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**25** Protecting Market Integrity in an Era  
of Fragmentation and Cross-Border Trading

**JANET AUSTIN**

## Protecting Market Integrity in an Era of Fragmentation and Cross-Border Trading

JANET AUSTIN\*

Stock exchanges and trading on them has changed dramatically in the last few decades as markets for securities have fragmented, trading volumes have escalated and the opportunities to trade in different markets and across international borders has increased. These changes to the markets have been driven principally by a focus on improving market efficiency, liquidity and investor choice rather than protecting the integrity (or fairness) of the markets. Yet some of these changes may have had an adverse impact on market integrity and, in particular, may have increased the ability of market participants to engage in market abuse such as insider trading and market manipulation. In response to these changes, securities regulators have endeavoured to adapt to this new trading environment, but has the reaction of regulators been satisfactory to protect the fairness of markets? This article seeks to explore this question by outlining the changes, considering how they may have impacted upon market integrity and analysing the regulatory response. Finally, this article argues that to successfully maintain and improve market integrity, considerably more needs to be done to improve the collection, exchange and analysis of information to maintain effective market oversight.

Les bourses et le commerce des valeurs mobilières ont radicalement changé au cours des dernières décennies, plus précisément depuis que les marchés des valeurs mobilières se sont fragmentés, que le volume des transactions n'a cessé d'escalader et que les possibilités de transiger sur différents marchés et au-delà des frontières internationales n'ont cessé d'augmenter. Cette évolution survenue dans les marchés a été essentiellement guidée par l'objectif d'améliorer leur efficacité et leur liquidité et de favoriser le choix des investisseurs plutôt que de protéger l'intégrité (ou l'équité) desdits marchés. Toutefois certains de ces changements pourraient avoir entraîné des effets négatifs sur l'intégrité des marchés et, en particulier, pourraient avoir accru la capacité des participants à se livrer à des abus du marché tels que les délits d'initié et les manipulations boursières. En réponse à cette évolution des marchés, les organismes de réglementation des valeurs mobilières ont cherché à s'adapter à ce nouvel environnement commercial, leur réaction a-t-elle cependant suffi à protéger le caractère équitable des marchés? Dans cet article, l'auteure explore cette question en examinant la manière dont ces changements ont pu influencer l'intégrité du marché et en analysant la réaction des organismes de réglementation à ce phénomène. Enfin, l'auteure soutient que, pour préserver et améliorer de façon efficace l'intégrité du marché, il faudrait instaurer des mesures concrètes afin d'améliorer la collecte, l'échange et l'analyse des informations en vue d'assurer une surveillance efficace des marchés.

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# Protecting Market Integrity in an Era of Fragmentation and Cross-Border Trading

JANET AUSTIN

## I. INTRODUCTION

Stock market trading around the world has undergone a significant transformation in the last few decades. Institutions and even individual investors now have access to a much vaster array of products, markets and trading venues than they did just 30 years ago. Brokerage costs have fallen and the time taken to execute a trade has been reduced to a fraction of a second. Falling costs and rapid execution times have resulted in new participants entering the markets contributing to significant increases in trading volumes.

These changes have largely been driven by competition between markets, which has resulted in reduced brokerage costs for traders and listing costs for issuers. Competition has also increased liquidity, reducing the spread between buy and sell orders which in turn decreases the profits which can be made on such spreads. As the profits on such spreads are earned to the detriment of others, improved liquidity also benefits traders and investors. At the same time competition has resulted in the development of new products as investors seek new ways to improve the returns from their investments.

Securities regulators have mostly welcomed these developments, as their key objectives include promoting market efficiency.<sup>1</sup> However the goals of securities

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1 The International Organization of Securities Commissions (IOSCO) sets out that the objectives of securities regulators should be “protecting investors; ensuring that markets are fair, efficient and transparent; [and] reducing systemic risk.” See International Organization of Securities Commissions, “Objectives and Principles of Securities Regulation” (June 2010) at 3, online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD323.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD323.pdf)> [IOSCO Principles]. Most securities regulators’ objectives reflect this statement. For example, the mission of the United States Securities and Exchange Commission is to “protect investors, maintain fair, orderly and efficient markets, and facilitate capital formation.” See US, Securities and Exchange Commission, *The Investor’s Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation*, online: <[www.sec.gov](http://www.sec.gov)>. Similarly, in Canada, Ontario’s *Securities Act* states that the purposes of the Act are “(a) to provide protection to investors from unfair, improper or fraudulent practices; and (b) to foster fair and efficient capital markets and confidence in capital markets.” See *Securities Act*, RSO 1990, c S.5, s1.1. In 2011,

regulators extend beyond promoting the efficiency of markets to also protecting the *integrity* or fairness of the markets.<sup>2</sup> The job of a regulator in protecting market integrity is somewhat open-ended and perhaps extends to a duty to ensure that the market is fair for all participants. However, as a minimum, protecting market integrity encompasses the elimination of dishonest practices such as market manipulation and insider trading.<sup>3</sup> There is a compelling public interest in regulators taking action to maintain and improve market integrity. Securities markets are vital mechanisms by which corporations can access funds from investors in order to grow. Such investment is dependent, to a large extent, upon investors having confidence that the market is fair. Market integrity is therefore important to promoting investment, which is, in turn, important to the economic development of a country.

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the IOSCO technical committee defined "Market efficiency" as "the ability of market participants to transact business easily and at a price that reflects all available market information. Factors considered when determining if a market is efficient include liquidity, price discovery and transparency." The same report defined "Market integrity" as "the extent to which a market operates in a manner that is, and is perceived to be, fair and orderly and where effective rules are in place and enforced by regulators so that confidence and participation in the market is fostered." See International Organization of Securities Commissions, "Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency: Final Report" (20 October 2011) at 9, online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD361.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD361.pdf)> [IOSCO Final Report].

<sup>2</sup> *Ibid.*

<sup>3</sup> In 2008, the G20 declared that "Promoting Integrity in Financial Markets" encompassed bolstering investor and consumer protection, avoiding conflicts of interest, preventing illegal market manipulation, fraudulent activities and abuse, protecting against illicit finance risks arising from non-cooperative jurisdictions and promote information sharing. See The White House, News Release, "Declaration of the Summit on Financial Markets and the World Economy" (15 November 2008), online: <[georgewbush-whitehouse.archives.gov](http://georgewbush-whitehouse.archives.gov)>. In the literature, finance academics tend to refer primarily to the concept of market integrity rather than fairness although market integrity is rarely defined and is not given a precise definition. One exception is Utpal Bhattacharya, Hazem Daouk, Brian Jorgenson and Carl-Heinrich Kehr, writing in the *Journal of Financial Economics* in 2000, who gave the following definition: "Market integrity refers to the disadvantages outsiders face vis-a-vis insiders when trading in the market. We expect that market integrity changes over time." This definition was given in the context of an event study measuring of the incorporation of information into prices in a capital market where insider trading laws were not enforced. See Utpal Bhattacharya et al, "When an Event is Not an Event: The Curious Case of an Emerging Market" (2000) 55:1 *J Financial Economics* 69 at 72, n 4. In the finance literature, market integrity is linked to efficiency, in that a market of high integrity will also be efficient. To finance scholars the influence of the Capital Asset Pricing Model (CAPM) and the Efficient Capital Market Hypothesis (ECMH) leads to a prediction that, in an informationally efficient market, prices will reflect as closely as possible the asset's fundamental value. See Emiliios Avgouleas, *The Mechanics and Regulation of Market Abuse: A Legal and Economic Analysis* (Oxford: Oxford University Press, 2005) at 53. If prices reflect an asset's fundamental value, this will result in the most efficient allocation of capital. As such, market integrity seems to mean to finance scholars eliminating practices which may interfere with the ability of prices to reflect the asset's fundamental value. If all material information in relation to a security has been publically disclosed, prices should reflect the asset's fundamental value incorporating all this information. There is however another body of literature, developed primarily in the legal discipline, which appears more concerned with the normative concept of 'fairness', independent of any issues of economic efficiency. The argument is that fairness is a necessary component of the capital market, either morally or based on the concept that fairness is necessary for an effective market and that a successful market will be characterized by fair ground rules. See e.g. Ian B Lee, "Fairness and Insider Trading" (2002) 2002 *Colum Bus L Rev* 119 at 142.

As the changes to markets over the last few decades have been largely spurred on by efficiency concerns rather than in the interests of protecting the integrity of markets, a question that needs to be asked is what impact have these changes had on market integrity? Have the changes made markets less fair by making them more susceptible to market abuse such as insider trading and market manipulation? If so, have regulators sufficiently addressed this issue? As a result of recent crises in securities markets, securities regulators have been active in tightening regulation. However, most of the focus of these new regulations has been directed towards a relatively new, and different, regulatory goal – that of reducing systemic risk.<sup>4</sup> Systemic risks are “risks that occasion a ‘domino effect’ whereby the risk of default by one market participant will impact the ability of others to fulfil their legal obligations, setting off a chain of negative economic consequences that pervade an entire financial system.”<sup>5</sup> While some of these new regulatory changes directed towards systemic risk concerns may have incidentally also worked towards improving the integrity of the markets, this has generally not been the objective.

The purpose of this article is to outline the main changes to securities markets and securities market trading that have occurred in the last few decades and to consider how these changes may have impacted market integrity. In particular, have these developments resulted in more opportunities for persons to engage in insider trading and market manipulation that will go undetected and/or not be prosecuted because the perpetrators have been able to obscure their trades across markets and/or different securities? What has been the response of regulators? To explore these issues, Part II outlines the main changes that have taken place in stock markets and securities market trading over the last few decades that may have impacted market integrity. Part III considers the risks to market integrity inherent in these changes. Part IV details the changes in both the architecture of securities regulation and specific regulatory measures which may work towards preserving market integrity. Part V then seeks to analyze the regulators’ responses and whether they have been sufficient. The article concludes by arguing that up until recently, the impact on market integrity has been largely overlooked by regulators in supporting the changes to the markets. If regulators are to maintain and improve market integrity in this new and ever evolving trading environment they likely need to do more. In particular, more needs to be done to collect trading and other data in a standardized form, to establish procedures and systems to exchange and analyse this data to detect market abuse and to bring enforcement proceedings in relation to such market abuse.

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4 See IOSCO Principles, *supra* note 1. “Reducing Systemic Risk” was added as an objective on June 10, 2010. See International Organization of Securities Commissions, Media Release, “Global Securities Regulators Adopt New Principles and Increase Focus on Systemic Risk” (10 June 2010), online: <[www.iosco.org/news/pdf/IOSCONEW188.pdf](http://www.iosco.org/news/pdf/IOSCONEW188.pdf)>.

5 *Reference re Securities Act*, 2011 SCC 66 at para 103, [2011] 3 SCR 837, citing Michael J Trebilcock, “National Securities Regulator Report” (2010) 1 Reference Record 222 at para 26.

## II. CHANGES TO SECURITIES MARKETS AND TRADING

### A. The Break-Down of the Exchange Monopolies and Fragmentation

Securities markets today bear little resemblance to the stock exchanges which operated up until the 1970s and 1980s. Up until that time exchanges around the world were physical trading floors, operating within their own protected, often monopolistic, environment typically defined by national boundaries. While a few exchanges were run by governments, most exchanges were private mutual organizations owned and operated by brokers.<sup>6</sup> Those exchanges were largely self-regulated and subject to only a limited degree of government oversight. Although this system of a single or very few private exchanges for each jurisdiction was largely anti-competitive, it was allowed to continue as it delivered a number of benefits:

Governments benefited as they were able to regulate the securities market without the cost and trouble of setting up a very extensive system of supervision and enforcement. Stock exchanges benefited by being recognized by government as the means through which the securities market was regulated. Their members benefited as this enhanced position limited or removed competition, so allowing them to pass on their costs to buyers and sellers of securities. Investors benefited as they had access to a regulated market in which the risks of default or fraud were much reduced. Issuers of securities benefited as they continued to have access to a market where the stocks and bonds they created could be traded.<sup>7</sup>

Nevertheless this anti-competitive environment was not without critics in that, like other anti-competitive environments, exchanges were able, or at least had the capacity, to exercise the power of a monopoly. This gave the exchanges and the member brokers the ability to stifle innovation and make monopolistic profits from high charges levied on brokers, issuers and investors.

Towards the end of the twentieth century, exchanges increasingly came under pressure to change. These changes were influenced first by the fact that from the 1970s institutions took over from individuals as the main investors in securities. The number and size of such institutions grew dramatically from the 1970s as it became apparent that government benefits for retirement would become less generous in the future, thus compelling individuals to make their own provision for retirement,

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6 See generally Ranald Michie "Exchanges in Historical and Global Context" in Larry Harris, ed, *Regulated Exchanges: Dynamic Agents of Economic Growth* (Oxford: Oxford University Press, 2010).

