

# ACUITY

acu·i·ty \ ə- 'kyü-ə-tē, a- \  
Sharpness or keenness  
of thought / perception

EDITION 2 – 2019

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### Enhancing Performance

Through securities lending,  
foreign exchange and board diversity

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Mining middle office data  
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### Regulatory Intelligence

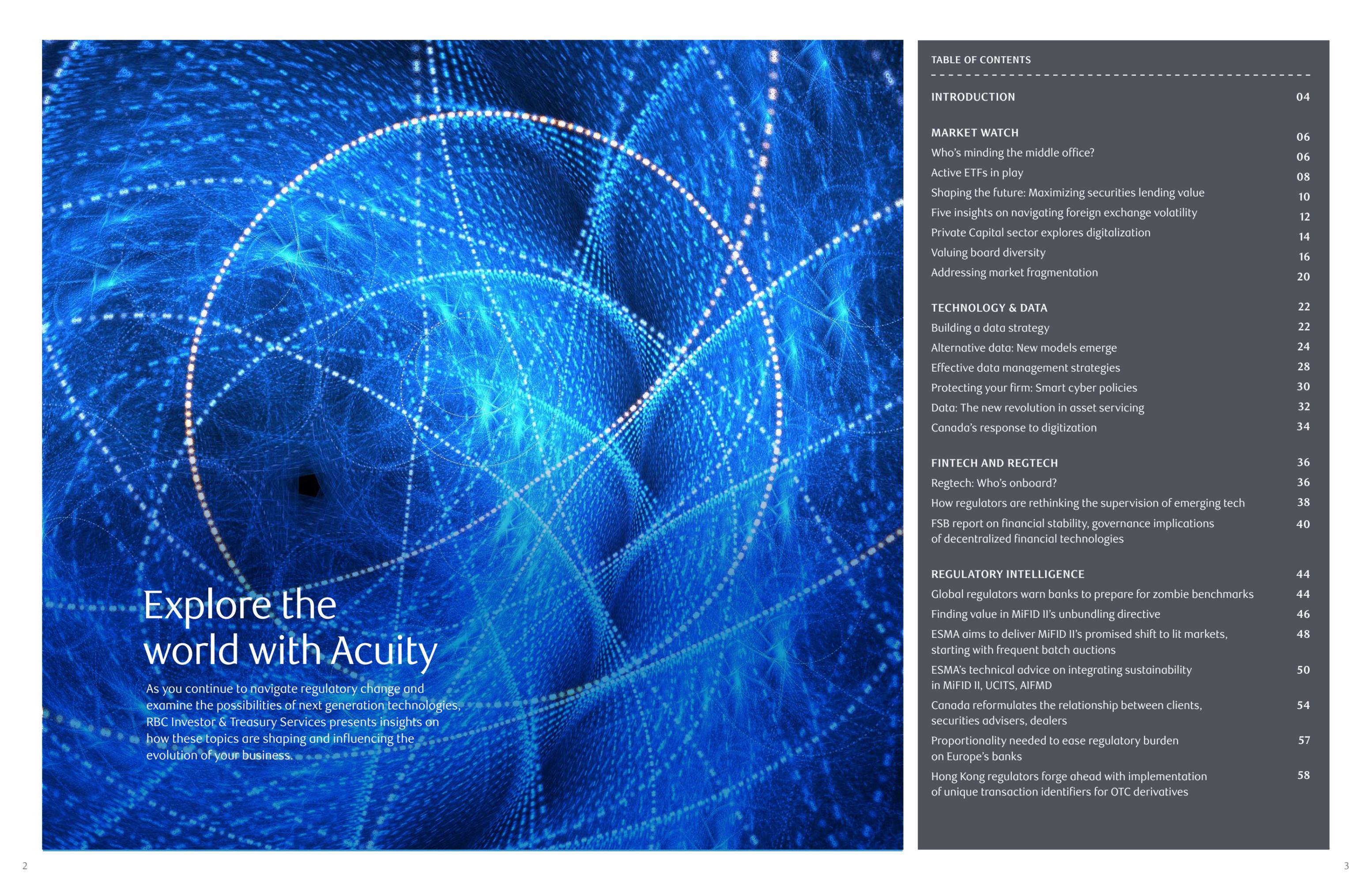
Regulatory approaches on emerging  
tech, ESMA tackles dark markets,  
reforms in Canada, Hong Kong & more

## The Data-driven Edge

Expert views on  
developing a  
successful data  
strategy



Investor &  
Treasury Services



# Explore the world with Acuity

As you continue to navigate regulatory change and examine the possibilities of next generation technologies, RBC Investor & Treasury Services presents insights on how these topics are shaping and influencing the evolution of your business.

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## The Data-driven Edge

Effectively leveraging data to gain insights which support informed decisions is one of today's key business imperatives. In this edition, we focus on how data strategies are emerging across the financial services sector, their influence on products and services, as well as the regulatory response to ongoing market advances.

Our coverage begins with perspectives on the new middle office, the central hub of an asset manager's data stack. We discuss how the rich data stemming from the middle office can inform and enhance the investment process while assessing operational health. Read more in 'Who's minding the middle office'.

In 'Active ETFs in play', we explore how heightened market volatility is driving demand for active ETFs and shifting perceptions of ETFs as purely passive vehicles.

Enhancing portfolio value and performance is an important focus for asset managers. Beginning on page 10, we discuss the trend in securities lending to use data-enabled tools to support strategic decision-making, then share insights on navigating foreign exchange volatility using hedging strategies that can help mitigate risk while optimizing execution efficiency (page 12).

As another means to enhance performance, diversity and inclusion makes good business sense. Asset managers are increasingly using their influence with investee companies to encourage increased board diversity. 'Valuing board diversity' provides further context and insights (page 16).

The private capital sector is also being influenced by data and digitalization. Private capital managers are increasingly turning to alternative data to complement traditional investment analytics, and the adoption of artificial intelligence (AI) to improve operational processes is becoming more prevalent. Read more on page 14.

Deriving value from a holistic approach to rule-making is the focus of 'Addressing market Fragmentation' (page 20). Fragmentation adds costs to financial institutions due to potential inconsistencies and duplication in regulatory reporting.

