BANK OF CANADA
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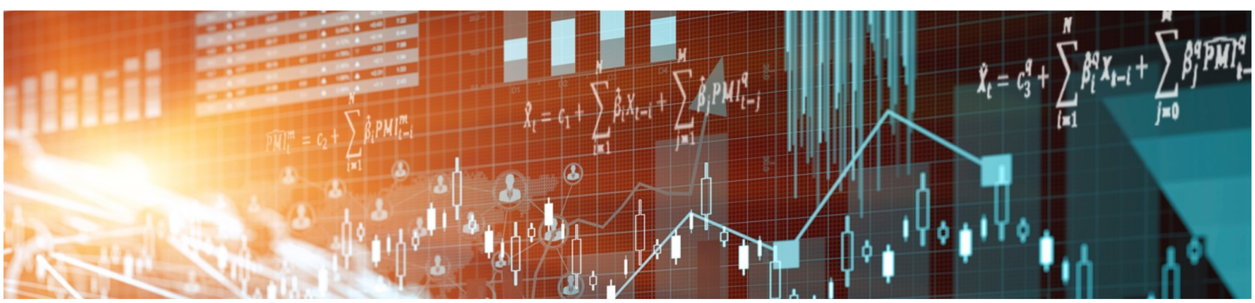
Staff Analytical Note/Note analytique du personnel 2017-11

Do Canadian Broker-Dealers Act as Agents or Principals in Bond Trading?



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Abstract

Technology, risk tolerance and regulation may influence dealers to reduce their trading as principals (using their own balance sheets for sales and purchases of securities) in favour of agency trading (matching client trades). A move toward agency trading would represent a change in the structure of Canadian bond markets and, in theory, could worsen some aspects of market liquidity. To assess the prevalence of agency trading in Canada, we use data from the Market Trade Reporting System to construct the first estimate of agency-based trading in Canadian bond markets. We find that agency trading is relatively uncommon across major segments of Canadian fixed-income market and that large bank broker-dealers are less likely than their smaller counterparts to trade as an agent.

Bank topics: Financial markets; Financial institutions; Financial system regulation and policies; Market structure and pricing; Recent economic and financial developments

JEL codes: G20, G14, L1

Résumé

Les technologies, la tolérance au risque et la réglementation peuvent amener les courtiers à réduire les activités de négociation où ils se portent contrepartiste (utilisation de leur propre bilan pour la vente et l'achat de titres) au profit de celles menées en qualité de mandataire (appariement des ordres des clients). Une évolution en faveur des activités de négociation à titre de mandataire représenterait un changement dans la structure des marchés obligataires canadiens et, en théorie, pourrait aggraver certains aspects de la liquidité de marché. Pour évaluer la proportion de ce type de négociation au Canada, nous nous servons de données du Système d'établissement de relevés des opérations sur le marché et construisons ainsi la première estimation des activités de négociation à titre de mandataire dans les marchés obligataires canadiens. Nous constatons que ce genre de négociation est relativement peu courant dans les principaux segments du marché canadien des titres à revenu fixe et que les grandes banques négociant des valeurs mobilières sont moins susceptibles de négocier comme mandataire que leurs homologues de moindre taille.

Sujets : Marchés financiers; Institutions financières; Réglementation et politiques relatives au système financier; Structure de marché et fixation des prix; Évolution économique et financière récente

Codes JEL : G20, G14, L1

ISSN 2369-9639

Introduction

Technology, risk tolerance and regulation may influence dealers to reduce their trading as principals (using their own balance sheets for sales and purchases of securities) in favour of agency trading (matching client trades). A move toward agency trading would represent a change in the structure of Canadian bond markets and, in theory, could worsen some aspects of market liquidity. To assess the prevalence of agency trading in Canada, we use data from the Market Trade Reporting System (MTRS) to construct the first estimate of agency-based trading in Canadian bond markets. We find that agency trading is relatively uncommon across the major segments of the Canadian fixed-income market and that large bank broker-dealers are less likely than their smaller counterparts to trade as an agent.

The Difference Between Principal and Agency Trading

Principal-based intermediation is the use of the balance sheet to facilitate a trade. A dealer either sells the client a security from its inventory or purchases a security from a client to add to its inventory. By standing ready to buy and sell securities, a dealer acting as a principal in trades provides immediacy and can enhance market liquidity.