7 *Ibid* at 35.

often through the use of mutual or pension funds.<sup>8</sup> Competition between such funds put pressure on funds to obtain high rates of return. As part of their push to increase returns, these institutional investors pressed governments for changes to the anti-competitive fee structures of exchanges. As a result, governments gradually required the existing exchanges to abandon their anti-competitive practices, including fixed commissions and restrictive membership requirements.<sup>9</sup>

Another driver of change was the dramatic improvements in communications and trading technology, and, in particular, the movement from trading floors to screen trading systems.<sup>10</sup> This move to electronic trading enabled the establishment of new regulated exchanges and alternative trading systems (ATS)<sup>11</sup> as barriers to enter the market for securities trading fell. The impetus for establishing ATS (also called electronic communication networks (ECNs)) also came from reduced fixed costs, for example location costs, compared to regulated exchanges, and by the fact that they often had a lower cost regulatory framework.<sup>12</sup> Established exchanges also faced increased competition from expanded over the counter trading (OTCs).<sup>13</sup> Although OTC dealings have existed for most of the twentieth century, increased technology and communications allowed their expansion.<sup>14</sup> Like ECNs, OTCs have competitive advantages of reduced fixed and regulation costs compared to established exchanges. Competition to established exchanges has also come from larger security houses increasingly internalizing order matching. This involves firms setting off positions within their order books and only settling net positions through a formal exchange. The advantage of this internal matching to the firms and their clients is the reduced cost of only having to book net positions on an exchange.<sup>15</sup>

The revolution in communication technologies also resulted in exchanges having to compete for listings. Whereas previously corporations would list their securities on exchanges to which they were geographically connected, they are no longer bound to continue this practice. Issuers can now search for the cheapest

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8 See generally Deepthi Fernando et al, "The Global Growth of Mutual Funds" (2003) World Bank Policy Research Working Paper No 3055, online: <[www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2003/07/08/000094946\\_03062104294247/Rendered/PDF/multi0page.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2003/07/08/000094946_03062104294247/Rendered/PDF/multi0page.pdf)>.

9 Michie, *supra* note 6 at 28, 37–39, 43–44. For example, fixed commissions ended on the NYSE in 1975 and on the LSX in 1983.

10 John Board, Charles Sutcliffe & Stephen Wells, *Transparency and Fragmentation: Financial Market Regulation in a Dynamic Environment* (Houndmills: Palgrave Macmillan, 2002) at 9.

11 In the US, these are called electronic communication networks (ECNs). In the United Kingdom, these are referred to as alternative trading systems (ATSs) or alternative trading platforms (ATPs) and, in Europe, they are referred to as multilateral trading facilities (MTFs). An example of an ECN is Instinet. See Michael Blair & George Walker, *Financial Markets and Exchanges Law* (Oxford: Oxford University Press, 2007) at 468, xlix, 5, 9, 23–24.

12 *Ibid* at 9.

13 *Ibid* at 5.

14 *Ibid* at 1.

15 *Ibid* at 25.

source of capital wherever it may be in the world.<sup>16</sup> At the same time, there has been a dramatic increase in securitization globally as corporations move away from bank financing to tradable securities based financing.

To maintain market share in the face of these competitive pressures, established exchanges looked to lower costs, primarily through investment in technological change. To raise the capital to invest in such technologies most stock exchanges which were member cooperatives demutualized. Such demutualization involved converting their ownership structure from being owned by brokers to public corporations owned by shareholders. Many also listed the shares of this public corporation on the exchange it operated.<sup>17</sup> In Europe, state owned stock markets converted to public traded corporations.<sup>18</sup> This change in ownership structure made it easier to raise funds through both equity and debt. It was also thought that this would facilitate innovation by changing the incentive structure of the organization that operated the market to a board of directors focused on maximising profits for shareholders.<sup>19</sup>

#### B. Consolidation: The Rise of Global Stock Exchanges

Following their conversion to public corporations, exchanges started to invest heavily in new technologies and began consolidating their competitive position by merging with, or acquiring, other exchanges and/or ECNs. This was made easier by the fact that many smaller exchanges, deprived of government support and protection, found it hard to compete.<sup>20</sup> For larger exchanges, acquiring other exchanges was undertaken to improve their competitive position by acquiring new trading platforms and technologies, increasing liquidity and allowing them to move beyond their traditional boundaries into new markets. The growth of the New York Stock Exchange (NYSE) through acquisitions and mergers with other exchanges demonstrates this trend. In 2006, the NYSE merged with ArcaEx. ArcaEx was an ECN launched in 2002 and which in 2005 acquired the Pacific Exchange, which had been created by the merger of the San Francisco Exchange and the Los Angeles Stock Exchange.<sup>21</sup> In 2007 the NYSE merged with Euronext to form NYSE Euronext. Euronext itself was formed by the consolidation of the Amsterdam Exchange, the Brussels Exchange, the Paris Bourse, the Lisbon Exchange and the

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16 Avgouleas, *supra* note 3 at 29.

17 For a list of demutualized exchanges see John W Carson, "Conflicts of Interest in Self-Regulation: Can Demutualized Exchanges Successfully Manage Them?" (2003) World Bank Policy Research Working Paper No 3183, online: <[ssrn.com/abstract=636602](http://ssrn.com/abstract=636602)> [Carson, "Conflicts"].

18 Avgouleas, *supra* note 3 at 28.

19 Board, Sutcliffe & Wells, *supra* note 10 at 56.

20 Michie, *supra* note 6 at 53.

21 See Intercontinental Exchange, "ICE at a Glance", online: <[www.theice.com/publicdocs/ICE\\_at\\_a\\_glance.pdf](http://www.theice.com/publicdocs/ICE_at_a_glance.pdf)>.

London International Financial Futures and Options Exchange.<sup>22</sup> In 2008, the NYSE Euronext acquired the American Stock Exchange.<sup>23</sup> In 2011, Germany's exchange, Deutsche Boerse, attempted to merge with NYSE Euronext, but this merger was ultimately blocked by the EU competition regulator.<sup>24</sup> Then, in 2013, Intercontinental Exchange Incorporated successfully took over NYSE Euronext.<sup>25</sup> While the creation and takeover of NYSE Euronext is probably the most extreme example of consolidation, other exchanges have also been involved in seeking to expand by mergers and takeovers of other exchanges.<sup>26</sup> For example, in 2011 the London Stock Exchange (LSE) attempted to take over the TSX Group, which controls, inter alia, the Toronto Stock Exchange (TSE), the TSX Venture Exchange and the Montreal Exchange for derivatives. This takeover failed because it was rejected by TSX shareholders. However, a rival bid was successful. This rival bid was by the Maple Group, a consortium of Canadian banks, pension funds and insurers, which included the owners of the largest ATS in Canada, the Alpha Group.<sup>27</sup>

Notwithstanding these attempts by the large exchanges to maintain market share, increased competition has resulted in a movement away from trading on the large exchanges; trading has become more dispersed over a number of exchanges, ECNs and internal transactions conducted by broker-dealers. For example, in 2014, the NYSE markets executed only 20.8 percent of the consolidated share volume in listed stocks compared to 79.1 percent in January 2005.<sup>28</sup> This pattern of fragmentation is not confined to NYSE stocks. As demonstrated by Figure 1, trading in US stocks now takes place in numerous venues.

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22 *Ibid.*

23 *Ibid.*

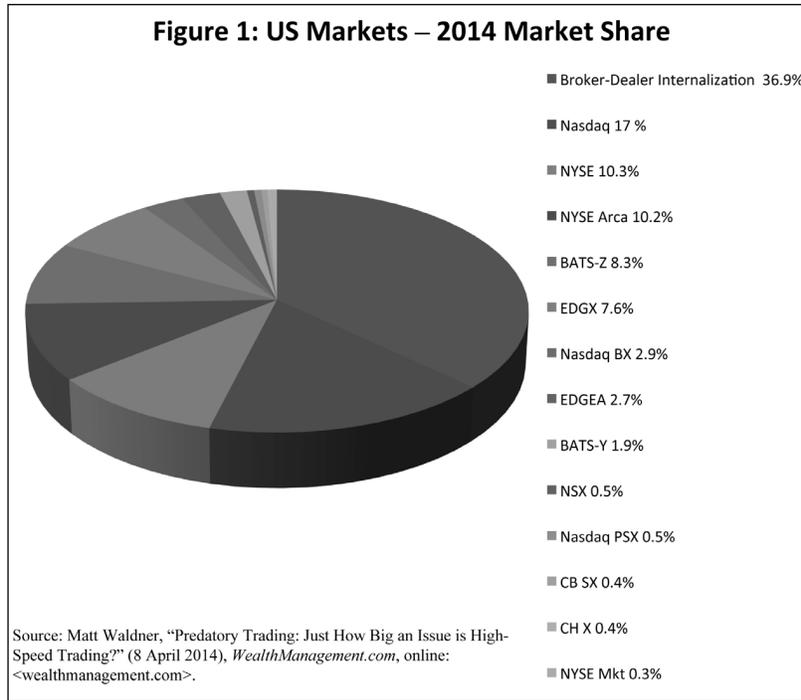
24 See Alex Barker, Jeremy Grant & James Wilson, "Deutsche Börse-NYSE Merger Blocked" *Financial Times* (1 February 2012), online: FT Trading Room <www.ft.com>; Michael J De La Merced, James Kanter & Jack Ewing, "NYSE and Deutsche Bourse Plan to Call Off Merger" *The New York Times* (1 February 2012), online: <dealbook.nytimes.com>; Foo Yun Chee, "EU Regulators to Examine ICE, NYSE Euronext Merger" *Reuters UK* (24 April 2013), online: <uk.reuters.com>.

25 New York Stock Exchange, News Release, "Intercontinental Exchange Completes Acquisition of NYSE Euronext" (13 November 2013), online: <www1.nyse.com>.

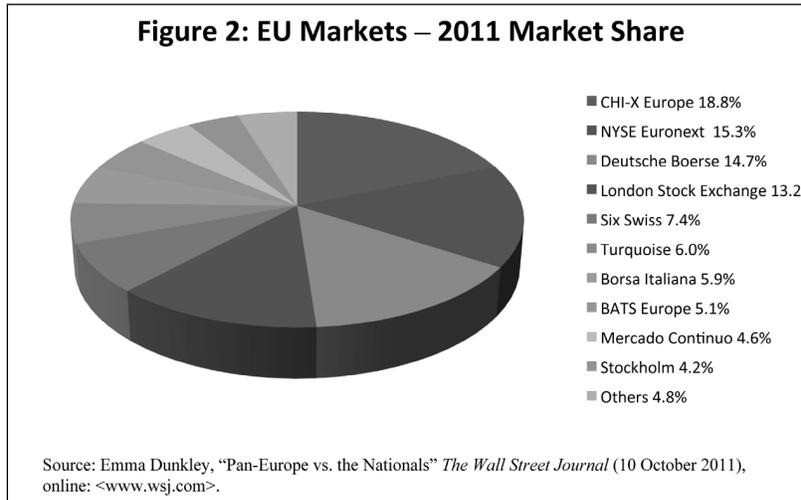
26 See e.g. Toshiro Hasegawa & Norie Kuboyama, "Tokyo Exchange Enters \$30 Billion Merge Wave with Osaka Bid" *Bloomberg Business* (23 November 2011), online: Bloomberg Business <www.bloomberg.com> (takeover of the Osaka Securities Exchange Company by the Tokyo Stock Exchange). In April 2011, the Australian Government blocked a takeover bid by the Singapore Stock Exchange for the Australian Securities Exchange (ASX) as being contrary to Australia's national interests. See Peter Swan, "Swan Right to Reject Singapore Takeover of ASX" *The Australian* (12 April 2011), online: <www.theaustralian.com.au>.

27 See Pav Jorden & Luke Jeffs, "LSE, TMX Abort Their Merger, Leaving Both in Play" *Reuters* (29 June 2011), online: <www.reuters.com>; CBC News, "TSX, LSE Takeover Falls Apart", *CBC News* (29 June 2011), online: <www.cbc.ca>; Cameron French, "Alpha Group CEO Schmitt Steps Down After TMX" *Reuters Canada* (24 September 2012), online: <ca.reuters.com>.

28 US, Securities and Exchange Commission, "Concept Release on Equity Market Structure" (14 January 2010) at 6, online: <www.sec.gov/rules/concept/2010/34-61358.pdf>; Matt Waldner, "Predatory Trading: Just How Big an Issue is High-Speed Trading?" (8 April 2014), *WealthManagement.com*, online: <wealthmanagement.com>.