Beginning on page 22, we examine the many facets of data. Industry experts share their perspectives on building a data strategy, activating a data program, using alternative data sources, as well as insights on how breaking down silos can help firms more effectively manage data. We also reiterate the importance of cyber hygiene to mitigate growing cyber threats, in order to protect data. Canada's Digital Charter is noteworthy as it aims to both empower data-driven innovation while ensuring privacy protection.

Our technology coverage continues with a focus on regtech in Australia and how the liberation of customer data is expected to create demand for regtech solutions and drive more collaboration among industry participants (page 36). Further, as asset managers increasingly rely on digital tools to streamline operations and realize new efficiencies, we discuss how regulators are looking for ways to maintain appropriate oversight of this rapidly evolving industry (page 38).

Our curated Regulatory Intelligence coverage from Thomson Reuters includes insights on the Financial Stability Board's report on financial stability, and governance implications of decentralized financial technologies (page 40). We also include coverage of the upcoming transition away from Libor and the emergence of alternative risk-free benchmarks.

Since the implementation of the second Markets in Financial Instruments Directive (MiFID II), concerns about the impact of unbundled research and brokers charges have continued. Read more about the response from asset managers on page 46.

Our regulatory coverage continues with two European Securities and Markets Authority (ESMA) articles, one discussing the shift away from dark markets, another on integrating sustainability risks and factors in MiFID II, UCITS and AIFMD.

In Canada, we focus on proposed reforms aimed at redefining the relationships between clients, securities advisers, dealers and representatives. Further updates are expected in later 2019.

We conclude with Thomson Reuters coverage on Hong Kong's implementation of unique transaction identifies for OTC derivatives to improve market transparency.

We hope you enjoy this issue and welcome your comments and feedback to ensure that Acuity remains an important source of relevant insights and information.



# Who's minding the middle office?

A new middle office emerges

The demands placed on today's middle office are greater than ever: increased regulatory requirements, daily performance returns, closely monitored enterprise risk, new client reporting challenges, and a greater focus on insights and analytics. Adding to this, the middle office must also support an increasingly complex set of financial instruments, an increasing flow of unstructured data, and a heightened demand for data governance and quality.

The rich data coming out of the middle office is no longer simply a by-product of the investment process. In many respects, it is the investment process. Welcome to the new middle office—the central hub of every asset manager's entire data stack.

This critical role represents a dramatic evolution from the middle office's early history. Traditionally the middle office was cast in a support role, assisting the front office with trade matching and portfolio management. Those core functions remain, but regulation and the increasing complexity of markets mean that middle office functions now encompass support for the full gamut of asset management activities, including portfolio management

trading and strategy decisions, market research, risk analysis, pre-trade compliance, collateral management, revenue generation, and client reporting.

"This is an exceptionally rich data set that can add real value to a portfolio's performance and ensure investments are being managed as efficiently as possible," said Paul Stillabower, Global Head of Product Management at RBC Investor & Treasury Services. "It's not just about trade matching. Asset managers are thinking beyond commoditized activities and are now focusing on the data that comes out of the middle office and how it can be mined for patterns and trends that can inform decisions and enhance the entire investment process."

### Amid unprecedented pressures, an opportunity

As the middle office has evolved from a simple set of tasks to a rich and valuable repository of data, control of the middle office has also shifted. Whereas the middle office—given its complexity and proximity to clients—was formerly seen as the exclusive domain of the asset manager, it is now considered a set of business functions that can be outsourced to enhance operational efficiency and improve capabilities. Challenging market conditions, the shift from active to passive investing,

### KEY INSIGHTS

- The "new middle office" is transforming from a pass-through of data into a mechanism that provides asset managers with greater transparency, actionable information, and rich insights
- The middle office is now increasingly seen as the guardian of a firm's important data and where much of its potential value is stored
- The best asset servicers in this new environment will be those that provide multi-provider, multi-service, and multi-channel solutions

the burden of post-crisis regulation, and the ballooning costs of running the middle office have all added to this shift—from minding the middle office in-house to seeking solutions with an external provider.

### This is an exceptionally rich data set that can add real value to a portfolio's performance

To date, middle office servicing has mostly been a lift and shift industry. Asset servicers would simply take control of whatever middle office system already existed and run it as the asset manager had. Technologies grew old and were not necessarily replaced and the middle office became a place of disinvestment.

The industry has come of age now and said: that approach is not good enough. "Asset managers want trade and lifecycle management, they want management of all their security reference data and vendor relationships, they want deep insight into their data and the characteristics of their investments," said Stillabower. Above all, they want actionable insights that can help understand risks and expose opportunities within their portfolios.

### The optimal outsourced middle office solutions of today are scalable, global, technologically flexible, and modular

From portfolio health to operational health A useful way to think about the shift from the old "lift-out" model of middle office outsourcing to today's more dynamic asset servicing ecosystem is through the concepts of portfolio health and operational health. Typically, asset servicers will provide managers with an investment book of record (IBOR). The IBOR is a near-real-time investment view of a client's position and investable cash, used by investment managers to make front-office trading decisions. The middle office provides scope of delivery, end of day and intraday views of IBOR data—a real-time, continuously updated snapshot of the asset manager's investment performance or "portfolio health."

An asset manager's "operational health," however, is just as important. The simple execution and performance of trades is not the full story when it comes to assessing the health of an asset manager; indeed, it is often after trades are executed that risks of operational leakage arise.

Historically little attention has been paid to such issues, but increasingly it is to these broader, more complex questions of operational health that asset managers must give their closest attention. A good asset servicer will have the tools and services to provide an overview of all aspects of portfolio and operational health, while exposing actionable insights on the basis of the data.

### Questions for asset managers to consider

Investment managers should consider the following questions in assessing overall operational health:

- Do we have idle cash that can be managed more efficiently?
- Do we have failing trades?
- If FX is being given to a third party to execute, is it being executed at the best price?
- Are we encountering difficulties with margin and collateral or with counterparties more generally? Are our investments operationally maximized and efficient?

