recent literature on dealer intermediation and block transactions is also relevant to the trading patterns examined in this study. Together, these studies provide a useful framework for distinguishing between an increase in trading activity, an improvement in liquidity, and a change in the pricing of credit risk.

A substantial literature establishes that liquidity is an important characteristic of corporate bond markets. Unlike equities, individual corporate bonds often trade infrequently, and trading is fragmented across a large number of securities differing in maturity, coupon, rating, issue size, and contractual characteristics. Edwards, Harris, and Piwowar (2007), using U.S. corporate bond transactions reported through TRACE, document substantial variation in transaction costs across bonds and trade sizes and show the importance of post-trade transparency for the corporate bond market. Chen, Lesmond, and Wei (2007) examine several measures of bond-specific liquidity and find that less-liquid bonds have higher yield spreads even after controlling for credit quality and other bond, issuer, and macroeconomic characteristics. The effect is present in both investment-grade and speculative-grade bonds and is particularly pronounced among lower-quality securities. Bao, Pan, and Wang (2011) similarly document substantial illiquidity in corporate bonds and show that it has an important effect on bond prices. This literature establishes that observed corporate bond yield spreads reflect both credit risk and liquidity and that changes in market liquidity can therefore affect the pricing of corporate debt.

The relation between trading activity and liquidity, however, is not mechanical. Corporate bonds are commonly traded through intermediated markets in which dealers must balance the cost of locating counterparties against the risk of holding inventory. Goldstein and Hotchkiss (2020) show that dealers in the U.S. corporate bond market adjust their intermediation behavior according to the liquidity and risk of the security. For riskier and less actively traded bonds, dealers are more likely to offset positions rapidly rather than commit balance-sheet capacity for extended periods. Choi, Huh, and Shin (2024) further show that liquidity provision is not exclusively a dealer function. Customers can themselves provide liquidity, particularly when dealer balance-sheet capacity is constrained, illustrating that the sequence of transactions surrounding a large trade may reflect a more complex process of intermediation and inventory transfer.

Recent evidence on corporate bond block trading provides an especially relevant comparison for the present study. Jacobsen and Venkataraman (2025) use enhanced TRACE data to examine how dealers intermediate large corporate bond transactions. They distinguish between an initiating block transaction and subsequent offsetting transactions through which the dealer transfers positions to receiving investors. Their evidence shows that large transactions can generate a sequence of subsequent trades as positions are redistributed among market participants. Their data allow them to identify dealers and counterparties and thereby reconstruct the transfer process. This evidence suggests that an increase in trading following a large transaction need not represent a fundamental repricing of the security; it may instead reflect the intermediation and redistribution of an existing position.

The Indian corporate bond market provides a particularly useful setting in which to examine changes in trading activity because earlier studies consistently describe a market characterized by limited secondary trading and substantial institutional concentration. Bose and Coondoo (2003), studying exchange-traded corporate bonds from April 1997 through March 2001, document declining market depth and width, low trading frequency, and concentration of trading in a relatively small number of securities. They associate the limited secondary market partly with institutional investment practices and the tendency of major investors to hold debt securities rather than trade them actively. Their evidence provides an important historical benchmark for the security-level trading data examined in this study.

Subsequent research has focused more directly on the determinants of corporate bond yield spreads in India. Mukherjee (2019), using daily transaction data from 2011 through 2016, examines liquidity, credit quality, and yield spreads across issuer and rating categories. Credit rating, as a measure of default risk, significantly affects yield spreads, while the results also provide evidence of a relationship between bond liquidity and spreads. Thus, the Indian evidence broadly supports the international literature in showing that observed corporate bond spreads contain both credit-risk and liquidity components. At the same time, the relatively limited secondary-market activity documented in the Indian literature has made it difficult to examine how the composition of trading itself changes as the market develops.

Credit quality also influences the set of investors capable or willing to hold particular bonds. Regulatory requirements and investment mandates tend to concentrate traditional institutional demand in more highly rated securities. This segmentation is evident in the investment requirements for Indian debt mutual funds. Corporate Bond Funds are required to invest at least 80 percent of their assets in corporate bonds rated AA+ and above, while Banking and PSU Funds primarily invest in debt issued by banks, PSUs, public financial institutions, and municipal entities. Credit Risk Funds are an important exception: they are required to invest at least 65 percent of their assets in corporate bonds rated AA and below. As shown in Table 1, however, Credit Risk Funds constitute a relatively small segment of the debt mutual fund industry and experienced net outflows during the study period.

Credit ratings may also reflect different sources of credit support across issuer types. For government-controlled enterprises, the credit quality of a particular security may reflect explicit guarantees or other forms of government support in addition to the stand-alone financial condition of the issuer. Air India provides an instructive example. Prior to privatization, CRISIL assigned AAA(CE) ratings to government-guaranteed Air India debentures even though the corresponding unsupported rating was D, with the enhanced rating based on unconditional and irrevocable guarantees from the Government of India (CRISIL Ratings, 2021). Even in the absence of an explicit guarantee, government ownership may affect investors' expectations of support. Infrastructure issuers may have yet another source of credit protection. Concession rights, regulated revenues, contractual payment arrangements, or dedicated project cash flows can provide creditors with greater revenue visibility than the issuer's stand-alone financial characteristics might suggest. A toll-road concession, for example, may provide a project company with the right to collect toll revenues over a specified concession period. Consequently, a common observed credit rating need not imply identical underlying sources of credit risk across issuers.

Credit enhancement provides a further means of overcoming this segmentation by making otherwise lower-rated securities acceptable to institutional investors. Jaishankar, Tripathi, and Sharma (2023), for example, examine credit enhancement in Indian infrastructure finance and document cases in which additional protection raised the effective rating of securities and facilitated access to institutional investors. This represents one route through which the investor base for a borrower can be expanded: altering the credit characteristics of the security so that it satisfies the requirements of traditional investors. More generally, the distinction among stand-alone borrower quality, project or concession cash flows, explicit credit enhancement, and government support illustrates why an observed rating need not fully capture the economic sources of protection valued by bond investors.

The existing literature therefore provides substantial evidence on corporate bond liquidity, credit-risk pricing, and the institutional characteristics of the Indian bond market, but more limited evidence on how changes in secondary-market activity are distributed across individual securities and issuers as a market evolves. This study addresses that gap by combining security-

level trading data with credit ratings, yield spreads, issuer classifications, and NBFC business models. The analysis distinguishes an increase in transaction activity from an improvement in liquidity and examines whether the changing pattern of trading is concentrated among securities with particular credit and issuer characteristics. In doing so, the study connects the literature on corporate bond trading and liquidity with the recent evolution of India's corporate bond secondary market.

3. Data and Sample Construction

The sample covers January 2023 through March 2026. The starting date was selected to provide a contemporary post-pandemic sample while avoiding the exceptional disruptions associated with the COVID-19 period. The ending date reflects the availability of the transaction data when the dataset was assembled. The sample period was not selected around particular regulatory changes or observed changes in trading activity. As discussed in Section 2, several regulatory and institutional developments occurred during the sample period; these developments provide important context for interpreting the evolution of the market but did not determine the sample boundaries.

The primary data consist of daily secondary-market corporate bond trading records obtained from the Central Depository Services (India) Limited (CDSL). The CDSL reports contain transactions executed on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE). The analysis is restricted to exchange-executed transactions and excludes over-the-counter (OTC) transactions that are reported to the exchanges but executed outside the exchange trading mechanism. For each traded security, the daily files report the exchange, trade date, ISIN, listing status, issuer name, issue description, coupon rate, maturity date, credit rating, number of trades, total traded value, last traded price, volume-weighted average price (VWAP), weighted-average yield, and remarks. Minor formatting inconsistencies in the downloaded files, principally misplaced delimiters in individual records, were corrected before the daily files were combined.

Assembling the dataset required combining information from several independently maintained market and regulatory sources. During this process, we encountered occasional inconsistencies in security characteristics and issuer information across sources. These observations were reviewed individually and, where possible, checked against information available from alternative sources and individual ISIN records. The resulting database therefore reflects not only the matching of information across sources but also a process of cross-validation and manual verification of security- and issuer-level characteristics.

The ISIN provides the common identifier used to supplement the trading records with security- and issuer-level information. Bond characteristics were obtained from the NSDL India Bond Info database². We first used the database's broader search facility to obtain information on bonds outstanding during the sample period. When the required information for a security was not

² <https://www.indiabondinfo.nsdl.com/>

available through this search, the database was queried separately using the individual ISIN. This procedure was used to assemble bond-level information, including credit ratings and security and issuer characteristics. Attention was given to the timing of credit ratings so that each bond was assigned the rating applicable during the relevant trading period rather than a single rating applied throughout the sample.

For issuers classified as non-banking financial companies (NBFCs), regulatory classifications were obtained from the Reserve Bank of India's lists of registered NBFCs³. Issuers were matched to the RBI lists, and the RBI activity classifications were used to distinguish among the principal NBFC business models represented in the sample, including Housing Finance Companies (HFCs), Investment and Credit Companies (ICCs), Infrastructure Finance Companies (IFCs), and Micro Finance Institutions (MFIs). These classifications identify differences in the principal business activities of NBFCs and are distinct from the credit ratings assigned to their bonds.

The construction of the analytical sample proceeds in several stages. The CDSL database contains 365,445 exchange-level trading records during the sample period. To obtain a relatively homogeneous set of conventional debt securities with comparable contractual cash flows and tax treatment, we restrict the sample to taxable, non-convertible, non-callable, non-puttable securities with fixed coupon payments and fixed maturity dates. These restrictions reduce the sample to 246,292 exchange-level records.

Because the same ISIN can trade on both the NSE and BSE on the same date, exchange-level records were subsequently consolidated at the ISIN-date level. For an ISIN traded on both exchanges, the number of trades and total traded value were summed across the two exchanges. The daily bond yield was calculated as the trade-value-weighted average of the exchange-level weighted-average yields. Consolidation across the two exchanges reduces the sample to 179,870 ISIN-date observations. Thus, the unit of observation in the empirical analysis is an ISIN-date rather than an exchange-specific trading record.

