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IIROC Study of the Impact of the Dark Rule Amendments

Executive Summary

IIROC has undertaken a [study](#) of the impacts of the Dark Rule Amendments implemented on October 15, 2012¹ using IIROC's database of confidential regulatory market data, consisting of all orders and trades executed on all Canadian equity markets. The regulatory objective of this change was to establish a framework that recognised the contribution of dark orders to the post-trade price discovery process and their value to certain investors, while balancing this against the need to protect pre-trade (lit market) price discovery, ensure meaningful price improvement and establish a level playing field between transparent marketplaces and dark pools.

As expected, there was an immediate and dramatic decline in dark trading on October 15, 2012. While some marketplaces have since increased their market share, dark trading in general has not returned to previous levels.

¹ See IIROC Notice 12-0130, *Provisions Respecting Dark Liquidity*, April 13, 2012

IIROC understood that the implementation of these rules might impact certain investors and business models differently². The results of our study bear this out:

- Most of the liquidity providers who dominated trading in the dark prior to the rule change (predominantly HFTs which includes both high frequency client- and broker strategies) increased their activity in the lit market.
- There was a dramatic decrease in the use of dark trading venues by brokers to trade with their active retail flow. Brokers with more diversified liquidity provisioning activities were less impacted.
- While overall retail flow (active and passive combined) showed no increased costs, active retail orders experienced moderately statistically significant increases in transaction costs (as measured by effective spreads).
- HFT passive liquidity providers earned a statistically higher effective spread in the lit markets.

The analysis shows that lit market depth at the top of book and average lit market trade value increased, although price efficiency declined. Dark liquidity provision became more diversified, and buyside dark trading increased over the longer term.

IIROC believes that Canadian investors should get the best possible price, but the price improvement they receive in the dark must be sufficiently meaningful to forgo the benefits that transparency brings to Canada and to the quality of Canadian markets. The paper demonstrates that, on balance, the benefits outweighed the costs and therefore we conclude that the regulatory objectives of the Dark Rule Amendments were accomplished with acceptable impacts to market quality.

IIROC will consider the results of this paper along with other recent publications in our ongoing discussions about the Dark Rule Amendments and related policy initiatives, including the proposed Anti-Avoidance provisions³. In particular, IIROC has issued a Notice concurrent with this publication regarding a roundtable to discuss alternatives to address the impact of routing of retail orders to U.S. broker-dealers⁴.

² See IIROC Notice 10-0303 - *Joint Canadian Securities Administrators/Investment Industry Regulator Organization of Canada – Position Paper 23-405 – Dark Liquidity in the Canadian Market*, November 19, 2010

³ See IIROC Notice 15-0023, *Re-Publication of Proposed Dark Rules Anti-Avoidance Provision*, January 29, 2015

⁴ See IIROC Notice 15-0105, *Roundtable to Discuss Alternatives to the Dark Rules Anti-Avoidance Provision and Solutions Respecting Routing of Retail Orders to U.S. Dealers*, May 7, 2015



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1. Background

On October 15, 2012, following a lengthy consultation by the Canadian Securities Administrators (“CSA”) and IIROC, IIROC implemented a dark liquidity framework. Amendments to the Universal Market Integrity Rules (UMIR) required that small orders which interact with dark must receive meaningful price improvement, and lit orders must trade before dark orders at the same price on the same marketplace.

This process began in October 2009 when IIROC and the CSA jointly published the *Consultation Paper 23-404 – Dark Pools, Dark Orders, and Other Developments in Market Structure in Canada*⁵. The paper highlighted our regulatory position that price discovery is fundamental to the efficient functioning of markets and therefore orders entered on a marketplace should generally be transparent to the public, and that while we recognize the benefits of dark trading, we believe that limiting its use is critical to maintaining the quality of price discovery.

Some of the concerns brought forward for comment in the paper included:

- Dark pools and dark order types might affect the price discovery process by not revealing the depth and breadth of some orders.
- Internalization of order flow by large dealers in Canada could significantly reduce liquidity in the visible markets and threaten the price discovery mechanism.
- Dark orders receive the advantage of price discovery in lit markets without contributing to the process, which might be perceived as unfair.