### Toward the middle office of the future

The optimal outsourced middle office solutions of today are scalable, global, technologically flexible, and modular. These solutions are about data visualization connectivity, aggregation, transfer, and quality, as well as contemporary, intuitive, and networked applications built to leverage the necessary data.

Helping clients manage and recalibrate their systems in response to changing market conditions and business needs is the central challenge for asset servicers. The truly modular middle office has the strength and flexibility to evolve in response to changing conditions and support wherever asset managers go—into new asset classes, across rebalancing and shifts in portfolio strategy and complexity, through mergers and acquisitions (M&A) activity, changes in corporate control, and mergers of different operational models—whenever they go there. "The ability to evolve with the manager and manage the interoperability between back, middle, and front offices is critical," said Stillabower.

Middle-office operations will not be optimized by one solution alone. The middle office of the future will be a scalable and agile unit with the flexibility to shift gears as different components of the data stack fluctuate in importance to the overall business. The asset servicers that will prosper in this new environment will be those proactively exploring and investing in new technologies—advanced analytics and AI especially—even as they continue to provide best-of-breed intelligence into existing investment and operational data. "The best asset servicers will provide solutions that are multi-provider, multi-service, and multi-channel," concluded Stillabower.

# Active ETFs in play

Market volatility is favourably influencing growth in this sector

Exchange-traded funds (ETFs) have long been synonymous with the rise of passive investing, but heightened market volatility is driving demand for actively managed ETFs that may help mitigate risk and enable tactical portfolio adjustments. The rising appeal of debt and factor-based funds is also shifting investor perceptions of ETFs as purely plain-vanilla index investing.

#### Passive ETFs still dominate but active products are making inroads

Growth in the global ETF market shows little sign of abating as investors pivot from high-cost mutual funds to low-fee index-tracking products. In Canada alone, ETFs accounted for 99.5 percent of the total of USD 20.5 billion in investment fund sales in 2018, while mutual funds took only a USD 109 million slice.<sup>1</sup>

Passive ETFs continue to dominate the industry, with active funds comprising less than two percent of the market in the United States (US). However, active funds are expected to take a larger market share over the coming year due to shifts in investor sentiment. During 2018, 73 new active ETFs were launched, more than any other category, according to a report from Morgan Stanley.<sup>2</sup>

In Canada, 69 of 120 ETFs released over the calendar year were active, as reported by the Canadian ETF Association.<sup>3</sup>

#### Interest rate rises spurred issue of active fixed-income ETFs

While more expensive than their passive counterparts, active ETFs are often significantly cheaper than actively managed mutual funds and have become attractive amid market turbulence since the second half of 2018. Most of the active gains came from demand for fixed-income ETFs, a fast-growing segment that gained traction in 2018 as interest rates rose.

Allocations of ETFs in client portfolios nearly tripled in the decade from 2009 to 2018, from 5.4 percent to 14.1 percent

The popularity of active fixed-income ETFs has helped shift investor perceptions of the industry as a purely passive one. Bond ETFs drew more than USD 96 billion of inflows last year while factor-based funds added a record USD 86 billion, according to Bloomberg data.<sup>4</sup> Low-volatility equity ETFs, focused on stocks with more stable prices, have proven particularly appealing, adding over USD 9.5 billion.

Heightened volatility is also triggering greater tactical use of ETFs by investment managers. Approximately 60 percent of institutions surveyed in a study by Greenwich Associates said they invested in bond ETFs in 2018, up from 20 percent in 2017. Three quarters of respondents said they were using or considering using factor-based ETFs, compared to 44 percent in 2017.<sup>5</sup> “Along with market turbulence, pension funds and other institutions have become more proactive about utilizing factor strategies,” said David Linds, Managing Director and Head Asset Servicing, Canada at RBC Investor & Treasury Services. “We’re seeing investment managers look for more sophisticated applications of ETF strategies to back their market views or take tactical defensive positions,” he added.

The popularity of active fixed-income ETFs has helped shift investor perceptions of the industry as a purely passive one

#### Financial advisors are warming to ETFs

Financial advisors are also driving the uptake of ETFs as they show a greater willingness to invest in them on behalf of their clients. Allocations of ETFs in client portfolios nearly tripled in the decade from 2009 to 2018, from 5.4 percent to 14.1 percent, according to data from Cerulli Associates.<sup>6</sup> Financial advisors are expected to continue to boost allocations to ETFs in their client portfolios in 2019, amid sustained market turbulence and increased familiarity with new ETF offerings. Tax incentives and changing fee structures are playing a part. Many advisors favour ETFs’ tax-efficient structure through the in-kind creation and redemption process in which baskets of underlying securities

are exchanged in-kind for ETF shares. Such structures can diminish the likelihood of capital gains distributions for investors.<sup>7</sup>

Advisors are increasingly being paid with transparent fees based on clients’ assets, rather than indirect fees through brokerage commissions and retrocessions. Fee-based advisory models create more incentive to reduce management costs and simplify asset allocation, which could provide a boost for ETFs in client portfolios.<sup>8</sup> The cloudy outlook in a number of economies has also made the direction of interest rates difficult to predict, which could turn advisors’ focus to more sophisticated and actively managed ETFs. “The uncertainty surrounding interest rates and how fixed-income investors may respond, will drive demand for new and innovative fixed-income products,” Franklin Templeton said in an investment note.<sup>9</sup>

#### Active managers are seeking relief on disclosure requirements

With US regulators requiring ETFs to disclose their holdings each day, most active products have focused on bonds due to the relative lack of liquidity and transparency in much of the fixed-income market. The opacity in bond markets makes it harder for third parties to “front run” ETF trades to the same degree that more transparent equities markets offer. End-of-day disclosure requirements have discouraged some active managers from issuing active ETFs, for those reluctant to reveal their trading activities. Issuers have applied for relief from the disclosure requirement for certain active ETF structures, with a number of proposals under consideration by the Securities Exchange Commission. “Approval could pave the way for more fund managers to issue active products,” commented Linds.