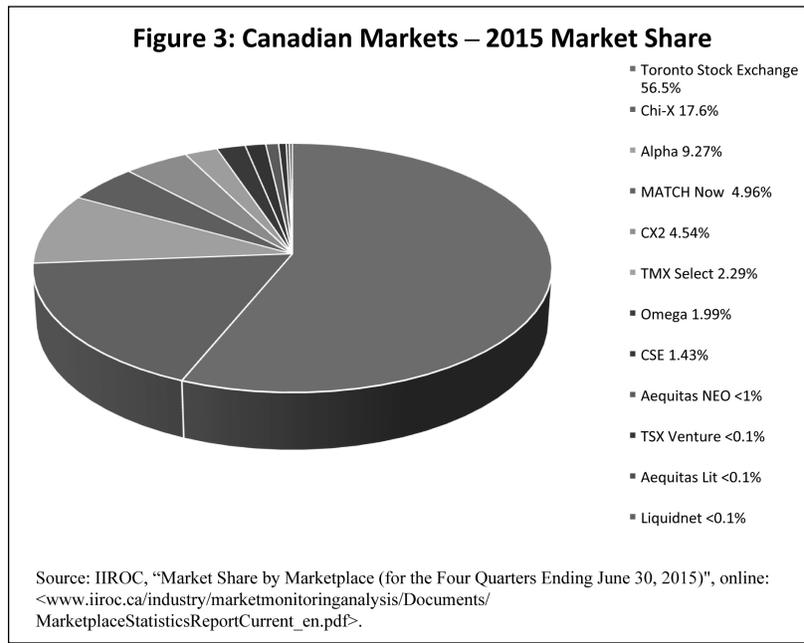


Similarly, trading in Europe has also fragmented with the LSE's share trading volume, falling from 35 percent in 2008 to 13.2 percent in 2011<sup>29</sup>. Trading in EU securities also now takes place in multiple venues [Figure 2].



29 Karel Lannoo & Piero Cinquegrana, "Capital Markets Regulation Revisited" in Larry Harris, ed, *Regulated Exchanges: Dynamic Agents of Economic Growth* (Oxford: Oxford University Press, 2010) at 134; Emma Dunkley, "Pan-Europe vs. the Nationals" *The Wall Street Journal* (10 October 2011), online: <www.wsj.com>.

In Canada, although there has been less drift away from the TSX, other trading venues have obtained significant market share [Figure 3].



### C. Cross-Border Trading and Interconnected Trading Platforms

The changes outlined above and in particular, the improvements in trading technologies, have increased the ability of brokers and their clients to trade in multiple markets. In fact, responding to demands by investors to trade in multiple venues and products has been another factor driving the consolidation of markets. Consolidated exchanges can enable broker firms to offer investors more choice in the products and locations of trading, which is attractive to individual investors and funds chasing superior rates of return. In an attempt to respond to investor demands for multiple trading opportunities, some exchanges have also developed joint platforms and linkages to increase the ability of investors to trade in different markets.<sup>30</sup>

For example, NYSE Euronext now operates major exchanges in Europe and the US, trading derivatives, equities, futures, options, fixed-income and exchange-traded products. It covers 8,000 listed issues from more than 55 countries and controls markets which comprise one-third of the world's equities trading.<sup>31</sup> NYSE Euronext US member broker-dealers can apply for access to all of the US

30 Blair & Walker, *supra* note 11 at 107.

31 Bob Tricker, *Corporate Governance: Principles, Policies, and Practices*, 3rd ed (Oxford: Oxford University Press, 2015) at 260.

markets controlled by NYSE Euronext, and NYSE Euronext European member broker-dealers can apply to access all of the European markets controlled by NYSE Euronext. Large broker-dealer firms can provide access for their clients to all of these products and markets with a presence in both the US and Europe.<sup>32</sup>

#### D. Increased Trading in Derivatives

The last few decades have also seen a dramatic growth in the use of derivatives, again driven principally by investors seeking superior rates of return on their investments, and because the number of markets and derivative products has expanded to meet this need. In the decade since 2000, derivatives trading has grown from approximately 8 billion contracts in 2003 to over 25.2 billion contracts in 2011.<sup>33</sup> Of these contracts, equity products (comprising single stock options, single stock futures, stock index options, stock index futures and Exchange Traded Fund (“ETF”) options) comprised 62 percent of derivatives trading.<sup>34</sup> The range of derivatives has also grown, including derivatives in relation to which the underlying asset of the derivative is traded in another jurisdiction. In addition to the growth of derivatives on exchanges, there has been a growth in trading derivatives on the OTC markets from US\$111 trillion at the end of 2001 to US\$633 trillion by the end of 2012.<sup>35</sup>

#### E. Increased Trading Volumes and High Frequency Traders

The falling brokerage costs resulting from increased competition between markets has resulted in significant increases in trading volumes, not just in derivatives, but also in equities. Furthermore, this growth in trading volumes has been accelerated because electronic trading, low costs and fast execution times brought about the emergence of algorithmic or ‘high frequency’ traders who have now become significant market participants. The business of high frequency trading, which involves using mathematical models to automatically generate thousands of buy and sell orders each day in search of small profits on each trade,<sup>36</sup> would not have

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32 For example, see the services offered by the Knight Capital Group: KCG, *Trading Services*, online: <[www.kcg.com/trading-services](http://www.kcg.com/trading-services)>.

33 Romain Devai & Grégoire Naacke, “WFE/IOMA Derivatives Market Survey 2011” (May 2012) at 5, online: World Federation of Exchanges <[www.world-exchanges.org/files/statistics/excel/2011\\_IOMA\\_Survey\\_final.pdf](http://www.world-exchanges.org/files/statistics/excel/2011_IOMA_Survey_final.pdf)>.

34 *Ibid* at 8.

35 See Bank for International Settlements, “Statistical Release: OTC Derivatives Statistics at End-June 2013” (November 2013) at 2, online: Bank for International Settlements <[www.bis.org/publ/otc\\_hy1311.pdf](http://www.bis.org/publ/otc_hy1311.pdf)>; Bank for International Settlements, Press Release, 13/2002E, “Rapid Expansion of OTC Derivatives Market in the Second Half of 2001” (15 May 2002) at 1, online: Bank for International Settlements <[www.bis.org/publ/otc\\_hy0205.pdf](http://www.bis.org/publ/otc_hy0205.pdf)>.

36 David K Randall, “How Stock Trading Has Changed Since 9/11” *Associated Press* (4 September 2011), online: Yahoo! News <[news.yahoo.com](http://news.yahoo.com)>.

been viable without these developments.<sup>37</sup> Figures from the World Federation of Exchanges show that the total number of trades in equity shares has increased by 700 percent over the decade from under 2 billion in 2000 to over 13 billion in 2009.<sup>38</sup> Another consequence of high frequency trading is that the average size of trades has dropped 85 percent over the last decade from a high of over US\$50,000 in 2001 to less than US\$9,000 in 2013.<sup>39</sup>

#### F. Direct Electronic Access

Associated with the growth of High Frequency Trading has been the growth of brokers offering their clients direct electronic access to markets. This practice allows clients to transmit orders which automatically route through the brokers' infrastructure for execution on the market. Alternatively, the broker allows clients to use its member ID to transmit orders directly to the markets.<sup>40</sup> The attraction for clients of this practice is that it allows clients greater control over their trading and reduces execution times for their orders. This is especially important for high frequency traders who engage in trading strategies designed to utilize arbitrage opportunities to make a large number of small gains. The attraction for brokers is that it allows them to 'rent out' their trading facility for profit, but with little day-to-day management needed. In 2010 the United States Securities and Exchange Commission (SEC) estimated that 38 percent of all US stock trading was executed thorough direct access trading.<sup>41</sup>

#### G. Hedge Funds

The emergence of hedge funds<sup>42</sup> as significant market participants over the last two decades has also had a real impact upon the growth in trading volumes and markets generally. One industry association has estimated that assets in hedge funds

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37 The growth in high frequency trading began principally from a change in 2005 in the SEC rules which required that required brokers fill customer orders at the best available price. This rule lead to faster trading speeds as exchanges competed to fill each order, the competition driving down the cost of each trade.

38 World Federation of Exchanges, "2009 Annual Report and Statistics" (March 2010) at 76, online: <[www.world-exchanges.org/files/statistics/pdf/2009\\_WFE\\_AR.pdf](http://www.world-exchanges.org/files/statistics/pdf/2009_WFE_AR.pdf)>.

39 *Ibid.* See also World Federation of Exchanges, "2013 WFE Market Highlights" (28 January 2014) at 2, online: <[www.world-exchanges.org/files/2013\\_WFE\\_Market\\_Highlights.pdf](http://www.world-exchanges.org/files/2013_WFE_Market_Highlights.pdf)>.

40 See International Organization of Securities Commissions, "Principles of Direct Electronic Access to Markets" (August 2010) at 3, 5, online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD332.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD332.pdf)> [IOSCO Electronic Access].

41 US, Securities and Exchange Commission, Press Release, 2010-7, "SEC Proposes New Rule to Effectively Prohibit Unfiltered Access and Maintain Market Access Controls" (13 January 2010), online: <[www.sec.gov](http://www.sec.gov)>.

42 There is no universal definition of hedge funds, however they are funds which traditionally have not been subject to regulation and typically invest funds on behalf of high net worth individuals or institutions. The funds are not normally open to retail investors and, being privately owned and unquoted, have traditionally been opaque. See Howard Davies & David Green, *Global Financial Regulation: The Essential Guide* (Cambridge, UK: Polity Press, 2008) at 228.

in April 2014 were approximately \$2.7 trillion.<sup>43</sup> While assets in hedge funds comprise only a small proportion of global financial assets, they are particularly active players in the markets.<sup>44</sup> This is because hedge funds typically seek alpha returns; in other words, they seek to consistently outperform the market.<sup>45</sup> In seeking alpha returns, hedge funds differ from mutual funds in that:

1. They may employ significant leverage, which can enhance investors' returns or magnify their losses;
2. They may engage in short-selling, allowing positive returns in negative markets; and
3. They may deal in derivatives, including options and futures.<sup>46</sup>

Hedge funds are often structured to provide managers high remuneration for producing such alpha returns. Typically, managers charge an annual fee of two percent of assets under management plus 20 percent of returns.<sup>47</sup>

### III. THE IMPACT OF THE CHANGES ON MARKET INTEGRITY

#### A. Risks Inherent in the Changes

By any measure, the transformation of securities markets over the last few decades has been remarkable. However, left unchecked these changes to markets and trading create a risk that the integrity of markets could be undermined. An enhanced capacity to trade in other markets, in addition to the proliferation of ways to trade the same underlying economic interest through derivatives, increases the possibility that participants could disguise abusive trading and thereby reduce the probability of detection and prosecution by regulators. For example, a person with inside information on Research in Motion Limited (RIM) could split their trading using different brokers, different trading venues and products. This could include trading RIM shares on the TSX, RIM options on the TSX derivatives exchange, RIM shares on NASDAQ and RIM shares on an alternative exchange such as Direct Edge. Splitting their trading in this way could reduce the probability that a trading venue would detect that there was unusual trading taking place.

In relation to market manipulation, given the multitude of markets, a person could use a less liquid market to manipulate the price of a security, and then trade

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43 Hedge Fund Research Incorporated, Media Release, "Strong Inflows Drive Hedge Fund Capital to New Record in 1Q14" (21 April 2014), online: <[www.hedgefundresearch.com/pdf/pr\\_20140421.pdf](http://www.hedgefundresearch.com/pdf/pr_20140421.pdf)>.

44 Andreas Engert, "Transnational Hedge Fund Regulation" (2010) 11 *European Business Organization L Rev* 329 at 331.

45 See generally Davies & Green, *supra* note 42.

46 David Kaufman, "Alternative Investing: Hedge Funds Unveiled", *Financial Post* (26 May 2010), online: <[www.financialpost.com](http://www.financialpost.com)>.