Sovereign benchmark yields used to construct corporate bond yield spreads were obtained from the Zero Coupon Yield Curve published by the Clearing Corporation of India Limited (CCIL)⁴. For each ISIN-date observation, remaining maturity was calculated from the trade date and contractual maturity date. Because the CCIL zero-coupon rates used in the analysis are reported at half-year maturity intervals, remaining maturity was rounded to the nearest half-year and the corresponding zero-coupon yield was used as the sovereign benchmark. As a robustness check, we also generated benchmark yields at intermediate maturities using a smoothing procedure. The resulting benchmark yields differed only marginally from those obtained using the half-year matching procedure. We therefore use the simpler and more transparent half-year maturity matching procedure in the analysis. The corporate bond yield spread is calculated as the bond's

³ https://rbi.org.in/Scripts/BS_NBFCList.aspx

⁴ <https://www.ccilindia.com/zero-rates>

trade-value-weighted average yield minus the corresponding maturity-matched sovereign zero-coupon yield.

As an additional data-quality check, reported bond yields were independently verified by recalculating yields from the relevant bond characteristics and reported prices using the standard YIELD function in Microsoft Excel. The final analytical sample therefore contains 179,870 ISIN-date observations representing 4,048 individual bonds issued by 567 issuers.

Table 2. Sample Construction

Sample construction	Records/observations
CDSL exchange-level trading records	365,445
After security-structure and tax-status restrictions	246,292
After NSE/BSE consolidation to ISIN-date	179,870
Final analytical sample	179,870

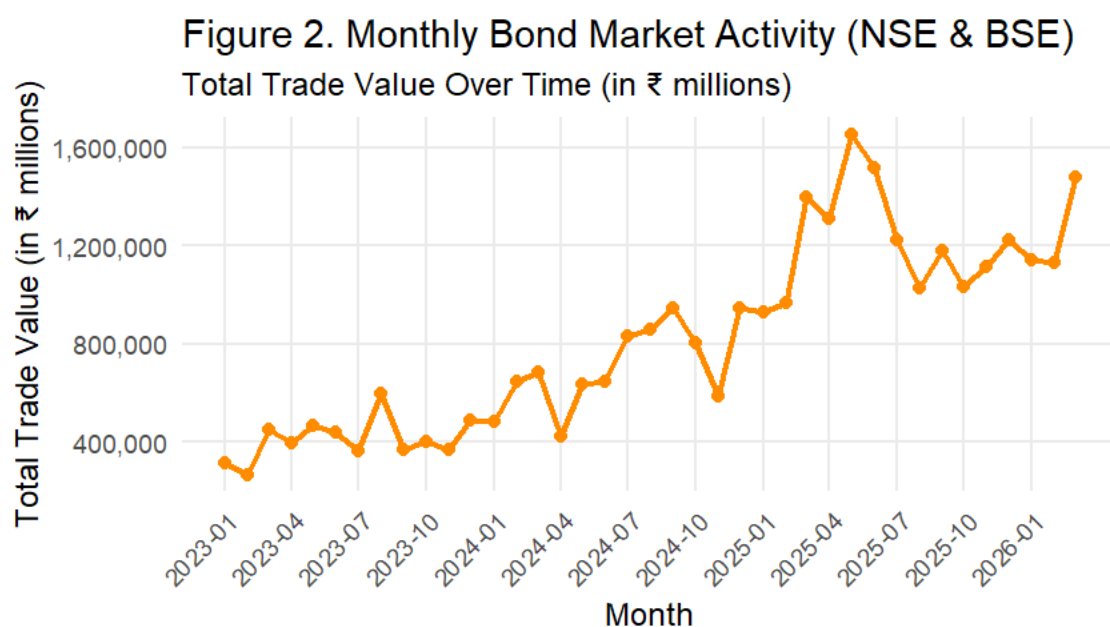
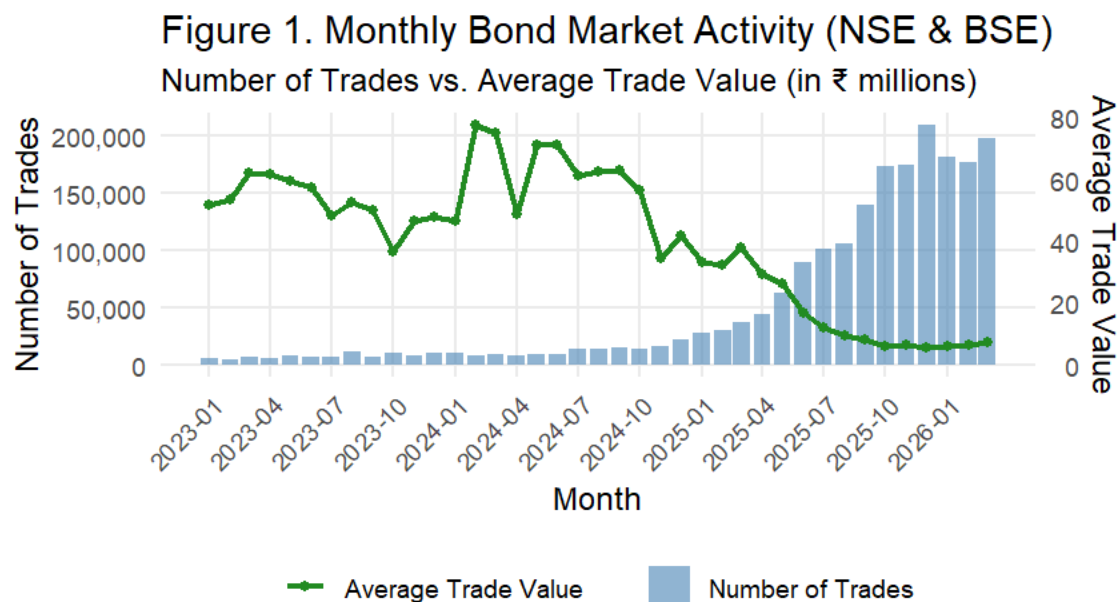
Note: The eligible sample is restricted to taxable, non-convertible, non-callable, non-puttable bonds with fixed coupon payments and fixed maturity dates. The first two rows report exchange-level trading records. Following consolidation of NSE and BSE records for the same ISIN on the same date, the unit of observation is an ISIN-date.

Data and Code Availability Statement: The analytical dataset was constructed by combining publicly available information from CDSL, NSDL India Bond Info, the Reserve Bank of India, and the Clearing Corporation of India Limited. Because the underlying information is distributed across multiple sources, construction of the dataset involved matching, reconciliation, and validation of security- and issuer-level information. The code used to construct the analytical variables and reproduce the empirical results is available from the authors upon reasonable request.

4. Empirical Analysis

4.1. The Changing Structure of Secondary-Market Trading

We begin the empirical analysis by examining the overall structure of secondary-market trading in Indian corporate bonds.



Figures 1 and 2 document a pronounced change in secondary-market trading in Indian corporate bonds over the sample period. The number of transactions increases substantially, with the acceleration becoming particularly pronounced during 2025. At the same time, the average value of individual transactions declines sharply. Total traded value also increases, but considerably less rapidly than the number of transactions. The expansion in secondary-market activity therefore reflects not simply an increase in the rupee value of bonds changing hands, but a marked shift toward a much larger number of smaller transactions.

This distinction is important for characterizing the evolution of the market. An increase in aggregate traded value by itself could arise from greater activity in the relatively large

transactions traditionally associated with an institutionally dominated corporate bond market. The simultaneous increase in transaction frequency and decline in average transaction value instead suggest that the composition of trading activity is changing. The divergence becomes especially visible toward the latter part of the sample, when transaction counts accelerate sharply while average transaction values fall to levels substantially below those observed earlier in the period.

Table 3: Sample and Market Structure

Panel A: Sample Characteristics

Variable	Total Sample (Mean) (Median) (Std. dev)	NBFC (Mean) (Median) (Std. dev)	Non-NBFC (Mean) (Median) (Std. dev)
Number of trades per ISIN-date	11.10 2.00 57.31	15.02 2.00 70.42	3.86 2.00 10.29
Total trade value per ISIN-date (₹ millions)	176.38 6.00 631.64	119.82 3.75 468.51	281.08 16.60 845.18
Average yield in percentages	9.38 9.27 1.96	9.78 10.04 2.02	8.64 8.66 1.59
Average spread in percentages	3.02 2.85 2.18	3.52 3.77 2.25	2.09 1.99 1.69
Number of days to maturity at the time of trade	1,538.69 1,168.00 1,210.50	1,285.14 950.00 1,130.18	2,008.06 1,803.00 1,214.10
Par value (in ₹s)	323,162.57 100,000.00 1,129,197.21	250,326.33 100,000.00 1,062,670.02	457,996.08 100,000.00 1,231,683.84
Number of obs.	179,870	116,784	63,086
Number of bonds	4,048	2,415	1,633
Number of issuers	567	229	338

B: Distribution by rating

Variable	AAA (Mean) (Median) (Std. dev)	AA (Mean) (Median) (Std. dev)	A (Mean) (Median) (Std. dev)	BBB (Mean) (Median) (Std. dev)	Below BBB (Mean) (Median) (Std. dev)
Number of trades per ISIN-date	2.12 1.00	5.56 2.00	23.57 3.00	32.92 4.00	2.43 2.00

	9.48	23.20	83.37	124.50	3.40
Total trade value per ISIN-date (₹ millions)	407.01 90.00 998.99	108.40 4.00 380.99	31.54 2.36 122.14	17.10 1.60 66.02	35.98 3.00 366.74
Average yield in percentages	7.32 7.53 0.91	9.54 9.46 1.17	10.80 10.89 1.26	12.20 12.00 1.17	11.80 11.00 2.39
Average spread in percentages	0.76 0.88 0.94	3.12 3.06 1.28	4.65 4.81 1.45	6.26 6.27 1.34	5.27 4.45 2.55
Number of days to maturity at the time of trade	2,070.45 1,767.00 1,503.52	1,642.87 1,465.00 1,038.83	997.86 722.00 716.68	668.51 620.00 362.94	1,432.42 1,232.50 1,009.53
Par value (in ₹s)	475,386.36 100,000.00 1,499,484.06	282,599.08 100,000.00 1,014,655.46	245,205.22 100,000.00 863,374.59	136,659.87 100,000.00 245,755.90	274,810.04 10,000.00 433,357.48
Number of obs.	57,311	61,525	45,331	14,007	1,696
Number of bonds	1,783	1,254	587	312	112
Number of issuers	150	192	117	85	50
NBFC bonds (% of bonds)	54.80	62.12	64.40	78.52	32.14

Note: There are some issuers with bonds with different ratings.