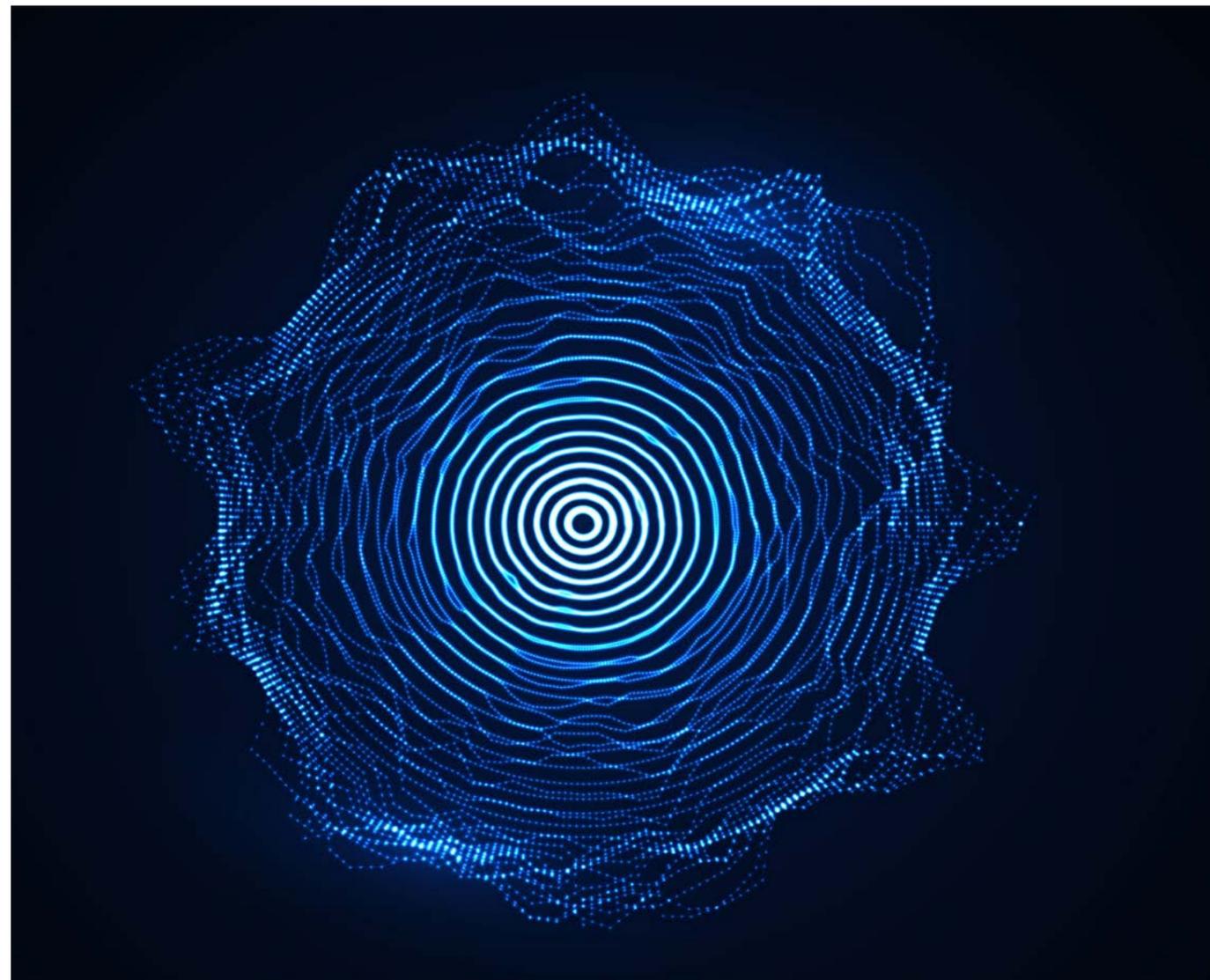
With uncertain market conditions expected to continue in 2019, a growing appetite for active funds to support defensive and tactical portfolio adjustments may further change perceptions of ETFs investing as a purely passive undertaking.<sup>10</sup>

#### Sources

- Investment Funds Institute of Canada (January 2019) 2018 Investment Funds Report
- Wall Street Journal (February 8, 2019) Market turbulence spurs demand for fledgling active ETFs
- Canadian ETF Association (2019) ETF Report Q4
- Bloomberg (February 27, 2019) Volatility spurs institutions to beef up their tactical ETF use
- Ibid.
- ETF Trends (February 6, 2019) ETFs find support from growing financial advisor demand
- Ibid.
- BlackRock (2018) Four big trends driving ETF growth
- Franklin Templeton (January 23, 2019) Canadian ETF Trends
- Lexology (January, 2019) Preparing for the next generation of actively managed ETFs

# Shaping the future

Maximizing securities lending value



**Adding value to a securities lending portfolio and improving efficiency are increasingly important and can take many forms. For example, structured lending on a term basis, collateral flexibility where permissible, corporate action optimization, and ensuring effective lending within restrictive security conditions. Given the wide range of options and strategies on the table, the first line of defence in optimizing a lending portfolio is setting the right program parameters.**

In the search for efficiency, there are many avenues to pursue. Across the industry, the trend of growing fixed-income balances continues to present opportunities to beneficial owners. At the same time as the demand for high-quality liquid assets increases due to regulated capital ratio rules such as the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), beneficial owners can potentially capture additional alpha by lending for defined periods, at premium fees. Furthermore, term lending of assets allows full rights of substitution without impacting investment activity.

These trends go hand-in-hand with collateral flexibility, an essential element for this type of structured transaction. Higher willingness to accept collateral, such as equity against term loans, widens the scope of demand from borrowers. Collateral flexibility is not only important for term lending, but may also lead to higher loan balances, imperative in capturing value in today's environment.

A successful securities lending program is one that is built to optimize with appropriate risk parameters set by the beneficial owner in consultation with the agent lender.

#### **The role of data in empowering beneficial owners**

Today, data-enabled tools are helping to fulfill regulatory requirements, but we are also increasingly using data to support strategic decision-making, as it allows us to draw on much deeper insights. We have certainly come a long way in the areas of data consolidation and transparency capabilities since the pre-crisis period.