47 See generally Davies & Green, *supra* note 42.

at this higher level on a more liquid market. Direct access trading could allow those who wish to commit market abuse to access the market directly, rather than through the filter of brokers who, because of their contractual obligations and professional duties, are often able to detect and thereby stop instances of market abuse. Direct access trading may also make it difficult for securities regulators to determine just who is responsible for the trading. It may also make enforcement action against a perpetrator of market abuse more difficult, as the perpetrator may be outside of the securities regulator's jurisdiction. In addition, clients of brokers who are granted direct access are generally not subject to the same range of sanctions as brokers.<sup>48</sup>

High frequency traders could use their systems and algorithms to engage in the manipulative practices known as 'spoofing', 'layering' and 'quote stuffing'. These practices are similar, however spoofing and quote stuffing refers to when a trader engages in a series of orders to give the impression of activity or price movement in a security, but withdraws the orders before they are executed. For instance, a high frequency trader might post bids for a stock showing that he or she wants to buy at a certain price. However, by the time investors show interest in selling at that price, the bids are removed. This can occur in fractions of a second, making it difficult to detect.<sup>49</sup> Layering occurs when, for example, as the price of a security moves up, a trader takes out the posted asking prices for the security, further inflating the price.<sup>50</sup>

Two reports by the International Organization of Securities Commissions (IOSCO) in 2010 and 2011 into regulatory issues raised by the changes to the markets concluded that the technological changes and the fragmentation of markets had produced risks of market abuse by high frequency traders and direct market access trading. IOSCO concluded that there is a concern as to whether technological advantages offers high frequency trading firms the possibility of engaging in abusive practices.<sup>51</sup> It also recognized that the increasing use of direct access trading creates challenges if proper controls are not implemented, as direct access trading could allow a customer to engage in manipulative trading strategies.<sup>52</sup> However, after conducting hearings with market participants, IOSCO concluded that there was not, as yet, clear evidence of the systematic and widespread use of abusive practices by those engaging in high frequency trading.

The existence of hedge funds structured to provide managers high remuneration for alpha returns may motivate some to look for insider trading or market manipulation opportunities. As such, their activities may pose a greater risk

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48 See generally IOSCO Electronic Access, *supra* note 40.

49 See generally Douglas Cumming & Sofia Johan, "Global Market Surveillance" (2008) 10:2 Am L & Econ Rev 454 at 456; Laurie Carver, "Conspiracy Theory", *Risk* (May 2013) at 29; Chris Rose, "Applying Spam-Control Techniques to Negate High Frequency Trading Advantages" (2011) 15:2 Intl J Management & Information Systems 105.

50 Carver, *supra* note 49.

51 IOSCO Final Report, *supra* note 1.

52 IOSCO Electronic Access, *supra* note 40 at 17.

to market integrity than other investors. Furthermore, such violations may be more difficult to detect because of the global nature of trading by hedge funds utilizing different markets, products and derivatives. This is because hedge funds can invest across various financial markets, utilizing derivatives and sophisticated techniques including high frequency trading.<sup>53</sup>

### B. Challenges for Regulators

Despite the changes in the markets and trading that have taken place over the last few decades, and the fact that trading has become more global, markets are still regulated and overseen by national securities regulators, or as is the case in Canada, provincial regulators. The role of these securities regulators—to preserve the integrity of their markets principally by eliminating unfair trading practices such as insider trading and market manipulation—has not changed. However, securities regulators now find that the markets that they have to supervise are quite different to what they were just 30 years ago.

Recognising the potential risks for markets from the new trading environments, in 2006 Robert Marchman, Executive Vice President, New York Stock Exchange commented that, “[t]he history of the securities markets teaches us that insider trading is a serious regulatory concern, particularly today, where the volume, complexity of trades, and products, as well as crossborder transactions are redefining capital markets on almost a daily basis”.<sup>54</sup>

Similarly in 2008, Linda Thomsen, Director of Enforcement at the SEC made the following comments in relation to insider trading:

Two related factors that have recently been changing the nature of insider trading enforcement are technology and globalization. The old assumptions about the logical places to look for connections — neighbors, family, co-workers — may not always bear fruit in a world where you can whisper to someone a half a world away and equally easily trade in a market just as far away.<sup>55</sup>

53 Thomas C Pearson, “When Hedge Funds Betray a Creditor Committee’s Fiduciary Role: New Twists on Insider Trading in the International Financial Markets” (2008-2009) 28 *Rev Banking & Fin L* 165. See also Engert, *supra* note 44 at 338.

54 See US, *Illegal Insider Trading: How Widespread Is the Problem and Is There Adequate Criminal Enforcement?: Hearing Before the Committee on the Judiciary*, 109th Cong (Washington, DC: United States Government Printing Office, 2006) at 10 (Robert A Marchman).

55 See Linda C Thomsen, “US Experience of Insider Trading Enforcement Actions” (Speech delivered at the Australian Securities and Investments Commission 2008 Summer School, Melbourne, Australia, 19 February 2008), online: Securities and Exchange Commission <www.sec.gov>. See also Margaret Cole, “The UK FSA: Nobody Does It Better?” (Speech delivered at the Fordham Law School, New York, 17 October 2006), online: Financial Services Authority <www.fsa.gov.uk> (“[o]f particular interest to us in Enforcement is the FSA’s belief that some hedge funds may be testing the boundaries of acceptable practice with respect to insider trading and market manipulation. In addition, given their payment of significant commissions and close relations with counterparties, they may be creating

Whereas regulators used to have to only be concerned with trading and the integrity of one market, the ground has shifted so that regulators, in their mission to preserve the integrity of their national markets, now need to take into account issues such as:

- The exponential growth in the volume of orders and trades. This raises issues as to just how regulators can effectively monitor these trades to detect those that may constitute market abuse.
- There are multiple venues to trade the same economic interest or a derivative of that economic interest. As such, regulators need to ensure that multiple markets are monitored to detect unusual trading in a particular security.
- Investors have access to multiple markets in different jurisdictions, which means that even monitoring all of the markets within a jurisdiction may not be enough to detect market abuse. An increased ability for persons to trade in other markets increases the ability for participants to disguise abusive trading, resulting in a need for cross-border monitoring of markets.
- Even when suspicious trades are detected, investigating these trades can be complex because parts of the transaction – placing of the order and the execution and clearing of a trade – may be beyond the jurisdiction of one particular securities regulator. Investigation of such a transaction will require gathering evidence from abroad, adding to its cost and complexity.
- There are some market participants, such as hedge funds and high frequency traders, which may be more motivated, or may have the capacity, to engage in unfair trading practices. The principal operations of such participants may also be situated beyond the jurisdiction of one regulator.<sup>56</sup>

C. Are the Changes to Markets and Trading Actually Increasing Instances of Market Abuse?

In the absence of an appropriate response by regulators, it is clear that the significant changes to markets and trading have increased the opportunities for persons to

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incentives for others to commit market abuse.”); Pearson, *supra* note 53 at 177.

56 For example, many hedge funds trade in US and European markets, but are based in offshore locations such as the Cayman Islands, British Virgin Islands and Bermuda. See Hedge Fund Research Incorporated, Media Release, “Top Hedge Fund Firms Assume Leadership in Industry Recovery” (20 April 2010), online: <[www.hedgefundresearch.com/pdf/pr\\_20100420.pdf](http://www.hedgefundresearch.com/pdf/pr_20100420.pdf)>. For a further discussion of the difficulties raised by interconnected markets, particularly in relation to market manipulation, see International Organization of Securities Commissions, News Release, “Investigating and Prosecuting Market Manipulation” (May 2000), online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD103.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD103.pdf)>.

engage in market abuse and their ability to hide such abuse from detection. However, it is very difficult to determine whether this has resulted in persons exploiting these opportunities and whether, in fact, this has resulted in an increase in instances of market abuse that are not being detected or prosecuted.

Measuring the level of market abuse, such as insider trading and market manipulation, has always been extremely difficult because offenders generally disguise their actions when faced with severe penalties.<sup>57</sup> Any attempt to estimate the level of unfair trading practices, or whether they are increasing or decreasing, by questionnaires directed to those in the market yields results that are, at best, mostly anecdotal and, at worst, just pure conjecture.<sup>58</sup> Measuring the number of matters detected and investigated each year is also problematic because doing so only measures matters detected by regulators, not the actual number of instances of market abuse. In any event, regulators are often loath to release figures of matters detected and investigated that do not lead to some sort of administrative action or a prosecution because of privacy concerns or fear of criticism and public scrutiny. Measuring the increase or decrease in matters prosecuted each year may also be flawed as an indication as to whether this displays a trend. Variations could be due to multiple factors such as resources allocated, the quality of the investigators, the willingness of witnesses to assist investigations or the complexity of the matters pursued.

Some studies in the finance discipline provide some empirical evidence of the level of market abuse in a market, and suggest trends in the instances of market abuse.<sup>59</sup> This work generally involves measuring unusual price movements ahead of significant announcements, such as takeovers or trading results. Price movements just before announcements might indicate insider trading. For example, a number of non-academic studies using a price movement method found that suspicious trading occurred ahead of 49 percent of all North American deals between 2003 and 2007. Another found that pre-bid volume in equity options increased 221 percent compared to the average for the 50 days prior to the 17 biggest US takeovers in 2006. Yet another study, this time by Acharya and Johnson, suggested that hedge funds are involved in insider trading because of unusual price movements before private equity buyouts. This seems to be because hedge funds are frequently involved in, or offered participation in, the equity and debt syndicates needed to be put in place by the private equity buyer.<sup>60</sup>

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57 Bradford Cornell & Erik R Sirri, "The Reaction of Investors and Stock Prices to Insider Trading" (1992) 47:3 J Finance 1031.

58 For example, Roman Tomasic attempted to estimate the level of insider trading in Australia in 1988 by interviewing brokers, lawyers and regulators. See Roman Tomasic, *Casino Capitalism? Insider Trading in Australia* (Canberra, Australian Institute of Criminology, 1991). His methodology was heavily criticised with one commentator comparing it to the investigation of witchcraft in New England. See Ashley Black, "The Reform of Insider Trading Law in Australia" (1992) 15:1 UNSWLJ 214 at 218.

59 For a list of these studies see Viral V Acharya & Timothy C Johnson, "More Insiders, More Insider Trading: Evidence from Private Equity Buyouts", online: (2009), Social Science Research Network Working Paper 1072703 at 15, n 15 <[ssrn.com/abstract=1072703](http://ssrn.com/abstract=1072703)>.

60 *Ibid.* The authors speculate that the growing participation of hedge funds in equity and debt syndi-

In 2006, the then UK securities regulator, the Financial Services Authority, commissioned a study which measured price movements ahead of trading statements and takeover announcements made by companies included within the FTSE index.<sup>61</sup> The project found that, at least in relation to takeover announcements, there was an increase in price movements before announcements between 2000 and 2004 followed by a decline between 2004 and 2005, but the level remained high. Aitken and Harris have taken this research further with a view to developing proxy for the level of insider trading in a particular market. They measured trading ahead of price sensitive announcements on a number of exchanges over a number of years and made comparisons from year to year, as well as between exchanges. They found, for example, that the percentage price change before price sensitive announcements for the TSX had increased between 2003 and 2009, which seems to indicate that insider trading on this exchange is becoming more prevalent over time.<sup>62</sup> A similar study by Beny and Seyhun suggested that insider trading on US exchanges was also becoming more prevalent. They found that the run up of stock prices before takeover announcements on US exchanges was 50 per cent higher during 2006 to 2011 than in the period of 2000 to 2006.<sup>63</sup>

Aitken and Harris have also measured the incidence of what could be manipulation in the ramping up of published share prices, by measuring the incidence of share price movements toward the end of the day that were quickly reversed the next day.<sup>64</sup>

Such studies are not without their limitations. For example, measuring price increases before announcements does not distinguish between true insider trading and trades triggered by rumours or by persons who merely follow others' lead. The prevalence of high frequency trading may also contribute to amplifying price movements. These studies have also been criticized for perhaps underestimating the problem of market abuse because of the small windows of trading chosen for analysis.<sup>65</sup> Furthermore, such studies also do not measure how, and if, the ability to trade across markets and products is changing the nature and number of instances of market abuse due to perpetrators now having an enhanced ability to structure

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cates may have contributed to the increase in insider trading.

61 UK, Financial Services Authority, *Measuring Market Cleanliness* (FSA Occasional Paper 23) by Ben Dubow & Nuno Monteiro (London, UK: FSA Occasional Paper Series, 2006), online: <[www.fsa.gov.uk/pubs/occpapers/op23.pdf](http://www.fsa.gov.uk/pubs/occpapers/op23.pdf)>; UK, Financial Services Authority, *Updated Measurement of Market Cleanliness* (FSA Occasional Paper 25) by Nuno Monteiro, Qamar Zaman & Susanne Leitterstorf (London, UK: FSA Occasional Paper Series, 2007), online: <[www.fsa.gov.uk/pubs/occpapers/op25.pdf](http://www.fsa.gov.uk/pubs/occpapers/op25.pdf)>.

62 Michael J Aitken & Frederick H deB Harris, "Evidence-Based Policy Making for Financial Markets: A Fairness and Efficiency Framework for Assessing Market Quality" (2011) 6:3 *J Trading* 22.