The changes visible in the figures are also reflected in the cross-sectional characteristics reported in Table 3. The sample contains 179,870 ISIN-date observations covering 4,048 bonds issued by 567 issuers. NBFC bonds account for 116,784 observations and 2,415 bonds, compared with 63,086 observations and 1,633 bonds for non-NBFC issuers. Although the median number of trades per ISIN-date is two for both groups, their means differ substantially: NBFC bonds average 15.02 trades per ISIN-date, compared with 3.86 for non-NBFC bonds. The transaction-value comparison runs in the opposite direction. The median total value traded per ISIN-date is ₹3.75 million for NBFC bonds, compared with ₹16.6 million for non-NBFC bonds. Thus, the greater trading frequency observed among NBFC securities is associated with substantially smaller transaction values.

NBFC and non-NBFC bonds also differ along dimensions that may affect both their pricing and their attractiveness in the secondary market. NBFC bonds have higher yields and credit spreads: their median yield is 10.04 percent and their median spread is 3.77 percentage points, compared with 8.66 percent and 1.99 percentage points, respectively, for non-NBFC bonds. They also have shorter remaining maturities. The median NBFC bond has 950 days remaining to maturity when traded, compared with 1,803 days for a non-NBFC bond. These differences suggest that the segment exhibiting greater trading frequency is also associated with higher yields and spreads and with securities having shorter remaining lives.

The rating distribution provides an additional indication that the changing trading structure is not uniform across securities. Mean trading frequency rises from 2.12 trades per ISIN-date for AAA bonds to 5.56 for AA bonds, 23.57 for A bonds, and 32.92 for BBB bonds. It then falls sharply to 2.43 for bonds rated below BBB. The relationship between credit quality and trading activity is therefore distinctly non-monotonic: the most intensively traded securities are concentrated at the lower end of investment grade rather than among the lowest-rated bonds.

Transaction size displays an equally striking rating pattern. Median traded value per ISIN-date declines from ₹90.0 million for AAA bonds to ₹4.0 million for AA bonds, ₹2.36 million for A bonds, and ₹1.6 million for BBB bonds. The securities with the greatest trading frequency are therefore also associated with much smaller transaction values. At the same time, their yields and spreads increase substantially. Median yields rise from 7.53 percent for AAA bonds to 9.46 percent for AA, 10.89 percent for A, and 12.00 percent for BBB, while median spreads rise from 0.88 to 3.06, 4.81, and 6.27 percentage points, respectively.

Maturity reinforces this pattern. Median remaining maturity declines from 1,767 days for AAA bonds to 1,465 days for AA bonds, 722 days for A bonds, and 620 days for BBB bonds. Thus, the segment characterized by particularly high trading frequency combines three features: lower investment-grade credit ratings, smaller transaction values, and shorter remaining maturities. This descriptive pattern will become important in the subsequent analysis.

4.1.1 Heterogeneity within the NBFC sector

The broad NBFC/non-NBFC comparison nevertheless conceals substantial heterogeneity within the NBFC sector. Table 4 separates NBFC issuers according to their RBI business classifications. The differences are substantial. Investment and Credit Companies (ICCs) average 17.91 trades per ISIN-date and Micro Finance Institutions (MFIs) average 19.34, compared with 2.47 for Housing Finance Companies (HFCs) and 1.94 for Infrastructure Finance Companies (IFCs). Median transaction values display almost the reverse ordering: ₹3.0 million for ICCs and ₹1.8 million for MFIs, compared with ₹4.67 million for HFCs and ₹50.0 million for IFCs.

Table 4: Sample Characteristics of NBFC Sub-categories

Variable	HFC (Mean) (Median) (Std. dev)	ICC (Mean) (Median) (Std. dev)	IFC (Mean) (Median) (Std. dev)	MFI (Mean) (Median) (Std. dev)	IDF+PD (Mean) (Median) (Std. dev)
Number of trades per ISIN-date	2.47 1 4.70	17.91 2.00 78.01	1.94 1.00 11.23	19.34 3.00 77.19	2.01 1.00 1.85
Total trade value per ISIN-date (₹ millions)	177.63 4.67 452.44	80.31 3.00 318.12	363.14 50.00 941.77	27.20 1.80 124.17	275.02 71.00 657.52
Average yield in percentages	9.03 8.54	10.19 10.30	6.81 7.26	11.37 11.24	7.90 7.95

	1.55	1.69	0.98	1.26	0.24
Average spread in percentages	2.68	4.01	0.22	5.11	1.22
	1.97	4.15	0.56	5.05	1.21
	1.65	1.91	1.01	1.38	0.30
Number of days to maturity at the time of trade	1,402.39	1,133.60	2,167.61	1,011.53	2,520.95
	1,121.00	824.00	1,812.00	864.00	2,292.00
	886.92	863.80	1,956.92	567.01	853.11
Par value (in ₹s)	748,391.44	230,268.28	268,447.71	150,832.72	23,831.43
	100,000.00	100,000.00	1000.00	100,000.00	1000.00
	2,335,607.47	1,062,044.92	682,692.48	243,091.53	98,569.09
Number of obs.	5,494	81,510	16,437	12,778	565
Number of bonds	227	1,630	392	138	28
Number of issuers	27	175	8	18	3

The same ordering is apparent in pricing and maturity characteristics. IFC bonds have a median yield of 7.26 percent and median spread of 0.56 percentage points, while HFC bonds have corresponding medians of 8.54 percent and 1.97 percentage points. ICC medians rise to 10.30 percent and 4.15 percentage points, and MFI medians to 11.24 percent and 5.05 percentage points. Remaining maturities are also substantially longer for IFC and HFC bonds: the respective medians are 1,812 and 1,121 days, compared with 824 days for ICC bonds and 864 days for MFI bonds.

These comparisons indicate that the changing structure of secondary-market activity should not be characterized simply as an “NBFC effect.” Within the NBFC sector, high-frequency, smaller-value trading is disproportionately associated with ICC and MFI securities, which also tend to carry higher yields and spreads and shorter remaining maturities. IFC bonds provide an important contrast: despite belonging to the NBFC sector, their low trading frequency, large transaction values, lower yields and longer maturities more closely resemble the characteristics of the traditional institutional segment of the corporate bond market.

The more detailed rating distributions within the RBI business classifications, reported in the Appendix, reinforce this interpretation. In particular, trading among ICC bonds rises sharply at the lower end of investment grade: mean trades per ISIN-date increase from 2.08 for AAA and 4.77 for AA bonds to 33.38 for A and 41.24 for BBB bonds, before falling to 1.98 for bonds below BBB. This provides further evidence that the emerging pattern is not a general movement toward the lowest credit quality. Instead, it is concentrated particularly in A/BBB securities issued by particular types of NBFCs.

4.1.2 Identifying changes in the trading regime

The pronounced temporal changes visible in Figures 1 and 2 motivate a more formal examination of whether the market experienced identifiable shifts during the sample period. We apply Bai–Perron structural-break tests to monthly trading activity.

Table 5. Bai–Perron Tests for Multiple Structural Breaks in Market Activity**Panel A: Model Selection for Unknown Breakpoints ($h = 6$)**

Number of Breaks (m)	ln(Monthly trades) (RSS)	ln(Monthly trades) (BIC)	ln(Avg. trade value) (RSS)	ln(Avg. trade value) (BIC)
$m = 0$	7.017	54.774	9.168	65.204
$m = 1$	1.272	-0.828	1.783	12.325
$m = 2$	0.663	-15.289	0.968	-0.483
$m = 3$	0.458	-18.673*	0.568	-10.280*
$m = 4$	0.391	-13.864	0.438	-9.450
$m = 5$	0.382	-3.813	0.385	-3.456

Panel B: Estimated Break Dates and 95% Confidence Intervals

Dependent Variable	Break Number	Estimated Date	95% Confidence Interval	Pre-Break Mean	Post-Break Mean
ln(Monthly trades)	Break 1	2024-01	[2023-11, 2024-02]	8,054	10,214
	Break 2	2024-09	[2024-08, 2024-10]	10,542	14,272
	Break 3	2025-09	[2025-08, 2025-10]	60,670	185,564
ln(Avg. trade value)	Break 1	2024-01	[2023-10, 2024-02]	513.11	639.75
	Break 2	2025-02	[2025-01, 2025-03]	567.87	258.91
	Break 3	2025-09	[2025-08, 2025-10]	240.23	66.86

Notes: The Bai–Perron procedure is estimated with a minimum segment size of six monthly observations ($h = 6$). An asterisk identifies the optimal partition selected by the Bayesian Information Criterion (BIC). Panel B reports the estimated break dates and 95% confidence intervals; reported break dates correspond to the final month of the preceding regime. Pre- and post-break means are reported in levels for ease of interpretation.

Using the Bayesian Information Criterion to select the number of breaks, both series favor three structural breaks. For the number of monthly trades, the estimated breakpoints occur in January 2024, September 2024, and September 2025. We therefore define four trading regimes: January 2023–January 2024, February 2024–September 2024, October 2024–September 2025, and October 2025–March 2026. These regimes are subsequently incorporated into the trading-propensity analysis.

