

Introduction

Impact of Technology

I wish to start by thanking the Superintendencia de Valores y Seguros and its chairman, Guillermo Larrain, for inviting me to this conference to speak about an important theme that transcends boundaries. Apart from the fact that Guillermo and I share an almost identical name, we share a common interest in and concern for the well-being of our markets and investors.

I remember reading about how the first exchanges were created and the way business was done in the earlier days.

The London Stock exchange was created when brokers met in London, in coffee houses and decided to organize themselves to facilitate trading.

The NYSE began in 1792, when a group of stock and bond brokers gathered in a park in downtown New York City and agreed to meet daily at that location to trade financial instruments, such as stocks and bonds. The Buttonwood Agreement was signed by 24 Stock Brokers outside of 68 Wall Street in New York under a buttonwood tree which earlier was the site of a stockade fence. By 1794, the exchange had moved indoors to the Tontine Coffee House, on the corner of Wall and Water Streets.

The story of the first exchange in Canada began in 1832 as an informal stock Exchange at the Exchange Coffee House in Montreal, Canada. Pretty much the same history as the New York stock exchange and the London stock exchange with coffee houses being the trigger. It must have been the caffeine.

In those years, intermediaries gathered at the premises of the exchange, with their top hats, as was the trend then, and met with their clients to receive their current daily orders for trading in stocks and bonds. You can easily imagine the decorum in which transactions occurred.

As time evolved, together with technology, clients were no longer meeting with brokers and dealers at the exchange premises but contacting them through modern means like the telephone and, later on, computers.

Open outcry premises, our trading floors, have almost totally disappeared in the last two decades to make room for electronic platforms allowing bids and offers to meet virtually. This has permitted a rapid growth of our markets and, it should be noted, a challenge to regulators, always wanting to accompany or allow markets to evolve efficiently.

We are now talking about bid and offers matched in a matter of milli-seconds, challenging the efficiency, costs of structured markets and a huge increase in the number of orders sent to marketplaces

Without question, technology, and its applications, has been one of the single greatest influences on capital markets over the past decade. Rapid changes in technology have had a profound impact on the nature of business operations.

New trends: demutualization and consolidation

In fact, evolving technologies in hardware, software applications and communications since the early 1980s have impacted capital markets and the rate of change continues to accelerate. Applications of technology to the trading process have given rise to totally electronic markets that are seamlessly integrated with order management systems as well as clearing and settlement systems.

These markets now operate with increased efficiencies, able to transact unprecedented volumes at ever-increasing speeds. While these efficiencies have led to improved products and services for customers, they have also resulted in lowering the overall costs of transactions.

Innovation in information technology and in communication has intensified the level of competition seen in the trading of securities on exchanges and on other marketplaces and is certainly the spark that triggered the trend towards the globalization of the markets.

Together with technological advancements, we have seen development in the structure of our domestic exchanges.

They have evolved in ever-growing markets and in a fashion where it is difficult to see them in the historical role of a national commodity.

Exchanges have therefore demutualized and restructured themselves as for-profit organizations, increasing incentives to gain a competitive edge and enhance value for their shareholders.

The same trend of demutualization happened in Canada as well but went through a consolidation phase first.

In 1999, exchanges in Canada agreed to specialize and merge. This permitted the existence of a senior exchange for senior stocks, the TSX, the TSX venture exchange for junior stocks and the Montreal Exchange for financial derivatives. To this list, we can add CNQ, the new stock exchange for trading equity securities of emerging companies, while the venture and derivative exchanges have merged with the senior exchange group.

The demutualization of exchanges, with members becoming free to develop their operating model by not being held by their membership, and technology advances have created new trends where we see marketplaces seeking alliances and, in some cases, consolidation, not to mention the creation of new trading venues that offer the opportunity of trading outside an exchange.

Demutualization has increased the incentives for exchanges to gain a competitive edge and enhance value

for their shareholders. It has also provided easier access to the capital needed to achieve their business plans. The trend towards cross border and cross-assets alliances suggests that exchanges want to diversify their activities geographically and to increase the scope of their services.

In principle, the alliance of a market operator with a marketplace in a foreign jurisdiction could enhance the liquidity of the securities they trade.

At the same time, alliances combining a stock exchange and a derivatives exchange could have the same type of benefits if they facilitate the simultaneous trading of related cash securities and derivatives instruments. The TSX and the Montreal Exchange have recently merged for that same reason.