Beneficial owners who are looking to their lending programs as a means to both offset cost and extract alpha will need to ensure their agent lender can provide the data that is required to help make those strategic decisions. Data enablement can also deliver tangible insights into the cause-and-effect relationship illuminating how lending revenues are achieved, especially in an intrinsic value-only lending relationship.

#### **Emerging markets on the rise**

Emerging markets are another potential area of opportunity in the coming months, whether that is expanding the range of assets to lend, or looking towards new markets as additional borrowing avenues.

Emerging market equities were a key driver of lending revenue in 2018, and recent research from the World Federation of Exchanges<sup>1</sup> has indicated that securities lending capability was the driving force behind an increase in portfolio investment in these markets specifically. For 2019 and beyond, we expect that leveraging emerging markets will continue.

#### **European regulations on the horizon**

Upcoming regulations within the European Union are another focus for change, as the European Commission formalized its path for the adoption of the Securities Financing Transactions Regulation (SFTR) in December 2018. The regulations aim to increase transparency and reduce the risks associated with entering collateral arrangements. Article 4 of SFTR imposes significant changes, both in terms of risk and cost, on firms that will be required to comply with the new reporting regime. These changes coincide with other material regulatory changes required for firms, and their clients and counterparts to comply with, including the Central Securities Depository Regulation.

The implementation of SFTR, set for the second quarter of 2020, will give rise to technology infrastructure development across all participants, which may be met in-house, or vendor-sourced. SFTR vendors will have a significant responsibility to ensure interoperability within the SFTR ecosystem. Participants cannot assume their counterparts and service providers will have SFTR solutions in place. As a result, participants who intend to comply should have an implementation strategy

in place. On balance, the implementation challenges presented by SFTR are offset by the SFTR's objective, to promote a more granular level of transparency across the securities lending industry.

#### **Navigating a landscape of continuous change**

There are also unknowns. Specifically, the potential impact of the global economy and ever-changing geopolitical landscape.

Taking advantage of data insights and new technology will help to expedite strategic decision-making which will, in turn, further optimize performance and mitigate risk. Here, an agent lender's expertise can help guide and inform clients in order to best utilize opportunities within the securities lending market.

### KEY INSIGHTS

- Diverse themes are shaping the direction of the securities lending industry, including data enablement, proposed new European Commission regulations, and the rise of emerging markets
- The continuing rise in the importance of data enablement as a mechanism to both offset costs and extract alpha means clients must take care to ensure agent lenders can supply the data required for strategic decision-making

Sources  
Originally published in the CASLA Conference Special edition of Securities Lending Times.

<sup>1</sup> World Federation of Exchanges (December 4, 2018) What attracts investors to emerging markets?

# Five insights on navigating foreign exchange volatility

An integrated currency hedging strategy can help reduce risk

*In conversation with Didier Lavallée*

**Currency volatility, political uncertainty, and trade tensions. Today's headlines highlight the growing importance of effective risk management practices. How does foreign currency hedging fit into your risk management practices? Didier Lavallée, Head of North American FX Sales for RBC Investor & Treasury Services, provides five insights into how a foreign currency hedging strategy can help Canadian institutional investors mitigate risk while optimizing execution efficiency.**

## 1. Hedging provides the benefit of simplicity in an inherently complex environment

"Let's go back to first principles," comments Lavallée. "Hedging allows a portfolio manager to protect performance in the base currency." This is particularly important in the current climate as global currencies are reacting to intensified geopolitical and macro-economic events.

"We're operating in an environment in which a single Presidential tweet can impact performance by a few percentage points in only a matter of seconds,"

notes Lavallée. "Compared to previous decades, long-term investing now requires some form of short-term protection."

A decision to hedge can help simplify how investors operate in an environment that is both uncertain and increasingly short-term in focus, as it reduces one source of potential risk. In making this decision, investors need to take stock by first determining their risk appetite then deciding whether hedging will help alleviate these risks and market concerns as well as contribute to a desirable outcome.

## 2. A changing geopolitical environment requires rethinking and re-evaluation

"Historically, we did not need to consider hedging in the North American currency marketplace, as Canada and the US were working cooperatively and seen as close allies. In the current regime, this approach isn't necessarily the case," comments Lavallée. "For example, the renegotiation of the North American Free Trade Agreement and the possibility of further trade disputes between Canada and the US may provide an additional source of unwanted risk for the institutional investor."

Currency hedging is one way to respond to a changing geopolitical environment. For

Canadian investors with USD assets, the rise and fall of the home currency can have strong implications on performance. Take, for example, the period from November 2016 to October 2018, during which the CAD-hedged position outperformed the S&P 500 index by 5.4 percent. For Lavallée, a passive approach can provide confidence that no matter how the CAD moves, the impact on investment performance will be limited. In the current context, obtaining this confidence can be increasingly more relevant and valuable.

## 3. Automated approaches can reduce decision friction and timing concerns

Due to the volatility of currency markets, relying on manual execution to obtain a foreign currency quote can take time and create inconsistencies in rates. Multiply this time and inconsistency across investment managers with potentially offsetting orders, and the costs and operational risks can be high.

In contrast, by automating and consolidating orders using a hedging strategy, investors can standardize execution methods, reduce cost, and improve operational efficiencies. "Currency hedging can be offered using a completely customized and automated approach," adds Lavallée. "One that is 100 percent decided by the client and built to meet client needs."

This approach can mean less time and effort is spent making decisions about whether and how much to hedge, or how much risk exposure to retain, allowing portfolio managers to direct their focus to other operational activities.

## 4. Capturing optimization frees up focus for core activities

Different investors have different foreign currency implementation strategies, depending on factors including their level of comfort with currency exposure, views on the direction of currency markets, trading behaviours (including volume, size, and frequency), and internal resource capacity.

Regardless of the approach adopted, "an effective strategy encompassing FX hedging and execution tactics can help reduce costs and optimize the risk-adjusted return profile of investment portfolios," says Lavallée. "This can mean capturing efficiencies throughout the operation, potentially leading to enhanced returns."