The structural-break results for average transaction value provide independent evidence of the changing nature of the market. The first and final breakpoints, January 2024 and September 2025, coincide with those identified from the number of trades, while the intermediate breakpoint occurs in February 2025 rather than September 2024. Thus, changes in transaction frequency and transaction size share the beginning and later stages of the transition but do not occur simultaneously throughout the sample. This pattern is consistent with a market adjustment that developed in stages rather than through a single discrete shift.

Taken together, the descriptive and structural-break evidence points to a transformation not merely in the scale of India's corporate bond secondary market but also in the composition and character of trading. Alongside the traditional pattern of relatively infrequent, large-value transactions in highly rated, longer-maturity securities, an emerging pattern is characterized by more frequent, smaller-value transactions disproportionately concentrated in shorter-maturity, lower-investment-grade NBFC bonds. Importantly, this activity is concentrated at the lower end of investment grade rather than among the lowest-rated securities and is particularly pronounced among ICC and MFI issuers. The remainder of the empirical analysis examines whether these patterns persist after controlling for bond and issuer characteristics and how they relate to the pricing of credit risk and the propensity of individual bonds to trade intensively.

4.2 Credit Risk, Issuer Type, and the Pricing of Corporate Bonds

The descriptive evidence in Section 4.1 reveals substantial differences in yields and credit spreads across rating categories and issuer types. We next examine whether these differences persist after controlling for observable bond characteristics, industry affiliation, and market-wide conditions using the following regression equation.

$$Spread_{it} = \alpha + \sum_r \beta_r Rating_{rit} + \sum_j \gamma_j Industry_{ji} + X'_{it}\delta + \lambda_t + \varepsilon_{it}, \quad (1)$$

where $Spread_{it}$ is the yield spread in basis points for bond i on trading date t ; $Rating_{rit}$ denotes the credit-rating indicators; $Industry_{ji}$ denotes issuer-industry indicators; X_{it} contains the additional bond characteristics included in the full specification—issue size, par value, remaining maturity, and credit enhancement—and λ_t denotes month-year fixed effects. Standard errors are clustered by ISIN.

Column (3) extends (1) by allowing the NBFC differential to vary by rating:

$$Spread_{it} = \alpha + \sum_r \beta_r Rating_{rit} + \theta NBFC_i + \sum_r \phi_r (NBFC_i \times Rating_{rit}) + \sum_j \gamma_j Industry_{ji} + X'_{it}\delta + \lambda_t + \varepsilon_{it}. \quad (2)$$

Table 6: Yield-spread Regressions

Dependent variable: Yield-spread (basis points)

Variable	Rating + Industry	Full characteristics	NBFC × Rating
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Rating – AA	220.9*** (7.72)	211.4*** (7.91)	167.0*** (10.5)
Rating – A	370.2*** (7.63)	346.5*** (8.81)	243.7*** (16.0)
Rating – BBB	500.3*** (9.99)	471.5*** (10.7)	342.8*** (19.6)
Rating – Below BBB	445.8*** (40.8)	426.2*** (37.8)	650.3*** (33.7)
Banking	-84.6*** (10.6)	-69.2*** (9.35)	
Public Financial Institutions	-27.8*** (10.6)	-26.8*** (10.4)	
Insurance	-73.4* (42.8)	-48.4 (51.1)	
Power & Utility	-157.1*** (14.3)	-121.4*** (15.5)	
Infrastructure	-56.8*** (10.9)	-22.0 (16.4)	
Manufacturing	16.9 (38.6)	22.5 (39.5)	
Materials, Metals & Chemicals	-61.5*** (12.7)	-14.5 (14.3)	
Consumer, Healthcare & Media	-38.7*** (7.57)	8.35 (14.0)	
Technology & Telecommunications	49.2*** (13.6)	77.1*** (13.1)	
Diversified Industries	-68.0*** (16.0)	-53.5*** (16.2)	
Log issue size		-8.85*** (1.79)	-7.99*** (1.79)
Log par value		2.10* (1.23)	1.31 (1.15)
Remaining time to maturity (in years)		-5.96*** (1.16)	-5.42*** (1.10)
Credit enhancement		-38.3*** (12.8)	9.52 (10.5)
NBFC			4.44 (8.12)
NBFC × AA			75.6*** (13.4)
NBFC × A			138.2*** (17.3)
NBFC × BBB			168.1*** (20.8)
NBFC × Below BBB			-341.9*** (43.3)

Month-year fixed effects	Yes	Yes	Yes
Observations	179,870	179,870	179,870
Adj. R ²	0.75113	0.76222	0.76878
Within R ²	0.70584	0.71896	0.72671

*Notes: The dependent variable is the corporate bond yield spread over the corresponding benchmark yield, expressed in basis points. AAA is the reference rating category. All specifications include month-year fixed effects. Standard errors clustered by ISIN are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.*

Table 6 reports the results. The first specification includes credit-rating and industry indicators. Relative to AAA-rated bonds, spreads are 221 basis points higher for AA-rated bonds, 370 basis points higher for A-rated bonds, 500 basis points higher for BBB-rated bonds, and 446 basis points higher for bonds rated below BBB. All of these differences are statistically significant at the 1 percent level. The pronounced rating gradient observed in the descriptive statistics therefore remains after accounting for industry affiliation and common market conditions.

The second specification adds issue size, par value, remaining maturity, and credit enhancement. The rating coefficients decline somewhat but remain economically large and highly significant. Relative to AAA-rated bonds, the estimated spread differentials are approximately 211 basis points for AA-rated, 347 basis points for A-rated, 472 basis points for BBB-rated, and 426 basis points for below BBB-rated securities. The persistence of these differences indicates that the rating gradient cannot be explained simply by systematic differences in bond size, denomination, maturity, or credit enhancement across rating categories.

Bond characteristics also contain pricing information. Larger issues are associated with lower yield spreads, with a one-unit increase in log issue size associated with an approximately 9-basis-point reduction in the spread. Remaining maturity is negatively associated with spreads, while the coefficient on par value is comparatively small. These results are consistent with bond characteristics capturing dimensions of liquidity, placement, and risk that are not fully summarized by the credit rating.

The third specification allows the relationship between rating and yield spread to differ between NBFC and non-NBFC issuers. The results reveal substantial heterogeneity. Among AAA-rated bonds, the estimated NBFC differential is only 4 basis points and is statistically insignificant. The additional NBFC spread is also relatively modest at the top of the rating distribution but increases sharply as credit quality declines within investment grade. The NBFC interaction is approximately 76 basis points for AA-rated bonds, 138 basis points for A-rated bonds, and 168 basis points for BBB-rated bonds, with each interaction statistically significant at the 1 percent level. Thus, the pricing differential between NBFC and non-NBFC bonds is not a uniform issuer-sector premium. It becomes substantially larger toward the lower end of investment grade.

This result is particularly relevant to the trading patterns documented in Section 4.1. The A/BBB-rated securities that exhibit unusually high trading frequency are also precisely the rating categories in which NBFC bonds command the largest additional spreads relative to comparable non-NBFC securities. The pricing and trading evidence therefore identify the same part of the market as distinctive, although the regressions do not by themselves establish a causal relationship between higher spreads and trading activity.

The pattern does not extend monotonically below investment grade. The NBFC interaction for below BBB-rated bonds is negative, although this category is small relative to the investment-grade groups. This non-monotonicity parallels the descriptive trading evidence in Section 4.1, where trading frequency rises sharply through A-rated and BBB-rated before falling among below BBB-rated securities. The emerging pattern therefore appears to be concentrated at the lower end of investment grade rather than extending uniformly toward progressively lower credit quality.

4.2.1 Pricing Heterogeneity across NBFC Business Models

The preceding results show that NBFC status is associated with substantial additional spread differentials at the lower end of investment grade. However, the descriptive evidence in Section 4.1 also demonstrates considerable heterogeneity within the NBFC sector. We therefore examine whether the RBI business classification of an NBFC contains pricing information beyond that conveyed by its credit rating and observable bond characteristics.

The RBI classifications reflect economically different lending and asset structures rather than merely administrative labels. HFCs specialize primarily in housing finance, while IFCs concentrate their lending in infrastructure projects. ICCs constitute a broader category whose principal activities include asset finance, lending and investment, and therefore encompass a relatively diverse set of credit businesses. MFIs, by contrast, specialize in collateral-free, small-ticket lending to lower-income households. These differences imply variation in the nature of the underlying loan portfolios, borrower characteristics, collateral, loan maturity, and sectoral exposure of the issuing NBFCs. Consequently, two NBFC bonds carrying the same external credit rating need not represent identical underlying business or asset risks. RBI business classification may therefore contain information relevant to bond pricing beyond that summarized by the credit rating itself.

Table 7. Yield Spreads across RBI NBFC Business Classifications

Dependent variable: Yield-spread (basis points)

Variable	All NBFCs	AA/A	ICC vs. MFI
Rating – AAA	-188.52*** (8.74)		
Rating – A	140.38*** (8.75)	86.14*** (29.92)	126.00*** (10.60)

Rating – BBB	273.44*** (10.59)		272.53*** (11.55)
Rating – Below BBB	64.24** (28.19)		
RBI type - ICC	23.83** (9.40)	20.63 (27.29)	
RBI type - IFC	-85.06*** (11.73)		
RBI type - MFI	80.22*** (13.85)	77.39*** (29.74)	57.73*** (16.81)
RBI type – ICC × A		39.11 (31.28)	
RBI type – MFI × A		65.23* (37.05)	26.17 (24.28)
RBI type – MFI × BBB			-70.89*** (26.04)
Log issue size	-3.72* (2.17)	-11.94*** (3.69)	-10.05*** (2.99)
Log par value	-1.01 (1.36)	-5.21** (2.05)	-5.64*** (1.95)
Remaining time to maturity (in years)	-4.25*** (1.59)	-10.87*** (2.36)	-10.39*** (2.38)
Credit enhancement	-31.57 (31.13)		
Month-year fixed effects	Yes	Yes	Yes
Observations	116,219	70,430	79,903
Adj. R ²	0.7987	0.4624	0.5751
Within R ²	0.7571	0.3715	0.4930

*Notes: The dependent variable is the yield spread over the corresponding benchmark yield, expressed in basis points. Column (1) includes NBFCs classified by the Reserve Bank of India as Housing Finance Companies (HFC), Investment and Credit Companies (ICC), Infrastructure Finance Companies (IFC), and Micro Finance Institutions (MFI); HFC and AA are the reference categories. Column (2) restricts the sample to HFC, ICC, and MFI bonds rated AA or A; HFC-AA is the reference category. Column (3) restricts the sample to ICC and MFI bonds rated AA, A, or BBB; ICC-AA is the reference category. All specifications include month-year fixed effects. Standard errors are clustered by ISIN. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.*

Column (1) first examines whether yield spreads differ systematically across RBI business classifications after controlling for credit rating, bond characteristics, and month-year fixed effects. The rating coefficients remain economically large and highly significant. Relative to AA rated bonds, AAA-rated bonds have spreads approximately 189 basis points lower, while A/BBB-rated bonds have spreads approximately 140 and 273 basis points higher, respectively. Thus, credit rating continues to provide a strong ordering of spreads within the NBFC sector.