In recent years, the securities industry has experienced a rapid transformation as marketplace operators formed various alliances at the local level, as with the Canadian experience, but also at the international level. We only have to remember the recent merger between the NYSE and Euronext in 2007.

Marketplace consolidation has the potential to result in deeper and more liquid markets, especially in the context of the shift to adopt electronic trading, lowering costs and permitting linkages.

All this suggests that exchanges want to diversify their operations geographically and to increase the scope of

their services with a view to enhancing the liquidity of the securities they trade, and with access to a larger investor base.

It must be noted though that newly formed entities continue to operate distinct marketplaces and cross border consolidation has not yet yielded all the benefits of consolidation.

But the reality has been that regulators have oversight responsibilities for both the operations of exchanges and the securities listed on them, and most regulators restrict the access to their marketplaces. We can refer to the example of the structure created by the NYSE and Euronext where the two marketplaces continue to coexist.

In this context, mutual recognition, as proposed by the SEC and advocated by other jurisdictions in a different manner, may be a solution to this. Countries reaching such an agreement would allow investors within their borders direct access to foreign marketplaces.

On the issue of ATSS

Demutualization has also offered the possibility for market participants to expand on their regular activities and develop new business plans. In this context, the creation of new trading venues offers the possibility of trading outside an exchange, on an ATS, thereby competing with the exchange as the costs are generally lower and transactions can be achieved faster due to the use of

technology. This potentially puts somewhat of an end to the natural monopoly held by the exchange.

ATSs that trade Canadian-listed securities have been registered to carry on business in a number of jurisdictions in Canada. The first was approved in 2005. Since then, a number of them have emerged. At this time, 7 have been approved by regulators.

We have also recently seen the creation of a particular type of ATS known as dark liquidity pools, which typically enable large trades to occur without displaying standing orders to the public.

As you can expect, ATSs are all proposing a different business model. As seen in the US in particular, we have also seen the appearance of dark pools or non-transparent markets, like Liquidnet or Blockbook. One could note that some of these are ATSs that have been operating in other countries for many years, like Liquidnet or Chi-X/Instinet.

Finally, as seen elsewhere, like Turquoise in Europe for example, large banks/dealers and other institutions in Canada have also formed partnerships to launch an ATS called Alpha.

Some of the marketplaces in the US, Europe and Canada, offer different methods or types of trading. As well, in some cases, they allow direct access to their market for some participants, like institutional investors, who had no “pure”

direct access to exchanges in the past; instead, they had what is called DMA or direct market access to exchanges. In that case, however, a dealer/member of the exchange, is still responsible for the trading done by the institutional investors and hence this is not pure direct access.

The emergence of ATSs is supported in many jurisdictions, like Canada, by rules to improve competition and increase the efficiency of markets.

Regulatory control

However, the emergence of ATSs has raised the concern that they may fragment the markets. For Canada, where many stocks are also listed and traded on US exchanges, this could be particularly problematic. Fragmentation is being offset by regulation requiring marketplaces to be linked in some ways together or by increasing transparency and providing fair access. The necessary tools, when and where available, allow traders to connect to multiple marketplaces rapidly and inexpensively, to scan prices across them and to direct orders to the marketplace in which the price is the most advantageous.

In the early 2000s, alternative trading systems started being allowed to operate in Canada.

The public policy discussion considered the benefits and concerns brought on by having multiple marketplaces. The discussions also examined how new marketplaces brought competition and choice for investors regarding where to

execute trades and how to execute them. While at the same time, the possibility that the development of multiple marketplaces could cause fragmentation of the price discovery process and make market surveillance more challenging.

In December 2001, the Canadian Securities Administrators (CSA), a forum for the 13 securities regulators of Canada's provinces and territories to coordinate and harmonize regulation of the Canadian capital markets, introduced National Instrument 21-101 *Marketplace Operation* (NI 21-101) and National Instrument 23-101 *Trading Rules* (together, the ATS Rules).

The objectives of the ATS Rules were to:

- (1) facilitate competition and thereby investor choice;
- (2) identify and implement the requirements that maintain and improve market integrity when there are multiple marketplaces trading the same securities; and
- (3) minimize the impact of any fragmentation caused by competition through transparency and other requirements.

The ATS Rules introduced a regulatory structure for the regulation of marketplaces¹, including the need for an ATS to contract with a regulation services provider. They imposed transparency requirements for orders and trades of exchange-traded securities and unlisted debt securities.

¹ A "marketplace" is an exchange, quotation and trade reporting system or an alternative trading system.

The purpose of the provisions on best execution, fair access, and prohibition against manipulation and fraud, was to strengthen market integrity across all marketplaces.