63 Laura Nyantung Beny & HN Seyhun, "Has Illegal Insider Trading Become More Rampant in the United States? Empirical Evidence from Takeovers" in Stephen M Bainbridge, ed, *Research Handbook on Insider Trading* (Northampton: Edward Elgar, 2013) at 211.

64 Aitken & Harris, *supra* note 62.

65 See e.g. the discussion in Paul Barnes, *Stock Market Efficiency, Insider Dealing and Market Abuse* (Surrey, UK: Gower, 2009) ch 9 at 195ff.

their transactions to avoid detection or prosecution compared to the situation that existed 30 years ago. Nevertheless, these studies do at least provide some evidence that market abuse continues to be a problem for global markets.

Furthermore, some regulators are beginning to report that they are detecting instances of market abuse by hedge funds and algorithmic traders, including the use of direct market access to facilitate this abuse. This is at least some indication that there are some people and entities willing to exploit the opportunities presented by fragmented markets and cross border trading.<sup>66</sup>

For example, in 2012, the SEC took action against a corporation called Biremis Corporation and its principals Peter Beck and Charles Kim. Biremis was a Canadian corporation which allowed entities to open and operate trading floors with access to securities markets worldwide, including direct market access into the US markets. To open a trading floor, the operator entered into a market access agreement with Opal Stone Financial Services, SA, a corporation incorporated in Uruguay and domiciled in Costa Rica. The SEC complaint stated that at various times, the Biremis business had as many as 200 different trading floors in over 30 nations, including Canada, Russia, Bangladesh, Nigeria, Venezuela and Uzbekistan, with the majority located in China. None of these trading floors were located in the United States. Some of the individuals who owned or managed these trading floors recruited overseas traders who traded on the trading floors. The SEC complaint alleged that hundreds of the overseas traders, on at least ten different trading floors associated with Biremis, engaged repeatedly in layering manipulations on US securities markets. These orders sent false signals regarding the supply and demand for such securities, which other market participants misinterpreted as reflecting true supply.<sup>67</sup>

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66 There is some evidence, albeit anecdotal, that hedge funds do engage in large scale market abuse. In 2006, at the instigation of Congress, the SEC formed a Hedge Fund Task Force to investigate insider trading in the hedge fund industry. As a result, in October 2009, the SEC charged a prominent hedge fund manager, Raj Rajaratnam, and his New York-based hedge fund advisory firm, Galleon Management LP, in one of its largest ever insider trading cases. Rajaratnam cultivated a network of high-ranking corporate executives and insiders, and then exploited this network to obtain confidential details about earnings and takeover activity, trading on the basis of this information. See US, Securities and Exchange Commission, Press Release, 2009-221, "SEC Charges Billionaire Hedge Fund Manager Raj Rajaratnam with Insider Trading" (16 October 2009), online: <[www.sec.gov](http://www.sec.gov)>. This scheme is said to have generated more than US\$72 million in illicit gains. In 2011 Rajaratnam was convicted and sentenced to 11 years in prison and was ordered to pay a US\$10 million fine and forfeit \$53.8 million in profits. See Peter Lattman, "Galleon Chief Sentenced to 11-Year Term in Insider Case" *New York Times* (13 October 2011), online: <[dealbook.nytimes.com](http://dealbook.nytimes.com)>. See also Jim Cramer, "Wall St. Confidential: Cramer on Games Hedge Funds Play" (22 December 2006), online: The Street <[www.thestreet.com/video/cramermarketupdates/10329438.html#1163950434](http://www.thestreet.com/video/cramermarketupdates/10329438.html#1163950434)> (former hedge fund manager Jim Cramer describing his manipulation strategies on the internet in an interview).

67 *Biremis Corporation et al* (18 December 2012), 3-15136, online: Securities and Exchange Commission <[www.sec.gov/litigation/admin/2012/34-68456.pdf](http://www.sec.gov/litigation/admin/2012/34-68456.pdf)>. In 2011, the United Kingdom Financial Services Authority found Biremis affiliate Swift Trade, Inc. to have committed market abuse through layering on the London Stock Exchange and fined it GBP 8 million. Swift Trade placed a large number of orders which were later cancelled as they were never intended to be carried out. See Simon Mundy, "Swift Trade Fined £8m for Manipulating Prices" *Financial Times* (31 August 2011), online:

Of course, such instances of market abuse may be isolated, and despite advances in measuring the level of unusual price movements ahead of significant announcements there is still no definitive way to measure how changes to the markets are impacting the level of market abuse. What is clear is that more research is needed in this area to develop ways to accurately and reliably measure increases or decreases in market integrity. Given that protecting market integrity is a key goal for securities regulators and that market integrity is of critical importance to the confidence of investors, the lack of a reliable measurement should be a real concern for markets and regulators alike.<sup>68</sup>

Nevertheless, there does appear to be a case for increasing regulation and bolstering the ability of securities regulators to take action against market abuse from the new trading environment. Like all regulation, this will come at a cost. The changes to the markets have been allowed to flourish as they improved efficiency and reduced transaction costs for investors. Even new participants have added to the efficiency of the markets as, for example, high frequency traders and hedge funds have increased the volume of trades, increasing the liquidity of the markets. The trade-off of increased regulation and enforcement is likely to be a reduction in innovations in market structure and the possibility of restricting the activities of new participants. This may, in turn, reduce efficiency gains. However, a balance needs to be struck between market integrity and market innovations driven by the need to increase efficiency. It seems that the pendulum may have swung too far toward innovation at the expense of integrity. As such, it seems that tighter regulation and supervision of markets is required.

#### IV. HOW HAS REGULATION OF TRADING AND THE SUPERVISION OF MARKETS ADAPTED TO THE NEW ENVIRONMENT?

Although the regulation of securities markets has changed over the last few decades, the changes have not been as dramatic as the transformations to the markets. As has been referred to, market regulation is still a national concern. One change that has occurred partly in response to market privatization and fragmentation is that,

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<www.ft.com>. In 2012, the Ontario Securities Commission (OSC) found Biremis, Swift Trade, Incorporated and four other securities businesses affiliated with Biremis, Beck or Beck's family trust jointly and severally liable for financial management deficiencies, trade review deficiencies, books and records violations, and non-compliance with dealer registration requirements under Ontario's *Securities Act*, *supra* note 1. The OSC also barred Biremis and Swift Trade from trading or acquiring securities in Ontario for six years, see *Re Beck* (2012), 35 OSCB 6018, 2012 CarswellOnt 7934 (OSC Bull). See also Karen Freifeld, "New York's Schneiderman Seeks Curbs on High-Frequency Traders", *Reuters* (18 March 2014), online: <www.reuters.com> (inquiry by the New York Attorney General into actions of High Frequency Traders).

67 Carver, *supra* note 49 at 29.

68 One organization that is attempting to develop proxies to measure market integrity is, Capital Markets CRC Limited, "Latest Research from CMCRC", *Capital Markets CRC Limited*, online: <www.cmrc.com>.

in some parts of the world, there has been a movement away from governments allowing markets to regulate themselves as Self-Regulatory Organizations (SROs) to governments taking a more direct role. In North America, where SROs still have responsibility for a large part of regulating the markets, the character of those SROs has changed significantly.

In terms of specific regulatory changes directed towards protecting market integrity in the changed trading environment, the response has been limited. After the global financial crisis of 2008, there has been a flurry of activity by securities regulators in introducing stricter regulation for new market participants who have emerged as significant players, such as hedge funds and high frequency traders. These new regulations are also directed at newer forms of trading that have flourished, such as direct electronic access and OTC derivatives trading. These new regulations have gained support due, perhaps, to an evolving awareness that government regulation is not the enemy of efficient markets but a valuable instrument in controlling market excesses. However, the main rationale for the regulations has been to address the systemic risk to the market as a whole posed by specific traders and to protect the markets from further instability. Although this has been the principle justification, these new regulations may, indirectly, also work toward improving and preserving market integrity.

#### A. Closer Supervision of Markets by Government

One important difference in the regulation of markets that has emerged in the last three decades has been a trend in some parts of the world to move away from the use of self-regulatory organizations to monitor markets and enforce rules. Instead, government regulators are now taking a more active role in market supervision.<sup>69</sup>

Historically, the scope of self-regulation of markets varied across jurisdictions. For example Europe has never extensively used self-regulation to govern its markets, the predominate view being that regulation is a public function.<sup>70</sup> On the other end of the spectrum is the US, which has historically made extensive use of self-regulation for its markets.<sup>71</sup> This United States model of self-regulation

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69 An SRO is a private, nongovernmental organization which establishes rules of conduct for its members or participants, supervises compliance with those rules and enforces compliance with rules by investigating potential violations and taking disciplinary action against those members or participants found in breach. The authority of SROs to operate is usually based on law or the delegation of power by a statutory regulator, but it may also be based on a contract with regulated firms. See John Carson, "Self-Regulation in Securities Markets" (2011) World Bank Policy Research Working Paper No 5542 at 5, online: <[www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2011/01/24/000158349\\_20110124091038/Rendered/PDF/WPS5542.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2011/01/24/000158349_20110124091038/Rendered/PDF/WPS5542.pdf)> [Carson, "Self-Regulation"].

70 *Ibid* at 25.

71 Self-regulation in the US has existed since the establishment of the SEC in 1934. Prior to the great depression the U.S. markets were largely unregulated by government. It was widespread manipu-

was influential throughout the second half of the twentieth century in terms of the structure of stock markets and securities legislation in other countries such as Canada, Japan, Korea, the UK and Australia.<sup>72</sup> The advantages of self-regulation over government regulation are said to be that:

- SROs may require the observance of ethical standards which go beyond government regulations; and,
- SROs may offer considerable depth and expertise regarding market operations and practices, and may be able to respond more quickly and flexibly than the government authority to changing market conditions.<sup>73</sup>

However, the wave of demutualization that occurred in stock exchanges around the world in the late 20<sup>th</sup> Century brought the self-regulatory model of market supervision into question. Demutualization created a new set of problems primarily related to the stock exchange's dual role of being both a market operator

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lation and speculation which led to the collapse of the markets in 1929 and the Great Depression that made apparent the need for government regulation. Accordingly, government regulation of the markets became part of the New Deal agenda in the United States during the 1930s. The US *Securities Exchange Act of 1934*, 15 USC § 78a (1934), saw the establishment of the Securities and Exchange Commission overseeing the exchanges although a high degree of self-regulation was maintained by the stock exchanges. See Michael E Parrish, *Securities Regulation and the New Deal* (New Haven, Connecticut: Yale University Press, 1970) at 230. See also Joel Seligman, "Cautious Evolution or Perennial Irresolution: Stock Market Self-Regulation during the First Seventy Years of the Securities and Exchange Commission" (2004) 59:4 Bus Lawyer 1347. At the time it was argued by those in Congress putting forward this model that, without self-regulation, any government regulatory body charged with regulating the markets would be too large and could prove to be ineffective. See Onnig Dombalagian, "Demythologizing the Stock Exchange: Reconciling, Self-Regulation and the National Market System" (2005) 39:4 U Rich L Rev 1069 at 1076. Some commentators have since argued that the self-regulatory model is really a historical accident that was only adopted because it was more convenient for Congress to assign regulatory powers to exchanges because they already had some of the regulatory infrastructure in place. See Stavros Gadinis & Howell Jackson, "Markets as Regulators: A Survey" (2007) 80:6 S Cal L Rev 1239 at 1249; Morris Mendelson & Junius Peake, "Intermediaries' or Investors': Whose Market Is It Anyway?" (1994) 19:3 J Corp L 443 at 444.

72 See generally Carson, "Self-Regulation", *supra* note 69. For example, up until the 1990s, Australia's markets were regulated in much the same way as those of the United States, with Australia's securities regulator responsible for licensing the markets, supplemented by the ASX regulating its markets and its market participants by enforcing its rules. See Vivien Goldwasser, *Stock Market Manipulation and Short Selling* (Melbourne: Centre for Corporate Law and Securities Regulation, 1999) at 39. IOSCO still promulgates a co-regulation model similar to what is exists in the US as an appropriate model by IOSCO for new markets, see International Organization of Securities Commissions, "Objectives and Principles of Securities Regulation" (June 2010), online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD323.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD323.pdf)>. This has been criticised as essentially backward looking, based on US regulation and institutions in the heyday of the 1990s, as they existed prior to the great soul-searching of the post-Enron era. See Cally Jordan & Pamela Hughes, "Which Way for Market Institutions: The Fundamental Question of Self-Regulation" (2007) 4:1 Berkeley Business LJ 205 at 225.