## 5. New and emerging data solutions mean greater transparency at all stages of a transaction

Data visualization tools can provide enhanced oversight across all FX activities. "Current FX hedging approaches mean we are able to put analytics tools, the levers and dials of data, into the hands of portfolio managers, with

complete transparency," comments Lavallée. "This transparency also extends to TCA, or transaction cost analysis, which is an increasing focus for FX best execution practices." In summary, Lavallée contends that with growing allocations to new markets, heightened geopolitical risks, and an intensified focus on optimizing returns, effectively navigating foreign exchange exposure is a key element in overall asset management. As a result, North American institutional investors may need to revisit their FX operational model in order to define and implement an effective strategy.

## HEDGING 101

Foreign currency exposure is an inevitable consequence of international investing. Investors who obtain global asset exposure also take on foreign currency exposure, and thus the risk of accompanying foreign currency volatility on the portfolio. In response, institutional investors may choose to hedge their foreign currency exposure as a mechanism to mitigate its impact on a portfolio. Fundamentally, hedging is a way to reduce risk.

An institutional investor faced with foreign currency exposure can consider three alternatives:

1. Do not implement a foreign exchange hedging strategy and maintain exposure to foreign currency fluctuations and the associated risk
2. Hedge foreign currency exposure risk by employing a passive hedging strategy that maintains a constant hedge ratio
3. Hedge foreign currency risk by varying the hedge ratio—that is, by implementing an active hedging strategy in accordance with the manager's day-to-day management decisions

For institutional investors, hedging programs are customized to take into account individual risk and return objectives, as well as operational requirements. When implemented, a hedging program includes bespoke criteria such as how much to hedge, when to execute and the frequency and hedging horizon.



# Private Capital sector explores digitalization

Insights from Disruption and Innovation Summit

Digitalization is reshaping every aspect of financial services, including the investment styles and operating platforms of private capital managers. A SuperReturn panel discussion in Berlin, explored how digitalization is influencing and disrupting the private capital market.<sup>1</sup>

### Generating liquidity and transparency

While private capital assets are generally considered illiquid, blockchain, specifically the use of tokenization, is emerging as a potential

opportunity to open these assets to a wider pool of underlying investors.<sup>2</sup>

The panel discussed how this approach could enable illiquid assets, such as a fleet of minicabs or physical buildings, to be separated into smaller component parts, linked through blockchain, and traded individually. In theory, through tokenization and securitization, formerly untradeable instruments could unlock liquidity, reduce transaction costs, and enhance transparency.

This type of financial structure could provide small and medium-sized enterprises (SMEs) that have illiquid assets with easier access

to capital, rather than relying on traditional venture capital or private equity funding.

While some managers believe securitization and tokenization could enable them to broaden their investor base away from institutions and tap into the retail market, others are less confident. One panelist cautioned that digitalization of untradeable or illiquid securities could result in the instruments becoming excessively correlated with public markets, adding that many real estate investors put capital in that asset class precisely to diversify away from those correlations.

### Big data as a performance enabler

Deeper insights and intelligence can help inform private capital strategies, and private capital managers are increasingly turning to alternative data to complement traditional investment analytics. For example, the integration of unconventional data might include trends pertaining to credit card transactions at significant retailers,<sup>3</sup> as a useful addition to in-depth analysis of retail tenant reports and financial statements. Real estate managers could also consider using anonymized geolocation data sourced from cell phones to track movements which would provide more precise information about foot traffic at their commercial properties, as well as insights on visitor frequency.

### Tokenization and securitization could unlock liquidity, reduce transaction costs, and enhance transparency

Alternative data does have drawbacks, however, and it is important that managers conduct due diligence on data providers and sources to make sure the information they are receiving is accurate. For example, poor data due diligence could result in further risks particularly if managers are making investment

decisions based on confidential materials.<sup>4</sup> Managers must carefully consider privacy rules, particularly if they use information where individuals may be personally identifiable.<sup>5</sup> Following the introduction of the European Union's General Data Protection Regulation, private capital managers need to pay particular attention to ensure they uphold data privacy provisions.

### Private capital managers are increasingly turning to alternative data to complement traditional investment analytics

### Producing operational alpha through artificial intelligence (AI)

To remedy these challenges, managers are increasingly utilizing automation tools to streamline aspects of their operations. One speaker said simple coding solutions and programs were already being used by a handful of managers to generate standardized or rule-based legal contracts such as non-disclosure agreements (NDAs). Adoption of AI across financial services is now becoming increasingly normalized, as firms look to obtain cost savings and efficiencies and improve accuracy. Many private capital managers have found themselves engulfed by regulatory and investor reporting obligations, which may cause financial and operational strain.

### Adoption of AI across financial services is now becoming increasingly normalized, as firms look to obtain cost savings and efficiencies and improve accuracy

AI applications such as machine learning are being trialed by some firms to mark up NDAs with their comments. The use of machine learning technologies has expedited the administrative process and negated the need to consult with external counsel for routine issues. Meanwhile, optical character recognition, another form of AI, could help managers convert contracts into machine readable formats, which would allow the process for changing these documents to be fully automated. A panelist acknowledged that such technology would be useful for managers amending legal contracts

ahead of their transition away from LIBOR or implementation of contingency plans because of Brexit.

Many of the innovations underway in the private capital industry, whether it be asset securitization, application of big data or adoption of AI, will help the sector identify new sources of investment and potentially produce operational alpha. While these technologies have advantages, their risks may require further clarity before the private capital industry further entrenches such approaches into their business models.

### KEY INSIGHTS

- The securitization of illiquid assets could help create new markets and facilitate the retailization of private capital strategies, although the approach introduces new risks
- Alternative data can provide insights that otherwise may not have been available from traditional sources, although the actual process of obtaining this information requires thorough oversight
- The use of AI in operational processes has the potential to generate savings for private capital managers and dramatically reduce their administrative workloads

### Sources

- <sup>1</sup> SuperReturn Disruption and Innovation Summit (February 26, 2019) Panel discussion: How is the digital age affecting private equity strategies?
- <sup>2</sup> Deloitte (November 2018) The Tokenisation of assets is disrupting the financial industry – are you ready?
- <sup>3</sup> Bloomberg (November 29, 2018) Parking lots don't tell the whole story: The trouble with alternative data
- <sup>4</sup> Duff & Phelps (April 19, 2018) Alternative data brings different problems
- <sup>5</sup> Ibid.