Since 2001, new types of marketplaces with different types of trade execution methodologies have been introduced in Canada. These developments have raised issues regarding the application of current rules, treatment of non-dealer industry participants who have direct access to marketplaces, whether the same level of transparency is appropriate for different types of marketplaces, whether data consolidation is necessary in light of technology developments, and most recently the role of the trade-through protection.

There has been a long-standing debate about the interplay between the obligations of best execution and “best price” or trade-through protection. In addition, there is some concern that trade-through and best execution obligations may conflict.

The rationale for a dealer’s best execution obligation and the obligation to prevent trade-throughs is different.

A “trade-through” occurs when a quote or “an order exposed on a marketplace” that is at a better price is bypassed and a trade is executed at an inferior price. Trade-throughs can occur intra-market (within one marketplace) or inter-market (between multiple marketplaces trading the same security). A “Trade-through obligation” refers to an

obligation to ensure that better-priced orders on any marketplace are executed prior to, simultaneously with or immediately after the execution of a trade. In other words, a full trade-through obligation requires that an entity ensure that its orders do not by-pass better-priced orders already in the book.

The obligation of best execution is based on the fiduciary duty that a dealer or adviser has to its client.

Trade-through protection, on the other hand, is based on the obligation of a participant to the market as a whole. It is grounded in the desire to protect visible and accessible limit orders and to ensure that those who decide to display the prices they are willing to pay or receive for a particular security will obtain the benefit of that decision. The requirement to achieve best execution can be waived or overwritten by direction of a client; however, the trade-through obligation would always have to be met except in specific circumstances.

In the United States, the Securities and Exchange Commission (SEC) has adopted Regulation NMS (Reg NMS), which introduced changes to the trade-through obligation (Order Protection Rule), access (Access Rule), decimalization and data fees.² This regulation connects marketplaces and contains a provision preventing standing orders on an automated market from being bypassed in favour of inferior orders submitted elsewhere.

² Securities and Exchange Commission, Release No. 34-51808; File No. S7-10-04 *Regulation NMS*, issued June 16, 2005 (SEC Final Release).

But generally speaking, having a trade-through obligation does not diminish the obligation to achieve best execution, including having policies and procedures to look at data from multiple marketplaces to determine whether or not to access those marketplaces.

The decision of how and where to trade (best execution) is determined by the particulars of the order and needs of the client. However, all better-priced orders must be honored at the time of execution (trade-through obligation).

Currently in Canada, trade-through protection is addressed as part of the best price obligation imposed by IIROC (our National SRO) in its Universal Market Integrity Rules (UMIR), Rule 5.2 *Best Price Obligation* (UMIR Best Price Rule). The rule imposes a requirement on dealers that trade on marketplaces that have retained IIROC to use reasonable efforts to obtain the best price available. There are a number of exemptions available and the factors to be considered in determining if reasonable efforts have been used are broadly outlined.³

The UMIR Best Price Rule currently applies only to dealers, which results in different requirements for dealers and non-dealers who are subscribers of ATs. In addition, the rule as it exists does not provide the necessary infrastructure to effectively prevent trade-throughs. For example, it does not provide for an inter-market sweep order that would allow marketplace participants to

³ See UMIR Rule 5.2 *Best Price Obligation* and the related policy.

simultaneously route orders to various marketplaces which would execute the order upon receipt.

In the past, no issues arose under the UMIR Best Price Rule because:

- there had not been multiple marketplaces trading the same securities in Canada,
- the technology systems of marketplaces enforced the “best price” or trade-through obligation, and
- only dealers had direct access to the existing marketplaces.

The existence of multiple marketplaces trading the same security has refocused attention on the current rules relating to trade-through protection.

When multiple marketplaces began trading TSX-listed securities, the dealers in Canada had difficulty complying with the UMIR Best Price Rule. Technology was not yet at a point where dealers could monitor multiple marketplaces and effectively route orders to where the best price was displayed. In addition, order data was not consolidated. In response, RS (the ancestor of IIROC), proposed an approach whereby the factors to be considered in determining if a dealer used “reasonable efforts” to obtain the best price were broadened. IIROC introduced an immediate implementation rule, effective on May 16, 2008⁴, that broadened these factors to include:

⁴ The UMIR Best Price Rule was published for comment on May 16, 2008, MIN 2008-009.