73 International Organization of Securities Commissions, "Objectives and Principles of Securities Regulation" (May 2003) at 10, online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD154.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD154.pdf)> at 10.

and a regulator of the market. Although this has always given rise to potential conflicts of interests, many believed that this change to a public company structure exacerbated the possibility of potential conflicts of interest.<sup>74</sup> Perhaps more significantly, the switch to a public company structure results in a shift in priorities. In an exchange owned and operated by brokers, regulating the exchange was usually a key focus; eliminating unfair trading practices directly benefitted the owners who were also the participants. However, a public company's primary motive is profit for its shareholders. Regulation and the elimination of unfair trading practices are only tangentially linked to this profit motive, as an attribute of the exchange which may attract trading and listings which seek a fair and transparent market. As a result, this could lead, over time, to a reduction in resources which exchanges will be willing to allocate to this regulatory function.<sup>75</sup> Furthermore, the growth in new markets raised the issue of whether it was efficient for each exchange or market to regulate itself.

These issues prompted some countries to modify or even abandon the self-regulatory model by shifting more functions back to the government regulator. In Hong Kong, responsibility for surveillance of the market for possible insider trading and market manipulation is now shared between the government regulator, the Hong Kong Securities and Futures Commission (SFC), and the Hong Kong Exchange.<sup>76</sup> The SFC has responsibility for broker regulation, but the exchange retains market regulation to the extent of the business rules. The United Kingdom, France, Mexico and Australia have also adjusted their regulatory responsibilities, with an expanded role for the government regulator.<sup>77</sup> In Australia, for example, the government regulator is now responsible for all of the surveillance of all of the exchanges and ATS, enforcing broker-dealer rules and laws against market misconduct. Exchanges in Australia are now only responsible for listings requirements.<sup>78</sup>

One advantage of governments taking over regulation of the markets is the reduction in regulatory duplication. With the existence of both an SRO and a government regulator within a jurisdiction overseeing a market or markets, there is likely to be some overlapping of roles and conflict in relation to whose role it is to take action in any particular circumstance. For example, in the US and Canada, SROs undertake detection of market misconduct and enforcement of broker-dealer rules through surveillance of the markets. However, if securities laws have been

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74 See Carson, "Conflicts" *supra* note 17 at 6–17. See also Roberta S Karmel, "Turning Seats into Shares: Causes and Implications of Demutualization of Stock and Futures Exchanges" (2002) 53:2 *Hastings LJ* 367; Andrew M Fleckner, "Stock Exchanges at the Crossroads" (2006) 74:5 *Fordham L Rev* 2541; Caroline Bradley, "Demutualization of Financial Exchanges: Business as Usual?" (2001) 21:657 *Nw J Int'l L & Bus* 657.

75 See generally Carson, "Conflicts", *supra* note 17.

76 See Andrew Main, "Two is Better than One in Surveillance" *The Australian* (13 July 2009), online: <[www.theaustralian.com.au](http://www.theaustralian.com.au)>. See also Jordan & Hughes, *supra* note 72 at 210.

77 See Carson, "Self-Regulation", *supra* note 69 at 23.

78 See Australian Securities Exchange, *Regulatory Authorities*, online: ASX Group <[www.asx.com.au/regulation/regulatory-compliance/regulatory-authorities.htm](http://www.asx.com.au/regulation/regulatory-compliance/regulatory-authorities.htm)>.

violated, the matter must be handed over to the government regulator (the SEC in the US and provincial securities regulators in Canada) to take action. This can lead to inefficiencies, delay, and as a result, less than optimal regulatory outcomes.<sup>79</sup>

In the US and Canada, although self-regulation remains an important part of the regulatory framework, regulatory functions have been moved away from the exchanges themselves and towards SROs, which are independent of market operators.<sup>80</sup> Initially, regulatory functions were spun off into separate self-regulatory bodies for each exchange, but now, in response to fragmentation of markets, the trend is to consolidate these SROs into one SRO, such as the Financial Industry Regulatory Authority (FINRA) in the US and the Investment Industry Regulatory Organization of Canada (IIROC) in Canada.<sup>81</sup> FINRA and IIROC perform regulatory functions for a number of markets. Although these consolidated SROs do not eliminate the problem of duplication and overlap of roles with the government regulator, they have the advantage of being a more efficient arrangement for markets, particularly new markets, that can outsource regulatory functions to these organizations rather than having to set up their own regulatory branch. As such costs are ultimately passed on to traders, low regulatory costs can also work to keep down trading costs. Accordingly, this shift to consolidated SROs has not met significant opposition from the securities industry or regulators.<sup>82</sup>

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79 See e.g. Carson, “Self-Regulation”, *supra* note 69 at 14–15 (quotes a World Federation of Exchanges survey from 2005 that found that “exchanges’ regulatory roles showed extensive use of cooperative or shared regulation instead of a clear division of responsibilities. The lack of a clear separation of roles often leads to unnecessary duplication and delays resulting from protracted discussion and debate on policy and initiatives. It can also produce conflict, and even competition, over roles and policy. The greater the degree of co-involvement in issues and initiatives, the more time that must be devoted to coordinating between regulators and SROs. Cooperation is beneficial and necessary among regulators; but when regulators occupy the same fields it can lead to inefficiencies and delay in responding to problems.”)

80 Roberta Karmel argues that these consolidated SROs are only a facade of self-regulation while in reality there has been a shift to more government oversight. See Roberta S Karmel “Should Securities Industry Self-Regulatory Organizations Be Considered Government Agencies?” (2008) 14:1 *Stanford JL Bus & Fin* 151.

81 Carson, “Self-Regulation”, *supra* note 69 at 8. Initially, the solution adopted by some exchanges was to distance themselves from their regulatory functions by moving their surveillance and regulatory functions into a separate subsidiary. For example, initially the New York Stock Exchange created a separate subsidiary, NYSE Regulation Incorporated, with a board of directors comprised of a majority of directors unaffiliated with any other NYSE board. See NYSE, *NYSE Regulation, Inc.*, online: <[www.nyse.com/regulation](http://www.nyse.com/regulation)>. Over time, however, more and more of NYSE’s functions have been moved to FINRA. See NYSE Euronext, *supra* note 21; Financial Industry Regulatory Authority, News Release, “FINRA to Perform NYSE Regulation’s Market Oversight Functions” (4 May 2010), online: <[www.finra.org](http://www.finra.org)>. FINRA was formed from the merger of some of the functions of NYSE Regulation and NASD Regulation. As to the reason for the merger, compare Christopher W Cole, “Financial Industry Regulatory Authority (FINRA): Is the Consolidation of NASD and the Regulatory Arm of NYSE a Bull or a Bear for U.S. Capital Markets” (2007) 76 *UMKC L Rev* 251; Yesenia Cervantes, “FIN RAH!’ ... A Welcome Change: Why the Merger was Necessary to Preserve U.S. Market Integrity” (2008) 13 *Fordham J Corp & Fin L* 829.

82 See generally Nan S Ellis, Lisa M Fairchild and Harold D Fletcher, “The NYSE Response to Specialist Misconduct: An Example of the Failure of Self-Regulation” (2010) 7 *Berkeley Business LJ* 102. However, this shift toward independent consolidated SROs does seem to eliminate what is said to

1. *Consolidation of Regulatory Functions and its Impact on Market Integrity*

One benefit that is emerging from this trend of moving functions to consolidated SROs or back to the government regulator is that, in an environment of fragmented markets, fewer bodies within a jurisdiction become responsible for undertaking surveillance and monitoring the markets within that jurisdiction for possible instances of market abuse. This allows for the possibility of cross-market surveillance within the jurisdiction to detect unfair trading practices such as insider trading and market manipulation. Cross-market surveillance allows for the building of a more complete picture of what is occurring in one security, or related securities traded across different markets. For example, in Canada IROC conducts surveillance for most of the exchanges and ATS markets allowing it to conduct surveillance across Canada. This would allow it to detect abnormal trading in, for example, RIM, across a number of Canadian markets.

Cross-market surveillance should contribute to the preservation of market integrity in an environment of fragmented markets, where such fragmentation may be used by perpetrators to disguise market abuse. There is currently, however, a lack of empirical evidence that conducting cross-market surveillance results in markets which may be of higher integrity. A study by Cumming and Johan looked at cross-market surveillance in 2005 across 25 jurisdictions.<sup>83</sup> They showed that where cross-market surveillance was undertaken, it was correlated with higher trading volumes, greater numbers of listed companies and higher market capitalization.<sup>84</sup> This may suggest that such surveillance was either detecting or deterring (because of the possibility of detection) market abuse, which had a positive impact on the quality of those markets. One problem with drawing this conclusion is that it did not prove causation. It may be that larger jurisdictions which may already be characterized as having higher trading volumes and a higher market capitalization are more likely, and have the resources to invest in cross-market surveillance. Nevertheless, perhaps the results of the study make sense, in that cross market surveillance should increase the likelihood of detection of market abuse which should, in turn, contribute to the overall quality of the market.

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be one of the key benefits of SROs compared to direct government supervision. That is, that SROs are expert in market operations and practices. If the SRO is truly independent, those employed by it are not likely to have the same knowledge of the markets or their market knowledge is likely to diminish over time. This may make them subject to attack from market operators and participants who may believe that this lack of market knowledge may result in them not regulating in their best interests. Furthermore, such SROs are not subject to the same scrutiny as government regulators, raising issues of transparency and accountability. In addition, although SROs free government from having to fund the supervision of the markets as SROs fund their organization by fees levied on markets and brokers, having SROs levy fees eliminates a potential source of government revenue. As such, even in countries such as the US and Canada with the strongest history of self-regulation, there may be pressure in the future for the regulatory functions exercised by these SROs to be transferred to government regulators.

83 Cumming & Johan, *supra* note 49.

84 *Ibid.*

Recently, the SEC seems to have recognized the importance of cross-market surveillance to preserving the integrity of markets. The SEC has proposed that all of the SROs in the US devise a new rule to support what has been called a consolidated audit trail system. The proposal for the rule arose out of what has been called the Flash Crash, which occurred on May 6, 2010, when the prices of many US-based equity products experienced an extraordinarily rapid decline, and then recovered.<sup>85</sup> The investigation into this event exposed a serious weakness in the monitoring of trades on US markets as, in order to determine its cause, investigators had to reconstruct the trades from a multitude of different data systems maintained by different markets. Although the trades occurred on one day, this reconstruction process took four months.<sup>86</sup> This consolidated audit trail system rule will require that all markets trading National Market System (NMS) securities must submit data on each trade to a central repository in a standardized form.<sup>87</sup> SROs and the SEC would have access to this central authority to search for indications of market abuse. It is also proposed that each customer would be assigned a unique customer identifier that would be the same for that customer, in a uniform format, across all broker-dealers. The proposed system is designed to allow the better design and use of surveillance systems to detect market irregularities, including market manipulation and insider trading which occur across markets.<sup>88</sup> The release which accompanied the proposal for the rule stated:

The Commission preliminarily believes that with today's fast, electronic and interconnected markets, there is a heightened need for a single uniform electronic cross-market order and execution tracking system that includes more information than is captured by the existing SRO audit trails, and in a uniform format. Such a system would enable SROs to better fulfil their regulatory responsibilities to monitor for and investigate illegal activity in their markets and by their members. Further, the Commission preliminarily believes that such a system would enable the Commission staff to better carry out its oversight of the NMS for securities and to perform market

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85 US, Commodity Futures Trading Commission & US, Securities and Exchange Commission, *Findings Regarding the Market Events of 6, 2010* (Washington, DC: Commodity Futures Trading Commission & Securities and Exchange Commission, 2009), online: <[www.sec.gov/news/studies/2010/marketevents-report.pdf](http://www.sec.gov/news/studies/2010/marketevents-report.pdf)>.

86 Mary L Schapiro, "Remarks at the Society of American Business Editors and Writers (SABEW) Annual Convention" (Speech delivered at Society of American Business Editors and Writers Annual Convention, 15 March 2012), online: Securities and Exchange Commission <[www.sec.gov](http://www.sec.gov)>.

87 See US, Securities and Exchange Commission, News Release, 34-62174, "Consolidated Audit Trail", online: <[www.sec.gov/rules/proposed/2010/34-62174.pdf](http://www.sec.gov/rules/proposed/2010/34-62174.pdf)> [SEC, "Consolidated Audit Trail"].