At the same time, RBI business classification contains additional pricing information. Relative to HFCs, and holding rating and other included characteristics constant, ICC bonds carry an estimated spread premium of approximately 24 basis points and MFI bonds a premium of approximately 80 basis points. IFC bonds, in contrast, have spreads approximately 85 basis points lower than comparable HFC bonds. These differences are statistically significant and reinforce the descriptive evidence in Section 4.1 that the major NBFC business categories occupy substantially different parts of the corporate bond market. In particular, the relatively low spreads of IFC bonds are consistent with the distinctive characteristics already documented for this group, while ICC and especially MFI bonds command additional spreads even after controlling for their credit ratings.

Columns (2) and (3) examine whether these business-model differences themselves vary across ratings. Column (2) restricts the sample to AA-rated and A-rated HFC, ICC and MFI bonds, providing greater common support across issuer types. Among AA-rated bonds, the estimated ICC–HFC spread difference is about 21 basis points and is not statistically significant, whereas the MFI–HFC difference is approximately 77 basis points and statistically significant. Moving from AA-rated to A-rated increases spreads by approximately 86 basis points for HFC bonds. The interaction estimates imply larger AA-rated to A-rated increases for ICC and MFI bonds, although the ICC interaction is not statistically significant and the MFI interaction is significant only at the 10 percent level. The point estimates therefore suggest that pricing differences across business models may become more pronounced as credit quality moves toward the lower end of investment grade, although the interaction estimates provide only limited statistical evidence for this pattern in the three-way comparison.

Column (3) focuses on ICC and MFI bonds, for which there is sufficient common support across AA, A and BBB ratings. Relative to ICC bonds, MFI bonds carry an additional spread of approximately 58 basis points at the AA rating. The estimated MFI–ICC difference increases to approximately 84 basis points among A-rated bonds and is statistically significant. At BBB rating, however, the corresponding MFI–ICC difference is approximately –13 basis points and is statistically indistinguishable from zero. Thus, the MFI premium relative to ICCs is substantial among AA-rated and A-rated bonds but disappears at BBB rating.

The disappearance of the MFI–ICC differential at BBB rating is also informative. It suggests that business-model distinctions are not priced uniformly across the rating distribution. At higher investment-grade ratings, the underlying lending model appears to contain pricing information beyond the external rating. By BBB rating, however, we can no longer detect an additional pricing differential between MFI and ICC bonds conditional on their common credit rating. More generally, the results indicate that credit ratings and NBFC business models provide related but non-redundant information about secondary-market pricing.

4.3 The Propensity for Intensive Trading

The preceding analysis documents substantial differences in both pricing and trading activity across credit ratings and issuer types. We next examine whether these characteristics are systematically associated with the propensity of an individual bond to trade more intensively. Because the distribution of transaction counts is highly right-skewed, we classify trading activity into four ordered categories rather than treating equal numerical changes in the raw number of transactions as economically equivalent throughout the distribution. Low activity consists of a single transaction on an ISIN-date, Moderate activity comprises 2–4 transactions, High activity 5–12 transactions, and Very High activity 13 or more transactions.

Table 8. Percentile Distribution of Number of Trades

Percentile	Total Sample	Regime 1 Jan. 23 to Jan. 24	Regime 2 Feb. 24 to Sep. 24	Regime 3 Oct. 24 to Sep. 25	Regime 4 Oct. 25 to Mar. 26
25th	1	1	1	1	1
50th	2	2	2	2	2
60th	2	2	2	2	3
70th	4	3	2	4	6
75th	4	3	3	4	8
80th	6	4	3	6	11
90th	14	6	4	14	35
95th	34	10	6	32.3	88
99th	203	23	22	179	382
Observations	179,870	30,495	28,419	68,555	52,401

The percentile distribution of the number of trades is reported in Table 8. These thresholds correspond closely to meaningful regions of the empirical distribution. The median number of transactions is 2, the 75th percentile is 4, and the Very High category begins approximately at the upper decile of the full-sample distribution. Importantly, the fixed thresholds preserve economic comparability through time. Although the median remains at two transactions in each of the four trading regimes identified in Section 4.1, the upper tail of the distribution changes substantially. The share of observations classified as Very High rises from approximately 3 percent in Regimes 1 and 2 to 10.9 percent in Regime 3 and 18.9 percent in Regime 4. Over the same periods, the share classified as Low falls from approximately 47 percent to 34.8 percent. Thus, the increase in market activity occurs primarily through an expanding upper tail rather than a uniform increase in transaction frequency across all bonds. We test this using the following ordered-logit model.

$$Y_{it}^* = Z_{it}'\beta + \sum_r \phi_r (NBFC_i \times Rating_{rit}) + \sum_{k=2}^4 \rho_k Regime_{kt} + \varepsilon_{it}, \quad (3)$$

with

$$Y_{it} = j \text{ if } \kappa_{j-1} < Y_{it}^* \leq \kappa_j,$$

where Y_{it} takes the four ordered values corresponding to Low, Moderate, High, and Very High trading activity. Z_{it} includes rating indicators, NBFC status, credit enhancement, issue size, par value, and remaining maturity; the preferred specification includes the NBFC $\times$ rating interactions and trading-regime indicators. AAA-rated and Regime 1 are the omitted reference categories.

Table 9 reports ordered-logit estimates of the probability that an ISIN-date observation falls into a higher trading-activity category. Column (1) provides a baseline specification containing credit rating, NBFC status, credit enhancement, issue size, par value, and remaining maturity. Column (2) interacts NBFC status with the rating categories to allow the association between NBFC status and trading intensity to vary with credit quality. Column (3) additionally controls for the trading regimes identified by the Bai–Perron tests in Section 4.1. Standard errors are clustered by ISIN.

Table 9. Ordered Logit Models of Secondary-Market Trading Propensity

Variable	Baseline	NBFC $\times$ Rating	NBFC $\times$ Rating + Trading Regimes
Panel A. Ordered-logit estimates			
Rating – AA	0.682*** (0.055)	0.655*** (0.092)	0.621*** (0.089)
Rating – A	1.505*** (0.089)	0.548*** (0.156)	0.545*** (0.151)
Rating – BBB	1.934*** (0.116)	0.299 (0.235)	0.357 (0.237)
Rating – Below BBB	0.261*** (0.086)	0.426*** (0.141)	0.436*** (0.153)
NBFC	0.145** (0.057)	–0.225*** (0.052)	–0.222*** (0.051)
NBFC $\times$ AA	—	0.047 (0.114)	0.0726 (0.111)
NBFC $\times$ A	—	1.458*** (0.186)	1.414*** (0.181)
NBFC $\times$ BBB	—	2.050*** (0.260)	1.897*** (0.260)
NBFC $\times$ Below BBB	—	–0.218 (0.168)	–0.194 (0.179)
Trade Regime 2	—	—	–0.1505*** (0.052)
Trade Regime 3	—	—	0.109** (0.055)
Trade Regime 4	—	—	0.325*** (0.062)
Credit enhancement	0.382*** (0.121)	0.520*** (0.107)	0.531*** (0.102)

Log issue size	0.001 (0.018)	0.001 (0.018)	0.002 (0.017)
Log par value	−0.029*** (0.011)	−0.033*** (0.012)	−0.031*** (0.012)
Remaining maturity (years)	0.007 (0.006)	0.013** (0.006)	0.0223*** (0.007)
Observations	179,870	179,870	179,870
Panel B. Conditional NBFC/Non-NBFC Odds Ratios	(1)	(2)	(3)
AAA	—	—	0.80***
AA	—	—	0.86
A	—	—	3.30***
BBB	—	—	5.34***
Below BBB	—	—	0.66**

*Notes: The dependent variable is an ordered measure of secondary-market trading activity based on the number of trades in an ISIN on a trading date: Low = 1 trade; Moderate = 2–4 trades; High = 5–12 trades; and Very High = 13 or more trades. The models are estimated using ordered logistic regression. AAA is the reference rating category, and non-NBFC bonds are the reference group for the NBFC indicator and NBFC $\times$ rating interactions. The trading-regime indicators are defined using Bai–Perron structural breaks in the monthly number of trades: Regime 1 = January 2023–January 2024; Regime 2 = February 2024–September 2024; Regime 3 = October 2024–September 2025; and Regime 4 = October 2025–March 2026. Regime 1 is the omitted reference category. Panel B reports conditional odds ratios for NBFC relative to non-NBFC bonds within each rating category, calculated from the combined NBFC and NBFC $\times$ rating coefficients in Column (3). Statistical significance for these conditional effects is based on linear-combination tests using the ISIN-clustered covariance matrix. Standard errors, reported in parentheses, are clustered by ISIN. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.*

The baseline estimates in Column (1) reveal a strongly non-monotonic relationship between credit quality and trading intensity. Relative to AAA-rated bonds, the propensity to occupy a higher trading-activity category increases sharply for AA, A, and BBB-rated bonds, with the largest coefficient occurring for BBB-rated securities. The coefficient falls substantially for bonds rated below BBB rating. This pattern closely parallels the descriptive evidence in Section 4.1: intensive trading is concentrated toward the lower end of investment grade rather than increasing monotonically as credit quality deteriorates. NBFC bonds also exhibit a modestly higher trading propensity in the baseline specification.