When acting as an agent, a dealer matches buyers and sellers. Securities pass only briefly through a dealer's balance sheet. Transactions are completed when a dealer can find customers that want to conduct offsetting transactions at or near the same time. Reduced principal intermediation by dealers lowers the probability that a given trade can be completed promptly without large price concessions. A move to an agent-based business model may therefore worsen market liquidity relative to the principal-based model (Cimon and Garriott 2017).

Trading can fall within a spectrum from pure principal trading to pure agency trading. For example:

- A dealer can act as a principal for only part of a trade while completing the remainder as an agent.
- A dealer may act as a principal for specific classes of securities or with preferred clients, while completing other trades as an agent.
- A dealer can act more like a principal by increasing its holding period for securities or it may act more like an agent by decreasing its holding period.

Canadian Fixed-Income Trading Remains Primarily Principal-Based

Data description

There are no Canadian data that explicitly record whether a dealer traded as an agent or a principal.[1] Instead, we draw from MTRS 2.0 to estimate a proxy for the level of agency trading. MTRS is a regulatory data repository that collects data on all bond trades executed by broker-dealers registered with the Investment Industry Regulatory Organization of Canada. MTRS fields that are relevant for the purposes of this analysis include execution date and time, dealer, counterparty, security identifier, volume and type (buy or sell). Our data sample spans from June to November 2016. We are unable to use pre-June data because of limitations of the data set. Although post-November data are not included, we do not expect that the level of agency trading significantly changed over the first half of 2017. While limited, this sample is sufficient to provide a snapshot of the level of agency trading in the Canadian fixed-income market.

[1] Although Canadian Depository for Securities data include a field for agency or principal, market participants do not provide this information.

How we measure agency trading

For each trade, we identify whether the dealer is acting purely as an agent or a principal. A dealer is acting as an agent if the initial trade volume is fully offset in subsequent trades. Conversely, a dealer is acting as a principal if none of the initial trade volume is offset. A dealer may also act as an agent for only a part of the trade.

Using these identification criteria, our proxy for the share of agency trading is the volume offloaded by the dealer within one minute of the initial trade divided by the total volume for that trade. An offsetting trade within such a short time indicates the dealer had no intention of retaining the position, which is consistent with agency trading. This technique is used in a number of papers, including Bessembinder et al. (2016) and Trebbi and Xiao (2016).

This trade-by-trade metric of agency trading is aggregated in two ways using volume-weighted averages. First, the metric is averaged across all dealers to estimate the aggregate level of agency trading in each debt class. Second, the metric is averaged across the Big Six and other dealers to estimate the level of agency trading by dealer type in each debt class.

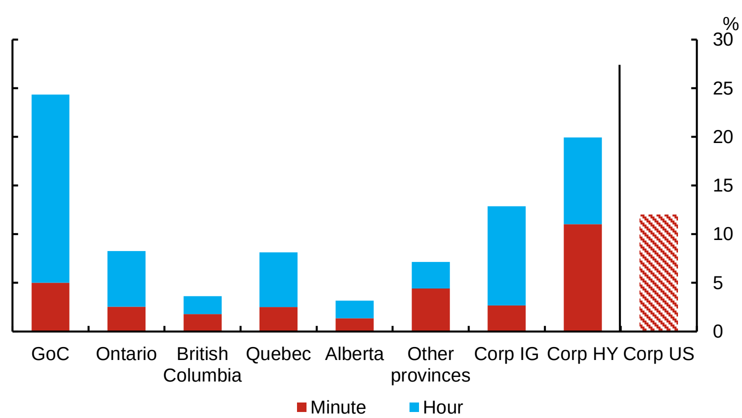
Dealers conducted a large majority of fixed-income trading as principals

Chart 1 presents the share of agency trading within eight debt classes: Government of Canada (GoC), each of the four largest provinces, the other provinces, investment-grade corporate bonds (Corp IG) and high-yield corporate bonds (Corp HY). Agency trades are not common, ranging between 1 and 11 per cent at the one-minute window. Agency trades are least common for provincial bonds, ranging from 1 to 5 per cent by issuer. They are most common in high-yield corporate bonds, comprising around 11 per cent of trading volumes. Using the measure of offsetting trades within one minute on US data, Trebbi and Xiao (2016) find that dealers conducted around 12 per cent of US corporate (Corp US) trading volumes as agents as of January 2015.

As a robustness check, **Chart 1** also shows the share of trades that are offset within one hour. These results show that agency trades are still uncommon. Trades captured in the one-hour window may also include some principal trades, especially for debt classes that have higher trading volumes and frequency of trading. Indeed, we observe that dealers can offload a larger portion of their initial trades given a longer horizon, ranging between 4 and 25 per cent by issuer. The share of agency trading rises significantly for frequently traded securities, such as GoC bonds and the debt of larger provinces.