88 Stephan Luparello, "Market Surveillance Considerations in a Cross-border Trading", *World Federation of Exchanges: Insight*, online: <[www.world-exchanges.org](http://www.world-exchanges.org)>.

analysis in a more timely fashion, whether on one market or across markets.<sup>89</sup>

FINRA seems to back the SEC and the need for this rule. Richard Ketchum, the Chairperson of FINRA, has stated:

A generation ago, the vast majority of activity occurred on the equity market that listed the security. Today, orders are routed to some 50 competing platforms. This complex environment creates opportunities for traders seeking unfair advantage to manipulate markets. How? By exploiting inconsistencies or gaps created when the responsibility of regulatory oversight is divided. Regulatory gaps and splintered oversight make it possible for trading abuses—such as market manipulation, marking the close and front-running customer orders—to be carried out furtively across multiple markets, with a reduced chance of detection. . . . The most effective way to surveil for these trading practices across the wide range of market centers is to consolidate audit trail data in a single place so that violative trading practices can be more readily identified.<sup>90</sup>

One concern that has been raised is the maintenance of the privacy of such data.<sup>91</sup> However, while privacy concerns are not irrelevant, and while steps should no doubt be taken to protect data, privacy concerns should not be allowed to trump the need to preserve market integrity. In the interest of protecting market confidence for the good of the economy as a whole, there needs to be an acceptance that in exchange for access to markets, market participants must be prepared to disclose information to regulators.

## 2. *Cross-Border Market Surveillance*

The need for cross border market surveillance arises as connections between markets multiply, and investors are presented with a wider choice of products and markets. Failure to undertake such surveillance leaves open the opportunity for perpetrators of market abuse to avoid detection and punishment simply by structuring their trading across markets in different jurisdictions.

To enable cross-border market surveillance to take place, trading data has to be collected and exchanged between SROs or government regulators in various

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89 SEC, "Consolidated Audit Trail", *supra* note 87 at 31.

90 Richard G Ketchum, "Testimony Before the Committee on Banking, Housing, and Urban Affairs" (Testimony delivered at the United States Senate Subcommittee on Securities, Insurance, and Investment Committee, 20 May 2010), online: FINRA <[www.finra.org](http://www.finra.org)>.

91 See Annette L Nazareth, "SEC Proposes Consolidated Audit Trail" *Harvard Law School Forum on Corporate Governance and Financial Regulation* (4 July 2010), online: <[corp.gov.law.harvard.edu](http://corp.gov.law.harvard.edu)>.

jurisdictions in a standardized form for comparison. This raises the issue of whether appropriate mechanisms exist to enable this collection and exchange process to take place and, if so, whether the information is exchanged in a timely manner so that market abuse can be detected and investigated. Timely detection and investigation is critical, as the sooner an investigation can be initiated, the more likely evidence may be captured and preserved. Timely capture of evidence can have the effect of significantly enhancing the prospects of a successful enforcement action.

Although there do appear to be some procedures whereby market regulators and SROs share information for the purposes of cross-border market surveillance, the effectiveness and extent to which these mechanisms are used is far from clear. There is certainly no one central repository or single body responsible for collecting and sharing information between regulators and SROs responsible for conducting surveillance of markets for possible market abuse.<sup>92</sup> Some SROs do have bilateral agreements to cooperate on regulatory matters and the supervision of cross-border trading.<sup>93</sup> However, such cooperation arrangements are by no means universal. IOSCO does have a Multilateral Memorandum of Understanding (MMoU) whereby securities regulators can exchange information for enforcement purposes.<sup>94</sup> This MMoU standardizes the process by which securities regulators who are members of IOSCO and have signed the MMoU can obtain information from other member securities regulators for enforcement purposes. It provides a framework of procedures to obtain information from other securities regulators that is necessary to facilitate the enforcement of a wide range of domestic laws prohibiting securities fraud, including insider trading and stock market manipulation. However, this MMoU was designed principally for the ad hoc provision of information for enforcement actions after securities frauds such as market manipulation have been detected, rather than the day-to-day information exchange demanded for surveillance of markets for market abuse.<sup>95</sup>

IIROC, FINRA and many of the large exchanges are members of the Intermarket Surveillance Group (ISG), an organisation which states on its website that its objective is to be a “framework for the sharing of information and the coordination of regulatory efforts among exchanges trading securities and related

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92 In 2007, the Technical Committee of IOSCO released a report concerning, inter alia, information sharing for the purposes of surveillance but did not make any specific recommendations concerning arrangements for such information sharing. See International Organization of Securities Commissions, “Multi-jurisdictional Information Sharing for Market Oversight” (April 2007), online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD248.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD248.pdf)>.

93 See e.g. Autorité des marchés financiers & Financial Industry Regulatory Authority, Joint News Release, “AMF and FINRA Sign MoU on Financial Market Surveillance and Supervision” (29 October 2009), online: <[www.amf-france.org](http://www.amf-france.org)>.

94 See International Organization of Securities Commissions, “Multilateral Memorandum of Understanding Concerning Consultation and the Exchange of Information”, online: <[www.iosco.org](http://www.iosco.org)> [IOSCO, “MMoU”].

95 See generally Janet Austin, “IOSCO’s Multilateral Memorandum of Understanding Concerning Consultation and Cooperation and the Exchange of Information: A Model for International Regulatory Convergence?” (2012) 23:4 Crim LF 393.

products to address potential intermarket manipulations and trading abuses.<sup>96</sup> The ISG was created in 1981 by the major US exchanges, and since 1990 the ISG has allowed non-US exchanges to become members.<sup>97</sup> However, it is a private organisation whose governance and operations are essentially opaque, in that it provides no public information as to how it is governed, how it operates and what or how often information is exchanged between members. It is also unclear whether delay in exchanging information is a significant issue and it is questionable how effective ISG is, given that it appears to have no secretariat or permanent staff.<sup>98</sup> Furthermore, the ISG does not allow government regulators who are responsible for surveillance to become members. Moreover, its terms of membership provide that SROs are not allowed to convey information obtained through the ISG to a government regulator without the consent of the provider.<sup>99</sup>

In addition, even if information can be collected and exchanged in a timely manner, the software and expertise needed to conduct cross-border market surveillance (that is, software that can analyse the data for trading irregularities indicating possible market abuse) is costly and complex. Aitken and Harris estimate that it would cost approximately \$150 million initially and \$50 million each subsequent year to maintain and run a real time cross-market surveillance capability for all European exchange-traded markets.<sup>100</sup> Cumming and Johan state:

Cross-market surveillance (including cross-product, cross-market within a jurisdiction and cross-border), requires much greater technical sophistication which an exchange cannot replicate easily for the following reasons. The level of sophistication of financial trading patterns across different products (such as derivatives and securities) is much more complicated (and our data below suggest many surveillance authorities in different countries do not appear to be aware of the ways in which traders can carry out manipulative cross-market trades). A computer software to detect cross-market manipulations so as to pick up patterns of trading across markets requires significantly greater sophistication than the simple single-market trading alerts. External surveillance providers such as SMARTS Group do provide cross-market surveillance, but such

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96 Intermarket Surveillance Group, "Organizational Overview", online: Intermarket Surveillance Group <[www.isgportal.org](http://www.isgportal.org)>; See generally Carson, "Self-Regulation", *supra* note 69.

97 *Ibid.*

98 See Andrew Dodsworth, "International Cooperation amongst Market Operators Does Exist" (15 May 2011) *World Federation of Exchanges – Insight*, online: <[www.world-exchanges.org](http://www.world-exchanges.org)>. Mr. Dodsworth states that the ISG has no secretariat or permanent staff and all of the work of the ISG is done on effectively a pro bono basis by members. He also states that the costs of membership is \$10,000 to \$15,000 for US members and \$3,000 to \$5,000 for non-US members.

99 Intermarket Surveillance Group, "Membership Information", online: <[www.isgportal.org](http://www.isgportal.org)>.

100 Aitken & Harris, *supra* note 62 at 30.

productized or customized solutions come at a substantially higher cost both for the development of the technology and for carrying out the surveillance. Surveillance staff members need to coordinate surveillance across the different markets monitored, which requires proper organizational alignment among all those involved. As well, for cross-market and cross-border surveillance there needs to be formal information-sharing arrangements and coordination of surveillance for cross-market and cross-border surveillance to be legally authorized, permissible, and effective. Such coordination is further complicated by the protectionist policies arising from the commercial self-interest of the respective markets and the related cross-jurisdictional legality issues. In short, cross-market surveillance is much more costly and complicated than single-market surveillance.<sup>101</sup>

They also found that at the time of their study there was a “dearth of cross-market surveillance in most jurisdictions around the world,”<sup>102</sup> perhaps because of the above issues concerning the exchange of information and the cost and complexity of the process.

#### B. Recent Regulatory Changes Which May Impact on Market Integrity

As has been referred to above, hedge funds, high frequency trading, direct electronic access and trading derivatives on OTC markets may pose specific threats to market integrity. Regulators have recently issued new regulations regarding these issues, although the focus for such regulation has generally been systemic risk concerns rather than protecting market integrity. Indirectly however, most of these initiatives may well assist regulators in protecting market integrity because most require additional disclosure of information to regulators. The more information regulators have access to, the more likely it is that regulators will be in a position to use this information in their endeavours to detect market abuse.

##### 1. *Hedge Funds Regulation*

Although hedge funds have traditionally been the subject of less regulation than other market participants, this situation is changing. Many countries have regulations preventing hedge funds from being offered to retail investors,<sup>103</sup> and now there is a new focus on regulating hedge funds in order to make these funds and their activities more transparent to regulators. In June 2009 the IOSCO Technical Committee released a report suggesting that hedge funds operating in a given jurisdiction

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101 Cumming & Johan, *supra* note 49 at 464–65.  
102 Cumming & Johan, *supra* note 49 at 503.  
103 Davies & Green, *supra* note 42 at 236.

should be registered, and also that hedge funds disclose to regulators information such as their risk management controls. Although directed mainly towards systemic risk issues, this report also stated that regulators should be able to share information about hedge fund exposures that may impact upon market integrity issues.<sup>104</sup>

In tandem with this report, many securities regulators are requiring hedge funds operating within their jurisdiction to register and disclose information about their operations and trading positions. For example, the Council of the European Union has introduced the Alternative Investment Fund Managers Directive. This requires members of the EU to legislate rules for offshore funds and managers located in non-EU countries, and requires hedge funds to, amongst other things, obtain authorization to operate in the EU, requiring provisions of information about their internal risk management arrangements to authorities, including instruments in which they trade and exposures.<sup>105</sup> New registration and reporting requirements have been introduced in both the US<sup>106</sup> and Canada.<sup>107</sup> In the US, these requirements include reporting by large funds to the regulators certain information relating to that fund's exposures, leverage, risk profile, and liquidity.

The new focus on the regulation of hedge funds is primarily directed towards the systemic risk that such funds may pose to the markets and giving regulators the ability to monitor the exposures by hedge funds so that they do not build up positions which may cause major market instability. The focus is not on preventing hedge funds from engaging in market abuse. However, it is possible that regulation requiring registration, supervision and submission of regular data concerning the exposures of hedge funds to securities regulators may, albeit indirectly, assist regulators to better monitor the operation of such funds for potential market abuse violations. For example, a hedge fund which is heavily invested in a particular derivative of an asset may be more likely to attempt to manipulate the price of the underlying asset.

## 2. *High Frequency Trading and Direct Electronic Access*

New regulations are beginning to be adopted in relation to high frequency trading and direct electronic access by brokers. Again, the rules are primarily directed

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104 International Organization of Securities Commissions, Media Release, IOSCO/MR/12/2009, "IOSCO Publishes Principles for Hedge Funds Regulation" (22 June 2009), online: <[www.iosco.org/news/pdf/IOSCONEW148.pdf](http://www.iosco.org/news/pdf/IOSCONEW148.pdf)>. See also International Organization of Securities Commissions, "Hedge Funds Oversight: Final Report" (22 June 2009), online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD293.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD293.pdf)>.

105 Council of the European Union, Press Release, 10791/11, "Council Adopts EU Rules for Alternative Investment Fund Managers" (27 May 2011), online: Mayer Brown <[www.mayerbrown.com/public\\_docs/122250.pdf](http://www.mayerbrown.com/public_docs/122250.pdf)>.

106 *The Dodd-Frank Wall Street Reform and Consumer Protection Act*, Pub L No 111-203, §§ 404, 406, 124 Stat 1376 at 1571-74 (2010). See US, Securities and Exchange Commission, Press Release, 2011-226, "SEC Approves Confidential Private Fund Risk Reporting" (26 October 2011), online: <[www.sec.gov](http://www.sec.gov)>.

107 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*, OSC NI 31-103 (16 October 2014), online: Ontario Securities Commission <[www.osc.gov.on.ca](http://www.osc.gov.on.ca)>.

toward systemic risk concerns rather than toward preserving market integrity, although the additional requirement of information disclosure may assist regulators in this respect as well.