On April 13, 2012, IIROC published a Notice of Approval concerning provisions respecting dark liquidity⁶. The Dark Rule Amendments:

⁵ See IIROC Notice 10-0303

⁶ See IIROC Notice 12-0130 – *Provisions Respecting Dark Liquidity*, April 13, 2012



- ensure that visible orders on a marketplace execute before dark orders on that marketplace at the same price;
- require dark orders to provide a better price, except when executing with large orders which are either larger than 50 standard trading units or have a value above \$100,000; and
- require that a better price be at least one trading increment and, when the displayed market has a spread of only one trading increment, at least one-half of a trading increment.

2. The IIROC Paper

As the Regulation Services Provider for all equity markets in Canada, IIROC receives real-time regulatory data feeds from each of the marketplaces it regulates. These marketplace feeds contain confidential regulatory markers that are not publicly available. As a result, IIROC has in its Equity Data Warehouse (“EDW”) a rich repository of regulatory market data consisting of all orders and trades executed on Canadian equity markets, lit and dark.

IIROC’s unique access to this rich data and the holistic cross-market view of trading activity that it provides has allowed us to initiate comprehensive and objective studies of the impacts of regulatory initiatives on Canadian equity markets and drive policy decision making.

2.1 Approach

IIROC’s paper analyzes data from the period August 15, 2012 to December 15, 2012 inclusive and reviews the impact of the Dark Rule Amendments on two subsets of securities which traded heavily in the dark:

- The first subset includes 241 securities which are constituents of the S&P/TSX Composite Index⁷ (“TSX Comp”).
- The second subset includes 44 highly-liquid ETFs⁸ (“HL ETF”).

These two subsets of securities account for 94% of all dark trading (75% of all lit trading) prior to the dark rule amendments, and 93% (78% in the lit) afterward. These securities therefore were most likely to have been most impacted by the Dark Rule Amendments.

In order to assess the impact of the rule changes on different segments of the trading community, we identified four broad groups which expand upon the results of IIROC’s paper “Identifying Trading Groups – Methodology and Results”⁹:

⁷ Securities which were not part of the TSX Composite Index throughout the entire study period were excluded.

⁸ Securities which were identified as ETFs, and which were included in the IIROC highly-liquid security list on every day of our study period were included.

⁹ See IIROC Notice 14-0210 – *Identifying Trading Groups – Methodology and Results*, September 9, 2014.



- Retail (RET)
 - Includes trading by retail clients and employees of brokers
- Buyside Client (Buyside)
 - Includes large institutional clients
- High Frequency Trading (HFT)
 - Includes both high frequency client- and broker strategies
- Specialist and Sell Side Strategy (Sellside)
 - Includes specialist market-making activity
 - Includes Client Facilitation and low frequency broker strategies

For the purposes of the analysis, dark trading is defined to include all trading on dark marketplaces¹⁰, and all dark order types traded on lit marketplaces.

The paper analyzes the impact of the Dark Rule Amendments on Canadian equity markets in three main parts:

1. The relative changes in dark to lit trading as well as market share shifts amongst trading venues.
2. Impact to market quality.
3. Use of dark trading venues by brokers to effectively internalize their order flow.

2.2 Findings

Following are highlights of the paper's key findings and observations. Please refer to the attached paper for complete details.

Pre-Implementation of the Dark Rule Amendments

- Prior to the Dark Rule Amendments, there were four fully-dark equity venues in Canada – Instinet Canada Cross Ltd., Liquidnet Canada Inc., TriAct Canada Marketplace LP (“TriAct”) and IntraSpread, a facility of Alpha Exchange Inc.
- Three marketplaces offered fully hidden dark order types – Chi-X Canada ATS Limited, the Toronto Stock Exchange, and the TSX Venture Exchange.
- IntraSpread and TriAct, which had offered price improvement in the dark but did not meet the new requirement, were required to change their models to comply with the amendments, effective October 15, 2012.
- HFT were the primary liquidity providers in the dark.