Chart 1: Agency trading is uncommon for Canadian fixed-income securities

Agency trades as share of total trading volume



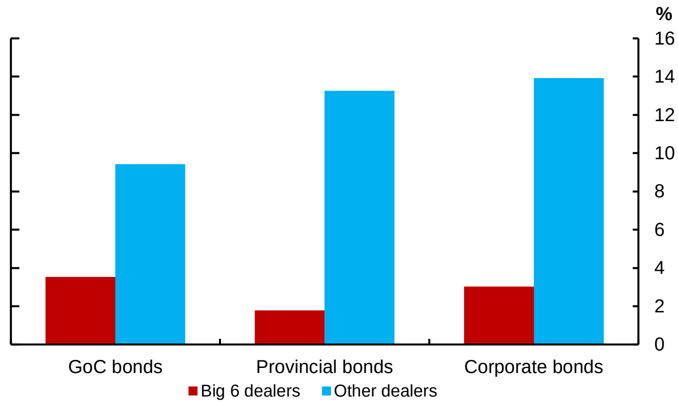
Sources: Market Trade Reporting System, Thompson Reuters, Dealogic and Bank of Canada calculations

Last observations: Corp US, January 2015; all others, November 2016

Chart 2 shows the average share of agency trading within one minute for the Big Six and other dealers of Canadian government, provincial and corporate bonds. We observe that the Big Six dealers conduct a smaller share of their trading volume as agents.[2] On average, the Big Six dealers completed 4, 2 and 3 per cent of government, provincial and corporate bond trading volume, respectively, as agents. Other dealers exhibited a higher share of agency trading: 9, 13 and 14 per cent in each asset class, respectively.

Chart 2: Principal trading remains popular for Canadian dealers

Average agency trading for dealers in Canadian provincial and corporate bonds



Source: Market Trade Reporting System, Thompson Reuters and Bank of Canada Last observation: November 2016

Chart 2 shows that the Big Six dealers tend to trade more as principals. Several reasons may explain this. Big Six dealers acting as principals may provide immediacy to attract and maintain a large market share. In addition, larger institutions are more likely to mitigate inventory price risk by purchasing assets that offset the risk. As well, principal-based intermediation is associated with higher regulatory costs. Large dealers may be able to better manage these costs through balance sheet consolidation. Finally, the Big Six may trade as principals as part of a bundle of services offered to important clients.

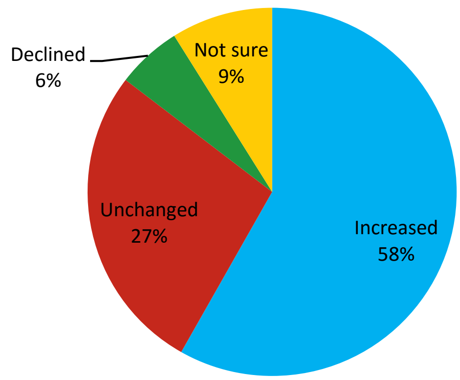
Market Participants Note a Shift to Agency Trading in Some Asset Classes

From June to August 2016, the Canadian Fixed-Income Forum surveyed a variety of market participants on liquidity, transparency and market access in the domestic market (CFIF 2016). As shown in **Chart 3**, a majority of respondents said the share of corporate bond trading conducted on an agency basis had increased in the two years before the survey.

[2] The Big Six dealers are RBC Dominion Securities, TD Securities, Scotia Capital, BMO Nesbitt Burns, CIBC World Markets and National Bank Financial.

Chart 3: Market participants report a shift to agency trading in corporate bonds

Distribution of responses to the CFIF survey question "How has your share of corporate bond trading done on an agency basis changed in the last two years?"

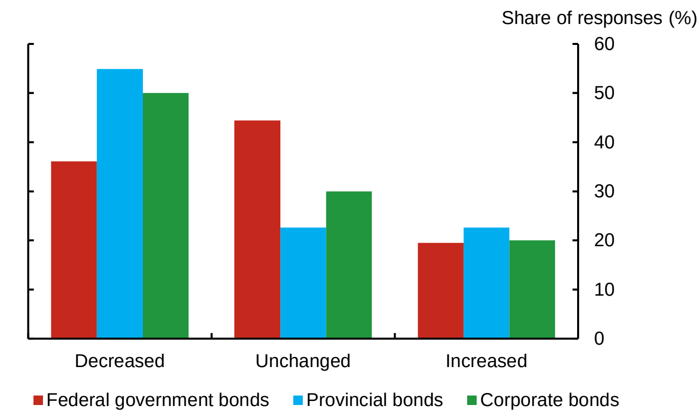


Source: Canadian Fixed-Income Forum

Also, around half of sell-side respondents said their corporate and provincial bond inventories had declined over the same time period, while just over one-third said the same for federal government bonds (**Chart 4**). Since dealers may require relatively larger inventories to facilitate client trades when acting as principals, a decline in inventories could be consistent with increased agency trading.