In 2010 the SEC adopted a new rule requiring brokers to have in place risk and supervisory controls before they granted clients direct electronic access to the markets.<sup>108</sup> In 2013, Canadian securities regulators also introduced a rule requiring that all participants that access markets have risk management and supervisory controls in place.<sup>109</sup> Similarly, IOSCO has produced principles for direct electronic access, recognizing regulatory challenges such as access poses to markets.<sup>110</sup> IOSCO remains neutral on the question of whether jurisdictions should allow direct access trading, but suggests that if they do, they should set in place systems requiring that the market intermediary have in place automated controls limiting risk and regulations ensuring that adequate information is obtained from the client before such trading can be undertaken.

In response to systemic risk concerns relating to high frequency trading, the SEC has issued a ‘large trader’ rule that requires firms whose trades equal or exceed \$2 million shares a day, \$20 million a day, \$20 million shares a month or \$200 million a month, to disclose more information to allow the SEC to track their trading through different markets.<sup>111</sup>

### 3. OTC Derivatives

In response to the 2008 global financial crisis and the problems caused by collateralized debt obligations traded through OTC markets, there has been a recent push by regulators to improve the transparency of OTC derivatives. This problem was best expressed by the Chair of the World Federation of Exchanges:

The pendulum has swung too far and the grand experiment in “competition” led to “excessive fragmentation” of price discovery... Multiple trading venues, with different regulatory requirements with respect to disclosure, have led to deterioration in the transaction information available. The information available to regulators needs

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108 See US, Securities and Exchange Commission, Press Release, 2010-210, “SEC Adopts New Rule Preventing Unfiltered Market Access” (3 November 2010), online: <[www.sec.gov](http://www.sec.gov)>.

109 *CSA Notice of Approval – Amendments to NI 23-203 Electronic Trading*, OSC CSA Notice (2013) 36 OSCB 6771 at 6775, online: Ontario Securities Commission <[www.osc.gov.on.ca](http://www.osc.gov.on.ca)>.

110 IOSCO Electronic Access, *supra* note 40 at 6 (IOSCO states that the regulatory challenges include market abuse, fairness concerns in relation to execution advantages based on the type and geographic location of the connectivity arrangements and issues of capacity and the potential need for rationing bandwidth in relation to algorithmic trading).

111 See US, Securities and Exchange Commission, News Release, RIN 3235-AK55, “Large Trader Reporting” (27 July 2011), online: <[www.sec.gov](http://www.sec.gov)>.

to be systematized and OTC transaction information needs to be captured in some form or other within regulators' purview.<sup>112</sup>

To that end, the solution is said to be that standardized OTC derivatives trades should be registered in a regulated repository or cleared through a regulated central repository.<sup>113</sup> This change may assist improving market integrity if such a central repository could gather data in a standardized form about the trading of such derivatives. This data could be then analyzed to look for trading irregularities which could indicate market abuse.

In addition, in 2011 the Technical Committee of the IOSCO recommended that regulators build a comprehensive framework for conducting market surveillance of these markets, the objective of this framework being to monitor the market in order to detect and deter manipulation or abusive trading.<sup>114</sup> In compliance with this recommendation Canadian securities regulators are now considering the adoption of such a framework and gathering information as to how to best design and implement this change.<sup>115</sup>

#### V. HAS THE REGULATORY RESPONSE BEEN SUFFICIENT?

In the interests of protecting and enhancing the economy as a whole, securities regulators are entrusted with the responsibility of ensuring that markets are efficient *and* fair. Given this goal of market efficiency it is not surprising that the changes to markets and market trading that have occurred over the last few decades have been supported, rather than hindered, by securities regulators as the markets became more efficient. Notwithstanding that market fairness is also a key objective

112 Letter from William J Brodsky, Chair, World Federation of Exchanges, to International Organization of Securities Commissions (1 September 2010), online: <[www.world-exchanges.org/files/statistics/excel/Chairman%20Brodsky%20and%20WFE%20Task%20for%20letter%20to%20IOSCO%20on%20fragmentation%20-%202001-09-10.pdf](http://www.world-exchanges.org/files/statistics/excel/Chairman%20Brodsky%20and%20WFE%20Task%20for%20letter%20to%20IOSCO%20on%20fragmentation%20-%202001-09-10.pdf)>.

113 See e.g. Stewart Macbeth, "Lighting the Lamp, or How Regulators Can Help Themselves Monitor Global OTC Derivatives Markets", *World Federation of Exchanges: Insight*, online: <[www.world-exchanges.org](http://www.world-exchanges.org)>. See also International Monetary Fund, "Global Financial Stability Report: Meeting New Challenges to Stability and Building a Safer System" *International Monetary Fund External Publications* (April 2010) ch 3, online: <[www.imf.org/external/pubs/ft/gfsr/2010/01/pdf/text.pdf](http://www.imf.org/external/pubs/ft/gfsr/2010/01/pdf/text.pdf)>; International Organization of Security Commissions, Media Release, "IOSCO and CPSS Consult on Policy Guidance for Central Counterparties and Trade Repositories in the OTC Derivatives Market" (12 May 2010), online: <[www.iosco.org/news/pdf/IOSCONEWS182.pdf](http://www.iosco.org/news/pdf/IOSCONEWS182.pdf)>. In the US this reflected in *The Dodd-Frank Wall Street Reform and Consumer Protection Act*, *supra* note 106 at § 701. This established a new regulatory framework for regulatory and supervisory oversight of the over-the-counter ("OTC") derivatives market, including mandatory clearance of some derivatives through a clearing entity accepted by the CFTC and SEC.

114 International Organization of Securities Commissions, "Principles for the Regulation and Supervision of Commodity Derivatives Markets: Final Report" (September 2011), online: <[www.iosco.org/library/pubdocs/pdf/IOSCOPD358.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD358.pdf)>.

115 Canadian Securities Administrators Derivatives Committee, News Release, Paper 91-403, "Derivatives: Surveillance and Enforcement" (25 November 2011), online: CSA Consultation Papers <[www.osc.gov.on.ca/documents/en/Securities-Category9/csa\\_20111125\\_91-403\\_cp-derivatives.pdf](http://www.osc.gov.on.ca/documents/en/Securities-Category9/csa_20111125_91-403_cp-derivatives.pdf)>.

of securities regulators, perhaps of some concern is that minimal attention, at least until recently, seems to have been given to if and how these changes have impacted market fairness. Little attention has also been paid to how trading on these fragmented markets can be effectively monitored to detect market abuse.

One possible reason for this apparent lack of concern is that, as is referred to above, it has been difficult to empirically measure changes in market integrity when, by contrast, changes in market efficiency can be easily measured. It has been difficult to measure the levels of insider trading or market manipulation in a market and whether this is changing over time. As is indicated in Part III, research is now being undertaken to attempt to empirically measure changes in market integrity. This research is valuable even in the absence of such metrics. Just because market integrity does not lend itself to easy measurement does not mean that it ought to be overlooked. The level of insider trading and market manipulation has always been difficult to measure, but that does not mean that it does not occur or that regulators should not devote resources to detecting and prosecuting abuses. The transformation that has taken place in markets and trading over the last few decades has clearly created more opportunities to undertake and disguise market abuse. Moreover, it has fostered market participants who may be encouraged by such changes to engage in abuse.

Maintaining and improving market integrity in this era of fragmented markets and a global trading environment is difficult and costly, but not impossible. It would necessarily involve three elements: data collection by regulators and SROs; data exchange between regulators; and SROs and data analysis by regulators and SROs to detect trading anomalies. Furthermore, it requires close links and the exchange of evidence between international regulators and SROs to bring enforcement action against any market abuse that is detected.

In relation to the necessary first step—the collection of data—it is clear that a stronger regulatory framework is needed. The recent focus on obtaining information from hedge funds, high frequency traders and OTC derivatives trades, as well as expanding the records required to be retained for direct electronic trading, is a step in the right direction. However, the information and data obtained should not be restricted to information in relation to systemic risk concerns. Regulators should not shy away from acknowledging that they require information for the purpose of protecting the fairness of the markets. To that end, they should ensure regulations are in place to obtain all of the information they need from these market participants—ideally in a standardized form to enhance ease of analysis.<sup>116</sup> Similarly, a stronger regulatory framework is needed to collect trading data in a standardized form worldwide which can be used for market surveillance analysis. This would necessarily include data such as client names and details of both the orders and the

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116 Stephen Luparello, FINRA Vice President, has stated that “regulators must develop unified standards and procedures to govern the content, timing and publication of information for equities transactions regardless of the quoting or execution venue.” See Luparello, *supra* note 88.

trades. An appropriate standard set of trading data, including these elements, needs to be developed. This standard may arise from the consolidated audit trail system rule proposed by the SEC. However, if the standard is to become international, IOSCO should take the lead in its development, as it will be able to gather input from other national securities regulators and SROs as to what should be included in this standard.

Secondly, the process and capacity to exchange data needs to be improved and, ideally, an international organization should be developed to facilitate this exchange of information. As it is in the interests of regulators and SROs alike to stamp out market abuse, a properly governed and transparent organization, perhaps under the auspices of IOSCO, would probably gain support.<sup>117</sup> Although the ISG appears from its website to be just such an organization, it does not seem to be up to this task given its lack of funding and its inability to easily pass information on to government regulators. Furthermore, its lack of transparency in governance and operations is also a real concern if it is to be responsible for organizing the exchange of private information about market participants between regulators.

Thirdly, regulators and SROs need to invest heavily in technology and research to undertake both cross-market surveillance and cross-border surveillance analysis on the data that has been collected. Although this will be costly given the complexity of markets, such technology needs to be developed if regulators are to have any chance of maintaining market integrity in the face of ever evolving markets. Sufficient funding must be obtained from market participants to support these costs given the critical importance of market integrity to maintaining market confidence.

Finally, taking successful enforcement action against market abuse requires the development of close links between international regulators and SROs to gather evidence in relation to any market abuse that is detected. If the offending behaviour crosses international boundaries the regulator who takes action must obtain evidence and information from other jurisdictions to prosecute the matter. Here at least there has been significant progress over the last decade. The IOSCO MMoU has been successful in improving the frequency and speed in which securities regulators exchange information to allow enforcement action to take place.<sup>118</sup> Given that most of the world's securities regulators have now signed this MMoU, or have committed to sign it, the use of the MMoU to exchange evidence is a trend that is likely to continue.<sup>119</sup>

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117 See generally Jordan & Hughes, *supra* note 72 at 221–22 (arguing that a form of self-regulatory supranational body may be necessary, or as a gap filler, where there is no supranational regulator). See also Luparello, *supra* note 88 (“regulators must establish an appropriate governance mechanism for developing and implementing these measures on a cross-border basis. This will doubtless be complex, but there are a variety of vehicles—such as a college of regulators and bilateral or multi-lateral agreements—that could be used to address this challenge. Another option is to place the surveillance function in a regulatory utility funded by various market centers, but subject to oversight through an agreed mechanism”).

118 IOSCO, “MMoU”, *supra* note 94. See generally Austin, *supra* note 95.

119 *Ibid.*

A regulatory shift to focus on market integrity as suggested above will require substantial commitment from regulators and SROs internationally and will come at a substantial cost. As there is a lack of hard data that market manipulation and insider trading is flourishing in the new trading environment, there will probably be criticism that the benefits do not outweigh the costs. However, if such an investment is not made, it may become apparent over time that the preservation of market integrity is not a primary goal of regulators, but one that is secondary to market efficiency. Given the importance of fairness to promoting confidence in the markets, this will be a difficult position for regulators to maintain.

## VI. CONCLUSION

The transformation of the markets that has occurred over the last few decades has been revolutionary. Yet, although the securities regulators' objective to preserve market fairness or integrity has remained constant throughout, their ability to meet this objective seems not to have kept pace. Regulators now are confronted with markets which present significant challenges to their capacity to detect and take action against market abuse, which is a key component of their mission to enhance market confidence.

Faced with these challenges, regulators would seem to have two options. Firstly, relegate market integrity as a secondary goal and acknowledge that the markets may be unfair but that it is simply too costly and too difficult to remedy. Alternatively, regulators can address market integrity issues and create mechanisms to detect market abuse by increasing disclosure, standardizing the collection of trading data, developing organisations to share this data and developing systems to use this data to detect market abuse. As recent crises in financial markets have demonstrated, regulators need to be proactive to protect the wider economy and not wait for cracks to appear before action is taken. Markets have moved rapidly and seemingly irreversibly into the 21st century and securities regulators seem to have no option but evolve as well.