- whether the dealer has used an order router offered by it or a marketplace,
- whether the dealer relies on another dealer to route its orders,
- the timing of the launch of the marketplace,
- whether the marketplace has had a material malfunction or interruption of services,
- whether the data being transmitted by the marketplace is easily and readily used by dealers, and
- whether the marketplace executes an inordinate proportion of orders at an inferior price or there is no fill at all.

The CSA are proposing changes so that the new regulations on trade-through apply to marketplaces instead of only to dealers, as I have explained earlier. The proposed changes are to have the trade-through obligations imposed on marketplace, including ATSS, and having the best price obligation imposed across marketplaces.

The approach would be in some ways a principles-based rule as it would require each marketplace to establish, maintain and enforce written policies and procedures that are reasonably designed to prevent trade-throughs on that marketplace. It would not dictate to marketplaces how to achieve this.

The CSA have already consulted twice on this issue. The majority of respondents support the proposed approach.

We have seen that the introduction of the ATS Rules has facilitated competition and innovation in the Canadian market by accommodating new marketplaces that have diverse models of trading. In the mid-2000s, CNQ became the first new exchange in a few decades. New trading technologies are also being established to enable dealers and non-dealers alike to trade directly on a marketplace.

Marketplaces can now compete by trying to improve upon existing trading alternatives by differentiating on price, cost of execution, anonymity, degree of transparency, liquidity and speed of execution, among others. This competition benefits all investors in that they are provided with more choice, better services and potentially cheaper execution costs.

The operation of new ATSS have refocused regulators attention on the current rules relating to trade-through protection – again, that dealers are subject to a trade-through obligation via UMIR, whereas non-dealer marketplace participants (institutions or other investors) are not. By virtue of this, some of the participants in this ATS, under the current rules, do not have a trade-through obligation.

Many market participants believe that some form of trade-through obligation is important to maintain investor confidence in the market, especially in markets such as ours where there is a high degree of retail participation and an expectation of trade-through protection.

Without it, they argue, there is no incentive to contribute to the price discovery process, because investors who disclose their intentions will not be assured the benefit of having their better-priced orders filled while others will be able to use that information to help in determining the prices at which they transact.

They also argue that trade-through obligations create an incentive for investors to put their limit orders into a marketplace's book because they have the confidence that if their order is at the best price, it will be protected and their order will be filled before orders at inferior prices. This fosters confidence and encourages more liquidity in the market. Otherwise, it could have a negative impact on the overall price discovery efficiency of our market.

Trade-through protection has been a feature of the Canadian market for many years, before the consolidation of exchanges in 1999.

Our proposed approach is consistent with the adopted Order Protection Rule in the US, and while we must consider how our markets differ in determining the appropriate rules, we cannot ignore the impact of having different rules in this area. Globalization is a fact that regulators have acknowledged.

Nevertheless, our proposed Trade-through Protection Rule would be applicable to all visible parts of orders entered into the book (i.e. full depth-of-book). This means that in

order to execute an order at an inferior price, the marketplace would have to ensure that all protected orders that are visible at price levels better than that price have been executed. This approach is different from the one adopted in Regulation NMS in the United States, which provides protection only to the best bid and offer on each marketplace (top-of-book).

CONCLUSION (Effect on competition)

Costs of trading are dropping and it is difficult not to consider that market consolidation, along with international competition and the presence of ATSS have a huge influence. This is also the result of improved technology enhancing efficiency. That being said, the increasing number of marketplaces can in the short term increase the overall cost of market participants as they have to monitor or access more than one market and hence improve their use of technology.

In conclusion, regulators can only encourage competition, which will be of obvious benefit to investors. At the same time, as I have said earlier, this creates new challenges for regulators to efficiently regulate markets that are evolving at an ever-increasing speed and also protect investors from improper practices or insufficiently regulated practices.

REFERENCES

Please note that this presentation was based in large part on a document entitled “The Changing Landscape of Securities Trading” by Éric Chouinard, *Financial System Review* – December 2007.

Please find below, a list of additional materials I used as references to prepare this presentation.

- Notice of Proposed Amendments to National Instrument 21-101 *Marketplace Operation* and National Instrument 23-101 *Trading Rules*, Canadian Securities Administrators.
- “Transparency and Market Fragmentation”, Report from the Technical Committee of the International Organization of Securities Commissions (IOSCO), November 2001.
- “Trade-through Protection, Best Execution, Access to Marketplaces and the Consolidation of Data”, Joint Notice of Canadian Securities Administrators/Market Regulation Services Inc., April 20, 2007.
- “RS Market Integrity Notice 2007-2008 Request for Comments Provisions Respecting Best Execution”, April 20, 2007.