¹⁰ IntraSpread (a dark facility of Alpha Exchange Inc.), TriAct Canada Marketplace LP, Instinet Canada Cross Ltd., Instinet Canada Cross Ltd., and Liquidnet Canada Inc.



Trading Activity Results

After the implementation of the Dark Rule Amendments on October 15, 2012:

- Dark trading, in absolute terms and as a percentage of overall trading value in all Canadian listed securities, immediately and significantly decreased.
- IntraSpread was the most impacted venue, showing the deepest decline.
- The HFT and Retail groups experienced the largest drop in dark trading activity.
- The average daily value of trading in the lit markets increased, most significantly in HL ETF trading.
- There was a decrease in the average value of dark trades.
- Buyside dark trading increased over the longer term.

Market Quality Results

Our market quality measures show mixed results with most measures showing no significant impact, some showing significant improvement and some showing significant deterioration after the implementation of the Dark Rule Amendments:

- There was no statistically significant deterioration in overall time-weighted average spreads (TWAS), effective spreads or realized spreads.
- While overall retail flow (active and passive combined) showed no increased costs, active retail flow did experience moderately statistically significant increases in transaction costs (as measured by effective spreads).
- HFT passive liquidity providers benefitted the most (earning a higher effective spread in the lit markets).
- Market depth in the lit market at top of book increased while depth in the dark at all levels of the book declined.
- Most of the liquidity providers who dominated trading in the dark prior to the rule change (predominantly HFTs) increased their activity in the lit market. This was most evident in the TSX Comp securities where trading became more concentrated (i.e. less diversified); this did not occur in the HL ETF securities.
- Liquidity provision became more diversified in the dark.
- Price efficiency as measured by auto-correlated returns showed significant deterioration for TSX Composite securities.
- There were no significant changes in volatility.



Use of Dark Trading Venues by Brokers to Effectively Internalize Their Order Flow

The paper also analyzes the use of dark trading venues by brokers to trade with their active retail flow. Certain elements of Canadian market structure¹¹ in the period prior to the dark rule implementation facilitated the ability of a broker to take the other side of its clients' trades. The analysis shows that a few brokers implemented market-making strategies on IntraSpread to trade with the segregated retail flow on that marketplace. After the implementation of the Dark Rule Amendments, this activity significantly declined.

Our analysis highlights the impact of the dark rules on individual broker business models. Those dependent on segregated retail flows were impacted more than those with more diversified liquidity provisioning activities.

3. Conclusions

The Dark Rule Amendments implemented by IIROC on October 15, 2012 were designed to establish a framework that recognised the contribution of dark orders to the post-trade price discovery process and their value to certain investors, while balancing this against the need to protect pre-trade (lit market) price discovery, ensure meaningful price improvement and establish a level playing field between transparent marketplaces and dark pools.

IIROC understood that the implementation of these rules might impact certain investors and business models differently¹². The results of our study bear this out; individual dark trading venues were impacted differently based on their service models, and individual brokers were impacted differently depending on their business models.

While active retail flow and passive HFT experienced increases and decreases respectively in trading costs, retail flow as a whole (active and passive) and, in fact, the trading community as a whole, were not impacted.

Lit market depth and average trade value increased, although price efficiency declined. Dark liquidity provision became more diversified, and buy-side dark trading increased over the longer term.

We believe that Canadian investors should get the best possible price, but the price improvement they receive in the dark must be sufficiently meaningful to forgo the benefits that transparency brings to Canada and to the quality of Canadian markets. The paper demonstrates that, on balance, the benefits outweighed the costs and therefore we conclude that the regulatory objectives of the Dark Rule Amendments were accomplished with acceptable impacts to market quality.

¹¹ Includes broker preferencing, non-midpoint price improvement, and the ability to interact with an active flow consisting of retail orders only,

¹² See IIROC Notice 10-0303 - Joint Canadian Securities Administrators/Investment Industry Regulator Organization of Canada – Position Paper 23-405 – Dark Liquidity in the Canadian Market