Column (2), however, shows that the relationship between NBFC status and trading intensity depends importantly on credit rating. Once NBFC status is interacted with rating, the standalone NBFC coefficient becomes negative, while the interactions with A and BBB ratings are large and highly statistically significant. In contrast, the NBFC interactions with AA and below-BBB ratings are statistically insignificant. The concentration of intensive trading among NBFC

securities therefore cannot be characterized as a general NBFC effect. Rather, it is disproportionately associated with NBFC bonds at the lower end of investment grade.

The magnitude of these differences is economically substantial. Because the model is nonlinear, the interaction coefficients themselves do not represent the conditional effect of NBFC status within each rating category. We therefore calculate the combined NBFC and $\text{NBFC} \times \text{rating}$ effects using the preferred specification in Column (3). For A rated bonds, the estimated odds of occupying a higher trading-activity category are approximately 3.3 times as large for NBFC bonds as for otherwise comparable non-NBFC bonds ($p < 0.01$). For BBB-rated bonds, the corresponding odds are approximately 5.3 times as large ($p < 0.01$). In contrast, the NBFC differential is statistically insignificant among AA rated bonds and is significantly negative for both AAA-rated and below-BBB-rated bonds. The relationship between NBFC status and intensive trading is therefore sharply non-monotonic across the credit-rating distribution, with the positive differential concentrated specifically among A/BBB rated securities.

Column (3) examines whether these relationships merely reflect the sharp increase in aggregate market activity documented in Section 4.1. Relative to Regime 1, trading propensity is somewhat lower in Regime 2, becomes higher in Regime 3, and rises substantially in Regime 4. This pattern is consistent with the distributional evidence showing the rapid expansion of the upper tail of transaction frequency during the latter part of the sample. Importantly, however, controlling for these market-wide changes leaves the principal rating interactions largely unchanged. The $\text{NBFC} \times \text{A}$ coefficient declines only from 1.458 to 1.414, while the $\text{NBFC} \times \text{BBB}$ rating coefficient declines from 2.050 to 1.897; both remain highly statistically significant.

The stability of these coefficients is important for interpreting the transformation documented earlier. The unusually high trading intensity of A/BBB rated NBFC bonds is not simply a consequence of observing these securities during a period in which the entire corporate bond market became more active. Market-wide trading conditions clearly changed, particularly during the final two regimes, but the concentration of intensive trading in lower-investment-grade NBFC securities persists after those changes are taken into account. As an additional robustness check, replacing the four trading regimes with a complete set of month-year fixed effects produces virtually unchanged interaction coefficients: 1.404 for A rated NBFC bonds and 1.863 for BBB rated NBFC bonds.

Finally, the ordered-logit specification imposes a common relationship between the explanatory variables and the cumulative thresholds separating the four trading states. To examine whether the principal results are driven by this restriction, we separately estimate binary logit models for crossing each successive activity threshold: Moderate or higher versus Low, High or higher versus the two lower categories, and Very High versus all lower categories. The positive NBFC interactions for A and BBB-rated bonds remain highly significant in all three specifications. Moreover, their magnitudes increase as the threshold becomes more demanding. For A-rated NBFC bonds, the interaction coefficient rises from 1.069 at the Moderate threshold to 1.653 at

the High threshold and 1.956 at the Very High threshold; for BBB-rated NBFC bonds, the corresponding coefficients rise from 1.561 to 2.391 and 2.879. Thus, the principal result is not driven by the ordered-logit functional form and is especially pronounced at the upper tail of trading activity.

Taken together, the results identify a highly specific segment of the corporate bond market underlying the increase in transaction frequency. Intensive trading is not uniformly associated with NBFC status, nor does it rise monotonically as credit quality declines. Instead, the strongest propensity for intensive trading occurs among A/BBB rated NBFC bonds, and this relationship remains robust after controlling for the structural increase in market-wide trading activity. Combined with the descriptive evidence in Section 4.1 and the spread regressions in Section 4.2, these findings indicate that the changing secondary market is disproportionately concentrated in lower-investment-grade NBFC securities that simultaneously offer relatively high credit spreads and exhibit unusually intensive trading.

4.4 Activation of Previously Inactive Bonds

The preceding analysis documents a substantial increase in transaction frequency accompanied by a decline in typical transaction size, with much of this change concentrated among lower-rated NBFC bonds. An important question is whether this increase represents more frequent trading in securities that were already active or whether previously inactive bonds are entering active secondary trading. To examine this possibility, we identify large transactions in bonds that had experienced little trading immediately before the transaction and examine their subsequent trading activity.

For the primary specification, a bond is classified as dormant before a large transaction if it traded on no more than two days during the preceding 30 calendar days. An activation occurs when the bond subsequently trades on at least five days and records at least ten transactions during the following 30 days. We additionally require the median size of the subsequent transactions to be less than 25 percent of the initiating transaction. This condition distinguishes an increase in trading characterized by substantially smaller transactions from a continuation of trading in similarly sized blocks. As a robustness test, we impose a stricter dormancy criterion under which the bond could have traded on no more than one day during the preceding 30 days. The following regression equation is used to test this:

$$\Pr(\text{Activation}_i = 1) = \Lambda[\alpha + \beta_1 \text{LowerRated}_i + \beta_2 \text{NBFC}_i + \beta_3 (\text{LowerRated}_i \times \text{NBFC}_i)], \quad (4)$$

where $\Lambda(\cdot)$ is the logistic cumulative distribution function, LowerRated_i identifies A/BBB rated bonds, and AAA/AA-rated bonds and non-NBFC issuers are the respective reference categories. Restricted models then estimate the relevant components of equation (4) separately within NBFCs and within the A/BBB-rated sample.

Table 10. Activation of Previously Inactive Corporate Bonds Following Large Transactions

Panel A. Activation Rates and Trading Activity

Bond category	Qualifying events	Activated events	Activation rate (%)	Median pre-event trading days	Median post-event trading days	Median pre-event trades	Median post-event trades	Median post/event trade-size ratio
Main dormancy definition								
A/BBB NBFC	190	96	50.53	1	9	1	16.5	0.04
A/BBB non-NBFC	84	22	26.19	—	—	—	—	—
AAA/AA NBFC	1,049	123	11.73	—	—	—	—	—
AAA/AA non-NBFC	530	55	10.38	—	—	—	—	—
Strict dormancy definition								
A/BBB NBFC	148	77	52.03	—	—	—	—	—
A/BBB non-NBFC	58	14	24.14	—	—	—	—	—
AAA/AA NBFC	753	83	11.02	—	—	—	—	—
AAA/AA non-NBFC	381	36	9.45	—	—	—	—	—

Panel B. Logit Models of Bond Activation

Variable	Full sample: Main	Full sample: Strict	Within NBFC: Main	Within NBFC: Strict	Within A/BBB: Main	Within A/BBB: Strict
Lower rated (A/BBB)	1.120*** (0.331)	1.115*** (0.386)	2.040*** (0.218)	2.170*** (0.238)	—	—
NBFC	0.137 (0.197)	0.172 (0.229)	—	—	1.057*** (0.345)	1.226*** (0.393)
Lower rated × NBFC	0.920** (0.396)	1.055** (0.454)	—	—	—	—
Intercept	-2.156*** (0.159)	-2.260*** (0.188)	-2.018*** (0.115)	-2.088*** (0.129)	-1.036*** (0.291)	-1.145*** (0.339)
Observations	1,853	1,340	1,239	901	274	206
Odds ratio of principal coefficient	—	—	7.69	8.75	2.88	3.41

Panel C. Event Yield Spreads Relative to Comparable Bonds: A/BBB NBFCs

	Activated events	Non-activated events
10-day peer benchmark		
Events with valid benchmark	95	87
Mean event excess spread (bps)	19.6	32.6
Median event excess spread (bps)	-5.8	8.3
Event spread above peer median (%)	48.4	55.2
20-day peer benchmark		
Median event excess spread (bps)	-6.8	6.2

Notes: Panel A identifies large transactions in bonds with limited trading during the preceding 30 calendar days. Under the main definition, a bond is classified as dormant if it traded on no more than two days during that period; the strict definition permits no more than one trading day. Activation requires at least five trading days and at least ten transactions during the subsequent 30 days, with the median size of subsequent transactions less than 25 percent of the initiating transaction. Pre- and post-event trading measures refer to the respective 30-day windows. For activated A/BBB NBFC bonds under the main definition, the median interval between transactions declines from 10 days before the event to 3 days afterward.

Panel B reports coefficients from logit models in which the dependent variable equals one when a qualifying event results in activation. “Lower rated” identifies A/BBB rated bonds, while the omitted rating category is AAA/AA. In the full-sample models, the omitted issuer category is non-

*NBFC. The reported odds ratios in the restricted-sample specifications correspond to the principal coefficient shown in each model. Standard errors, reported in parentheses, are clustered by ISIN. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent levels, respectively.*

Panel C compares the yield spread on the initiating transaction with the median yield spread on recently traded peer bonds. Peers are bonds in the same broad rating and industry category with remaining maturity within one year of the event bond. The event bond is excluded. The 10-day benchmark uses transactions during the preceding 10 calendar days and requires at least five peer observations representing at least three distinct ISINs. The 20-day specification provides a robustness check. A positive excess spread indicates that the event bond traded at a wider spread than the peer median.