# Valuing board diversity

Commitment to diversity in corporate governance could improve financial performance

**Enhancing boardroom diversity is becoming an important objective for many public companies and their investors, and fund managers have begun using their shareholder voting rights to demonstrate their commitment to this issue within investee companies. What is driving this growing interest in board diversity, and what actions can institutions take to achieve it?**

**Regulation is coming to the boardroom**  
Regulators around the world are increasing efforts to monitor and encourage diversity in the boardroom. In the United Kingdom (UK), the Financial Reporting Council's 2018

Corporate Governance Code called for board appointments and succession plans to promote "diversity of gender, social and ethnic backgrounds." The UK's Financial Conduct Authority requires public companies to disclose their diversity policies and those that do not have such policies must explain why.

The European Union's European Securities and Markets Authority (ESMA) requires similar disclosures for large companies, while countries such as Belgium, France, Germany, and Iceland have instituted mandatory quotas for women on boards, according to a report by MSCI.<sup>1</sup>

Canada is no exception to this regulatory trend. The government's proposed Bill-C25, which became law in May 2018, amends the Canada Business Corporations Act to require federally incorporated public companies to adopt a

similar "comply or explain" approach to board diversity policies. Whilst regulations relating to the specific disclosure requirements are yet to be finalized, they will track the number of Indigenous People, those with disabilities, and other designated groups under Canada's Employment Equity Act on boards.

**Enhancing diversity can improve corporate governance**  
Regulatory requirements are not the only reason companies are becoming interested in boardroom diversity. According to research by management consulting firm Russell Reynolds Associates, having a range of perspectives in the boardroom is crucial to providing effective corporate governance. By enabling boards to draw on a variety of competencies and knowledge, it can help them better address complex problems.<sup>2</sup>

Diversity can enhance innovation by discouraging "group think" and reduce the risk of directors holding unspoken assumptions, according to Russell Reynolds. Additionally, more diverse boards are also better able to communicate with, and consider the perspectives of, various stakeholders and constituencies, such as customers and employees. That will enable them to better serve shareholders, the report found.

## Financial institutions around the world are learning that increasing boardroom diversity makes good business sense

Better corporate governance can also have direct impacts on human capital. In a 2018 study of 617 companies, MSCI found that boards with higher levels of female representation employed better talent management practices, and that companies with a "persistent critical mass of female directors" demonstrated higher levels of employee productivity growth.<sup>3</sup>

"Financial institutions around the world are learning that increasing boardroom diversity makes good business sense, both in terms of improving corporate governance and financial performance. It is important to spend the time and resources necessary to achieve diversity, and view this as a long-term investment," commented David Petiteville, Director, Governance & Regulatory Solutions at RBC Investor & Treasury Services.

### The financial incentives for boardroom diversity

A growing body of research shows a positive correlation between board diversity and financial performance, both in terms of returns and share price.

A study of Fortune 500 companies by the nonprofit Catalyst found that those with the highest percentage of women directors demonstrated 53 percent higher returns on equity than those with the lowest percentage. Returns on invested capital were 66 percent higher and returns on sales 42 percent higher.<sup>4</sup>

Similarly, in a study of two million European companies, the International Monetary Fund found an 8- to 13-basis point increase in returns on assets when companies replaced one man with a woman in senior management or on the board.<sup>5</sup> For knowledge intensive and high-technology sectors, it found a 30-basis point increase.

Increasing gender and age diversity on boards can also improve companies' stock market performance.<sup>6</sup> According to a study in the South African Journal of Economic and Management Sciences, this correlation is due to more diverse boards being able to better accommodate the needs of various stakeholders, as well as incorporating broader skills and experience.<sup>7</sup>

## Institutional investors are increasingly engaging with public companies to encourage diversity in corporate governance

### If companies do not pursue board diversity themselves, investors will

Institutional investors are increasingly engaging with public companies to encourage diversity in corporate governance. In Canada, the Canadian Pension Plan Investment Board (CPPIB) in 2017 began engaging with investee companies that did not have any women directors. It voted at the shareholder meetings of 45 such companies. A year later, almost half of those companies had hired a female director.<sup>8</sup>

More recently, in December 2018, CPPIB announced it was initiating an international policy to vote against any chair of a board committee responsible for nominating directors if the board does not include women.

"We believe that companies with gender-diverse boards are more likely to achieve superior financial performance over the long-term," said Mark Machin, President and Chief Executive Officer of CPPIB. "For that reason, engaging with companies to drive better corporate behaviors is a key part of CPPIB's mandate."

Other fund managers are encouraging Canadian companies to hire more diverse directors. In 2016 and 2017, OceanRock Investments Inc. sent Restaurant Brands International a shareholder proposal calling for it to adopt a board diversity policy with plans to increase gender diversity.<sup>9,10</sup>

It received a majority of the independent shareholder votes in both years.

The Canadian Labour Congress Staff Pension Plan sent a similar shareholder proposal to Canfor Corporation in 2017, receiving support from 32 percent of voters, while Fonds de solidarité des travailleurs du Québec sent one to Constellation Software the same year, receiving 42 percent of shareholder votes.<sup>11,12</sup>

These actions by institutional shareholders are beginning to show results. Morguard Corp. in 2017 announced the appointment of a woman to its board as well as plans for a board diversity policy after the British Columbia Teachers' Federation sent it a similar proposal.<sup>13</sup>

### Asset managers pushing diversity

Among the growing number of asset managers using their influence with investee companies to increase board diversity are some of the largest fund managers in the world.