Chart 4: Dealers have reduced their corporate and provincial bond inventories

Distribution of responses to the CFIF survey question "To what extent has your trading inventory increased or decreased over the past two years in each of the following Canadian-dollar fixed-income asset classes?"



Source: Canadian Fixed-Income Forum

Changes in regulation, risk appetite and technology could be driving a shift

Both liquidity supply and demand may have played a role in a shift toward agency trading. In terms of liquidity supply, regulatory reforms like the Basel III capital and liquidity rules have increased the cost of carrying large inventories for bank-owned dealers.[3] These reforms have motivated banks to reduce inventories of riskier securities. Changes in risk tolerance and awareness following the 2007–09 financial crisis may have also influenced

[3] Trebbi and Xiao (2016) show that a large proportion of the shift toward agency trading in the United States largely occurred in the immediate aftermath of the financial crisis, before these regulations took effect. Thus, the initial shift to agency trading was likely motivated by other factors, while developments since may have been driven by regulatory factors.

similar changes in dealer behaviour (Committee on the Global Financial System 2014). Empirical work looking at US dealers suggests that "liquidity provision in the corporate bond markets is evolving away from the traditional commitment of dealer capital to absorb customer imbalances and toward dealers playing more of a matching role" (Bessembinder et al. 2016).

From a demand perspective, technological innovations and changes in buy-side behaviour may have reduced investors' need for principal-based intermediation. For example, growth in the volume and variety of bond exchange-traded funds has allowed investors in the fixed-income market to acquire their credit exposures through exchange trading, thereby circumventing the over-the-counter dealer market that has traditionally dominated fixed-income trading. Also, Canadian investors have stated that their liquidity-management strategies have changed over the past several years (e.g., by holding more recently issued securities and extending assumed holding periods for less-liquid securities), potentially reducing the role of dealers in liquidity provision.

Monitoring Bond Intermediation in Canada

Based on our proxy, we found that agency trading remains uncommon across major classes of bonds in Canada. Yet, the majority of market participants claim that agency trading is becoming increasingly prevalent. Despite these conflicting findings, MTRS data can be used to verify whether there is an ongoing trend toward increased agency trading in domestic bond markets.

The evolving nature of domestic liquidity following the crisis makes it difficult to evaluate the effects of particular changes in market structure, such as those from increased agency trading (Bank of Canada 2017). However, a shift to agency trading could eventually lead to reduced liquidity in domestic bond markets while also encouraging new types of participants to enter the market. New entrants could mitigate the price impacts of the move to agency trading, diversify the supply of market liquidity and compress bid-ask spreads through increased competition. Indeed, the volume share of non-bank dealers in the United States is growing in the post-crisis period (Bao, O'Hara and Zhou 2016).

References

Bank of Canada. 2017. *Financial System Review* (June).

Bao, J., M. O'Hara and A. Zhou. 2016. "The Volcker Rule and Market-Making in Times of Stress." Federal Reserve Board Finance and Economics Discussion Series No. 2016-102.

Bessembinder, H., S. Jacobsen, W. Maxwell and K. Venkataraman. 2016. "Capital Commitment and Illiquidity in Corporate Bonds." Available at SSRN: https://ssrn.com/abstract=2752610.

Canadian Fixed-Income Forum (CFIF). 2016 "CFIF Survey Results on Liquidity, Transparency and Market Access in Canadian Fixed Income Markets." Available at http://www.bankofcanada.ca/wp-content/uploads/2016/10/cfif-survey-overview-031016.pdf.

Cimon, D. and C. Garriott. 2017. "Banking Regulation and Market Making." Bank of Canada Staff Working Paper No. 2017-7.

Committee on the Global Financial System. 2014. "Market-Making and Proprietary Trading: Industry Trends, Drivers, and Policy Implications." Committee on the Global Financial System Papers No.52.

Trebbi, F. and K. Xiao. 2016. "Regulation and Market Liquidity." Available at http://faculty.arts.ubc.ca/ftrebbi/research/tx.pdf.