Panel A of Table 10 shows a pronounced concentration of activation among lower-rated NBFC bonds. Among A/BBB NBFC bonds, 96 of 190 qualifying large transactions, or 50.5 percent, are followed by activation. The corresponding activation rate is 26.2 percent for A/BBB bonds issued by non-NBFCs and only 11.7 and 10.4 percent for AAA/AA bonds issued by NBFCs and non-NBFCs, respectively. The change in trading activity following activation is substantial. For activated A/BBB NBFC bonds, the median number of trading days increases from one during the 30 days preceding the large transaction to nine during the following 30 days, while the median number of transactions increases from one to 16.5. The median size of the subsequent transactions is only about 4 percent of the size of the initiating transaction. The median interval between transactions also declines from ten days before the event to three days afterward. Thus, activation represents a transition from very limited trading to repeated trading in substantially smaller amounts.

The result is not sensitive to the definition of prior inactivity. When dormancy is restricted to bonds trading on no more than one day during the preceding 30 days, the activation rate for A/BBB NBFC bonds is 52.0 percent, compared with 24.1 percent for A/BBB non-NBFC bonds and approximately 9–11 percent for the two higher-rated groups. The similarity of the results under the two definitions indicates that the activation pattern is not driven by the particular threshold used to define dormancy.

Panel B reports logit models examining whether the descriptive differences persist in a multivariate setting. In the full sample, lower-rated status is positively associated with activation, whereas NBFC status alone is not statistically significant. More importantly, the interaction between lower-rated status and NBFC status is positive and statistically significant under both definitions of dormancy. The restricted-sample estimates reinforce this result. Within NBFCs, the odds of activation for lower-rated bonds are approximately 7.7 times those for AAA/AA bonds under the primary specification and 8.8 times under the stricter definition. Within the lower-rated sample, NBFC bonds have approximately 2.9 to 3.4 times the odds of activation of non-NBFC

bonds. The evidence therefore indicates that activation is associated particularly with the intersection of lower credit quality and NBFC status rather than with either characteristic alone.

A further question is whether the large transaction initiating this sequence represents a price concession that facilitates subsequent trading. Comparing the event transaction with the bond's own previous price is problematic because dormant bonds, by construction, have few recent transactions. Panel C therefore compares the event yield spread with spreads on recently traded peer bonds in the same broad rating and industry category and with remaining maturity within one year of the event bond. The primary benchmark uses transactions during the preceding ten calendar days, excludes the event bond, and requires at least five peer observations representing at least three distinct ISINs.

The results provide little evidence that activation is initiated by an unusually wide yield spread. For activated A/BBB NBFC bonds, the median event spread is 5.8 basis points below the peer median, and 48.4 percent of event transactions occur above the corresponding peer median. In comparison, non-activated qualifying transactions have a median excess spread of 8.3 basis points, with 55.2 percent occurring above the peer median. Extending the benchmark window to 20 days produces a similar pattern. Thus, activation does not appear to require an unusually large yield concession on the initiating transaction. Nor is the subsequent increase in trading accompanied by systematic yield compression.

The absence of yield compression is noteworthy because yield spreads on lower-rated bonds increase more generally over the sample period. The two findings, however, refer to different dimensions of the market. The event analysis asks whether activation begins with a transaction-specific price concession and is followed by repricing as the bond becomes more actively traded. The broader increase in spreads may reflect changes in credit-risk pricing, investor composition, transaction costs, or other market-wide factors. In particular, an increase in transaction frequency does not necessarily imply that an investor can subsequently sell a bond readily at a competitive price. Investors participating in smaller transactions may therefore continue to require compensation for the costs or uncertainty associated with subsequently selling relatively illiquid securities.

The transaction data do not permit this possibility to be tested directly. Although the expansion of electronic and intermediary-based distribution channels has increased investors' ability to purchase and resell listed bonds, the transaction records do not identify buyers, sellers, or investor categories and do not permit individual positions to be followed from purchase through subsequent resale. Consequently, the sequence of a large transaction followed by numerous smaller transactions cannot be interpreted as evidence of redistribution from institutional to retail investors. Similarly, the wider spreads observed among lower-rated bonds cannot be attributed to the resale costs faced by small-ticket investors. Establishing whether such investors subsequently resell their holdings, the costs they incur when doing so, and whether expected exit costs are reflected in the yields they require would require counterparty-level transaction data.

Taken together, the results identify a distinct security-level change underlying the broader evolution of the secondary market. Previously dormant lower-rated NBFC bonds are substantially more likely than other bonds to become actively traded following a large transaction, and the subsequent transactions occur in much smaller amounts. This activation is not accompanied by systematic yield compression. The evidence therefore points to an expansion in the breadth and frequency of secondary-market trading without necessarily implying a corresponding improvement in liquidity as reflected in bond prices.

4.5 Summary of Empirical Findings

The central empirical finding of this study is the pronounced change in the nature of secondary-market trading in Indian corporate bonds over the sample period. The increase in market activity is not simply an expansion in the rupee value of bonds traded. Rather, transaction frequency rises dramatically while the average value of individual transactions falls sharply. The structural-break analysis confirms that this change occurs in stages and becomes especially pronounced toward the latter part of the sample. The distributional evidence provides a complementary perspective: the median number of transactions remains remarkably stable across trading regimes, while the upper tail expands sharply. Thus, the transformation of the market is characterized primarily by the emergence of a growing number of bond-date observations with unusually high transaction frequency rather than by a uniform increase in trading across all securities.

This change is also highly concentrated rather than market-wide in its cross-sectional composition. The descriptive evidence shows that transaction frequency increases as credit quality declines from AAA-rated through A and BBB-rated, but falls again below investment grade. At the same time, transaction values become substantially smaller. Within the NBFC sector, the emerging trading pattern is particularly evident among ICC and MFI issuers, whereas IFC securities retain characteristics much closer to the traditional institutional market. Taken together, these results indicate the coexistence of two distinct trading patterns: a traditional market characterized by relatively infrequent, large-value transactions in highly rated securities and an emerging segment characterized by much more frequent, smaller-value transactions concentrated in particular lower-investment-grade NBFC bonds.

The pricing results reinforce this distinction. Credit ratings remain strongly associated with yield spreads after controlling for observable bond characteristics and common market conditions, but NBFC status contains additional pricing information that varies substantially across the rating distribution. The additional NBFC spread differential is negligible among AAA-rated bonds and becomes particularly pronounced among A/BBB rated securities. Moreover, the RBI business classification of NBFC issuers provides information beyond external credit ratings, indicating that the market differentiates among the underlying business models of NBFCs rather than pricing them as a homogeneous issuer class.

The trading-propensity results identify still more precisely the segment associated with the changing market structure. Intensive trading is neither a general characteristic of NBFC bonds

nor a monotonic function of credit risk. Conditional on observable bond characteristics and market-wide trading regimes, A rated NBFC bonds have approximately 3.3 times the odds of being above a given trading-activity threshold as comparable non-NBFC bonds, while the corresponding odds for BBB-rated NBFC bonds are approximately 5.3 times as large. The NBFC differential is not statistically significant at AA-rated and becomes negative at both AAA and below BBB ratings. These relationships remain essentially unchanged when the structural trading regimes are replaced by month-year fixed effects and become stronger at progressively higher transaction-frequency thresholds.

Taken together, the evidence points to a structural change in the composition and character of India's corporate bond secondary market. The most important feature of this transformation is the combination of sharply increasing transaction frequency and declining transaction size, rather than simply an increase in aggregate trading value. The securities most strongly associated with this emerging trading pattern are not the safest bonds, nor the lowest-rated bonds, but lower-investment-grade NBFC securities—particularly those rated A and BBB—that also offer relatively high credit spreads. The empirical evidence therefore suggests that the recent expansion of secondary-market activity reflects the emergence of a distinct, high-frequency, small-transaction segment alongside the traditional institutional corporate bond market. The transaction data do not identify the investors responsible for this activity, so these patterns should not by themselves be interpreted as evidence of retail participation. They nevertheless establish a substantial change in how, and in which securities, secondary-market trading is occurring.

5. Conclusion

This study examines the changing structure of secondary-market trading in Indian corporate bonds between January 2023 and March 2026. By bringing together trading activity, credit quality, yield spreads, and detailed issuer classifications, the analysis identifies changes that are not readily apparent from aggregate measures of issuance, outstanding debt, or trading value. Transaction counts increase much more rapidly than aggregate trading value, typical transaction sizes decline, and the change is concentrated among a subset of securities rather than being distributed uniformly across the market.

The interaction between credit quality and issuer characteristics is central to this change. Increased trading is disproportionately concentrated among A/BBB-rated NBFC bonds, particularly securities issued by ICCs and MFIs, while highly rated securities retain more of the characteristics of the traditional institutional market. Previously dormant A/BBB-rated NBFC bonds are also substantially more likely to become active following a large transaction, with subsequent transactions considerably smaller than the initiating trade. At the same time, credit ratings and issuer characteristics remain strongly associated with yield spreads, and activation is not followed by systematic yield compression. Greater transaction frequency can therefore coexist with substantial differentiation in the pricing of credit risk and does not necessarily imply improved liquidity as reflected in bond prices.

These findings have implications for the continuing regulatory effort to deepen India's corporate bond market. The policy objective extends beyond increasing transaction activity: greater market depth and liquidity are expected to reduce liquidity and credit premia and ultimately lower corporate borrowing costs (NITI Aayog, 2025). The NITI Aayog report on deepening India's corporate bond market explicitly identifies expanding funding avenues, lowering borrowing costs, and improving market liquidity as objectives of developing the market. It further argues that broader funding channels, improved liquidity, and greater competition tend to exert downward pressure on yields. The evidence in this study shows that an important dimension of market deepening has occurred, but in a more nuanced form. Trading activity has increased substantially, particularly among A/BBB-rated NBFC bonds, yet the activation of previously dormant securities is not accompanied by systematic yield compression. Greater trading activity therefore does not necessarily imply that the liquidity benefits associated with a deeper market have been fully realized. This distinction is particularly important for lower-rated securities, where credit risk may increase and secondary-market liquidity may deteriorate during an economic downturn. Increased trading during normal conditions should therefore not be interpreted as evidence that these securities will remain readily tradable at competitive prices during periods of stress. As efforts to deepen the market and broaden participation continue, credit-risk disclosure, investor understanding, and the distinction between access to secondary trading and resilient liquidity become increasingly important.

An important limitation of the study also provides a natural direction for future research. The transaction data do not identify buyers, sellers, or investor categories. Counterparty-level information would make it possible to determine whether large transactions preceding activation represent transfers from institutional holders to intermediaries, whether subsequent smaller transactions reflect distribution to individual investors or other market participants, and what role intermediaries play in activating previously inactive securities. Such data could also be used to follow positions through subsequent resale, examine holding periods and realized exit costs, and determine whether investors in smaller transactions receive compensation for the expected difficulty of subsequently selling their bonds.

A second extension is to examine whether the trading patterns documented here persist during periods of significant market stress. The present sample captures a period of expanding secondary-market activity but not a severe economic downturn that would allow the resilience of the emerging trading segment to be evaluated. Future research could examine whether bonds that trade frequently under normal conditions remain active when credit conditions deteriorate, how transaction sizes and trading costs respond, and whether the relationship between trading activity and yield spreads changes during stress. Such evidence would help distinguish increased transaction activity from secondary-market liquidity that remains resilient when it is most valuable.

More broadly, the findings illustrate why corporate bond market development should not be evaluated along a single dimension. A market can become more active without becoming

uniformly more liquid, and greater trading in lower-rated securities can broaden the secondary market while simultaneously increasing the importance of credit-risk assessment. The evidence from India points to a market in transition, with an emerging segment of more frequent, smaller transactions concentrated particularly in lower-investment-grade NBFC bonds alongside the traditional institutional segment of larger transactions in highly rated securities. Whether this emerging segment develops into a deep and resilient secondary market will depend not simply on how frequently these bonds trade, but also on how effectively credit risk is priced and whether investors can exit their positions at competitive prices when market conditions deteriorate.

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Appendix A. Institutional Evolution of the Indian NBFC Sector

Non-banking financial companies (NBFCs) have developed into an important component of financial intermediation in India. Although they do not provide the full range of banking services, NBFCs perform many credit-intermediation functions and have historically served borrowers and activities for which specialized lending, flexible credit assessment, or alternative financing arrangements were important. Early NBFC activity was concentrated in areas such as equipment leasing, hire purchase, investment, and loan finance. During the 1990s, NBFCs also mobilized funds directly from the public through fixed deposits, with attractive rates of return contributing to the rapid growth of this source of funding. Regulated deposits held by NBFCs increased from ₹173.9 billion in March 1994 to ₹531.2 billion in March 1997, rising from 4.0 percent to 7.9 percent of bank deposits over the same period (Reserve Bank of India [RBI], 2001).

The rapid expansion of deposit-taking NBFCs was accompanied by concerns about depositor protection and the financial condition of some institutions. Public deposits with NBFCs were unsecured and, unlike bank deposits, were not covered by deposit insurance. RBI also documented instances of delayed or failed repayment of matured deposits and other practices that jeopardized depositors' interests. These developments contributed to a substantial strengthening of the regulatory framework. The Reserve Bank of India Act was amended in 1997 to require registration of NBFCs carrying on financial business and to introduce minimum capital requirements, maintenance of liquid assets and reserve funds, and broader supervisory powers. RBI subsequently established prudential requirements covering capital adequacy, income recognition, asset classification, provisioning, and exposure limits (RBI, 1998, 2001). The regulatory changes also progressively restricted reliance on public deposits. As a matter of policy, RBI has not issued new certificates of registration permitting NBFCs to accept public deposits since 1997 (RBI, 2017).

As the sector developed, NBFC funding became increasingly dependent on institutional and market sources. Bank borrowing, debentures, and commercial paper became major sources of funds, linking the NBFC sector directly to banks and capital markets. The importance of these funding linkages became particularly apparent following the default of Infrastructure Leasing & Financial Services (IL&FS) in September 2018. The resulting decline in market confidence produced liquidity pressures and higher borrowing costs for NBFCs. Risk aversion following the IL&FS episode reduced the share of market borrowing through debentures and commercial paper and increased reliance on bank borrowing. NBFCs also moved toward longer-term borrowing to reduce asset-liability mismatches. The COVID-19 shock produced another disruption in market access and a sharp increase in NBFC bond yields before policy interventions and improving market conditions contributed to a subsequent recovery (RBI, 2021a, 2021b).

Market borrowing remains a central component of NBFC financing. At the end of March 2023, total NBFC borrowings amounted to approximately ₹30.0 trillion. Debentures accounted for

₹11.1 trillion, or 37.0 percent of total borrowings, while bank borrowing accounted for ₹11.3 trillion, or 37.7 percent. Commercial paper, borrowings from financial institutions, intercorporate borrowing, and other sources provided the remainder (RBI, 2023). Thus, although bank credit remains important, debt securities constitute a substantial component of the sector's liability structure. The combination of bank and market funding also makes NBFCs an important point of interconnectedness between credit intermediation and the corporate bond market.

The NBFC sector is heterogeneous, and its regulatory classification has evolved along with its activities. Historically, RBI maintained separate classifications for Asset Finance Companies, Loan Companies, and Investment Companies, in addition to several specialized categories. In 2019, RBI combined these three categories into a single category, the Investment and Credit Company (ICC). The stated objective was to provide greater operational flexibility and move toward the principle of regulation by activity rather than regulation by entity (RBI, 2019). Other specialized categories were retained where the nature of the underlying financial activity justified separate treatment.

The principal NBFC classifications relevant to this study therefore represent materially different business models. ICCs encompass a broad range of lending and investment activities. Infrastructure Finance Companies (IFCs) specialize in infrastructure lending, while NBFC-Micro Finance Institutions (MFIs) specialize in microfinance. Under the current regulatory framework, a microfinance loan is a collateral-free loan to an individual belonging to a low-income household; a loan secured by gold or another asset does not qualify as a microfinance loan (RBI, 2025a). Housing Finance Companies (HFCs) specialize primarily in housing finance. Regulatory authority over HFCs was transferred from the National Housing Bank to RBI in August 2019, after which RBI progressively harmonized HFC regulation with the broader NBFC framework while retaining provisions reflecting the specialized nature of housing finance (RBI, 2024).

Considerable heterogeneity also exists within the ICC category. ICCs include lenders specializing in consumer finance, vehicle finance, small-business lending, and other forms of credit. They also include major institutions engaged in loans secured by gold. For example, Muthoot Finance, one of the large NBFC-ICCs identified by RBI under its scale-based regulatory framework, is a prominent gold-loan lender. Gold-backed lending differs economically from unsecured lending because the lender holds a readily valued and realizable physical asset as collateral and credit exposure can be managed through the loan-to-value ratio. Microfinance lending, by contrast, is collateral-free under RBI's regulatory definition. These differences do not imply that ICCs as a group are necessarily less risky than MFIs, since the ICC category encompasses diverse lending models. They do, however, illustrate why the nature and collateralization of the underlying loan portfolio can be relevant to investors assessing the credit risk of NBFC debt (RBI, 2025a, 2025b).

More generally, differences among NBFC business models can imply differences in collateral, borrower characteristics, loan maturity, credit losses, asset quality, and asset-liability risks. RBI

data illustrate the significance of these differences: at the end of March 2023, secured loans accounted for 69.5 percent of total NBFC credit, while unsecured loans accounted for 30.5 percent. Advances to individuals against gold alone amounted to approximately ₹1.31 trillion (RBI, 2023). Treating all NBFCs as a single issuer category can therefore obscure economically meaningful differences in the assets and risks underlying their debt securities. The RBI classifications used in this study provide a means of distinguishing these business models rather than relying solely on a broad financial-sector classification.

The regulatory framework has also evolved from classification primarily by activity and deposit-taking status toward greater emphasis on the size, complexity, and systemic importance of individual NBFCs. RBI introduced its Scale Based Regulation (SBR) framework in 2021, with the revised regulatory structure taking effect on October 1, 2022. Under this framework, NBFCs are placed in Base, Middle, Upper, and, if warranted, Top Layers according to their size, activity, and perceived riskiness. All deposit-taking NBFCs and non-deposit-taking NBFCs above the prescribed asset threshold are included in the Middle Layer, while HFCs and IFCs are placed in the Middle or Upper Layer irrespective of size. The Upper Layer includes NBFCs specifically identified by RBI as warranting enhanced regulatory requirements, with the largest eligible institutions automatically considered within this framework (RBI, 2021c). The introduction of SBR immediately before the beginning of the sample period in this study is therefore part of the broader institutional setting in which the recent development of the corporate bond market occurred.

Table A1. Public Corporate Bond Issues by RBI NBFC Classification, January 2023–March 2026

Issuer type	Amount (₹ million) (percentages)
HFC	11,703.7 (2.96)
ICC	263,982.7 (66.86)
IFC	34,247.7 (8.67)
MFI	16,828.6 (4.26)
Non-NBFC	68,093.5 (17.25)
Total	394,856.2

The importance of NBFCs to the public corporate bond market during the sample period is illustrated in Table A1. Between January 2023 and March 2026, public corporate bond issues amounted to approximately ₹394.9 billion. ICCs alone accounted for 66.86 percent of this issuance, while IFCs accounted for 8.67 percent, MFIs for 4.26 percent, and HFCs for 2.96

percent. Non-NBFC issuers accounted for 17.25 percent. Although public issues represent only a small part of total corporate bond issuance in India, their composition illustrates the particularly prominent role of NBFCs—and ICCs in particular—in the segment of the primary market directly accessible to a broader investor base.

The institutional evolution of the NBFC sector is therefore directly relevant to this study. NBFCs have evolved from institutions historically associated with specialized lending and, in some cases, public deposits into large and heterogeneous financial intermediaries funded substantially through both banks and debt markets. At the same time, RBI regulation has evolved toward differentiated oversight based on the nature of financial activity as well as institutional size and systemic significance. These developments help explain both the prominence of NBFC securities in the Indian corporate bond market and the importance of distinguishing among NBFC business models when examining secondary-market trading and the pricing of credit risk.