US asset manager BlackRock has highlighted gender diversity as a key priority for engaging with companies. "If there is no progress on enhancing diversity at the board level within a reasonable time frame, we may hold nominating and/or governance committees accountable for an apparent lack of commitment to board effectiveness," it said in a January 2019 update on its engagement priorities.<sup>14</sup>

According to RBC Global Asset Management's 2018 Responsible Investing Survey, 42 percent of respondents believe that the best method for achieving board diversity is through shareholder action. Moreover, 75 percent of respondents see gender diversity on corporate boards as important to their organization.<sup>15</sup>

**How to achieve boardroom diversity**

If nominating committees hope to build truly diverse boards, they must make conscious efforts to bring in a range of perspectives. According to Russell Reynolds, simply turning to one's own network for candidates will lead to "self-reinforcing homogeneity." Rather, boards should decide on specific priorities or competencies they are seeking, perform a gap analysis and actively screen for those qualities.<sup>16</sup>

One way to achieve true diversity would be to explicitly require recruiters to identify female and minority candidates for board positions, according to research by Canadian law firm Osler, Hoskin & Harcourt.<sup>17</sup> Nominating committees should also incorporate high-potential women and minorities into formal networking programs and consider making flexible work arrangements for board members, such as allowing them to work from home, the report noted.

**Boards should hire an adequate number of people with a variety of perspectives and backgrounds to achieve real change**

Importantly, boards should not hire one token diverse director but rather an adequate number of people with a variety of perspectives and backgrounds in order to achieve real change. A 2016 MSCI studied found that US companies with at least three female directors had both higher return on equity and higher earnings per share than those without. They attributed the stronger performance both to better decision-making by more diverse board members as well as its positive influence on gender diversity throughout the workforce, including in senior leadership, which is correlated to reduced employee turnover.<sup>18</sup>

Similarly, a Journal of Corporate Finance study on boardroom diversity in China found that boards with three or more women had a stronger positive effect on financial performance, supporting the idea that a "critical mass" of women is necessary to elicit results.<sup>19</sup>

Having a more diverse board of directors can help public companies to address a broader range of challenges, better communicate with shareholders and employees, and improve financial performance. The regulatory landscape will increasingly require companies to consider boardroom diversity. At the same time, public companies are beginning to feel pressure from investors to diversify their directors. They should actively pursue measures to do so in a meaningful, lasting way.

**KEY INSIGHTS**

- Regulators and investors around the world are incentivizing public companies to consider diversity policies and hire board directors with various backgrounds and perspectives
- Enhancing boardroom diversity has the potential to increase the performance of public companies and provide better returns for shareholders
- A critical mass of women or visible minorities is needed in order for boards to see a real change

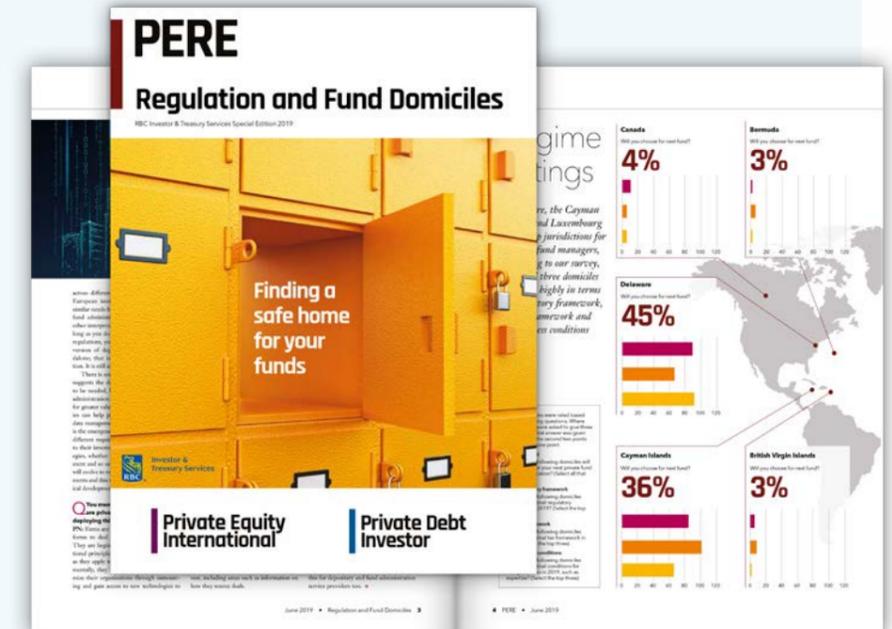
**Sources**

1. MSCI (December 2016) The Tipping Point
2. Russell Reynolds Associates (2009) Different Is Better
3. MSCI (March 6, 2018) Women on Boards
4. Catalyst (2007) The Bottom Line
5. International Monetary Fund (March 7, 2016) Gender Diversity in Senior Positions and Firm Performance
6. Academy of Management Journal (November 7, 2014) Women on Boards and Firm Financial Performance
7. South African Journal of Economic and Management Sciences (August 25, 2015) Board diversity and financial performance
8. Canada Pension Plan Investment Board (December 21, 2018) CPPIB to Increase Board Diversity Advocacy
9. Shareholder Association for Research and Education (June 20, 2016) Majority of non-controlling shareholders at RBI want better board diversity
10. Shareholder Association for Research and Education (June 5, 2017) Adopt and publish a formal board diversity policy
11. Shareholder Association for Research and Education (April 26, 2017) Adopt and publish a formal board diversity policy
12. Shareholder Association for Research and Education (April 28, 2017) Adopt and publish a formal board diversity policy
13. The Globe and Mail (March 8, 2017) Morguard commits to increasing board's gender diversity
14. BlackRock (January 2019) BlackRock Investment Stewardship's approach to engagement on board diversity
15. RBC Global Asset Management (October 2018) Charting a Sustainable Advantage
16. Russell Reynolds Associates (2009) Different Is Better
17. Osler, Hoskin & Harcourt (September 2017) Diversity Disclosure Practices
18. Ibid. MSCI (December 2016)
19. Journal of Corporate Finance (October 2014) Do women directors improve firm performance in China?

**RBC I&TS Private Capital Survey Results**

**Growth forecast is positive according to over 80 of the largest private capital managers (by AUM).** Expectations for growth over the next five years remain positive, with more than two thirds of fund sponsors viewing pensions and other institutional investors as the major contributors to fundraising. This was one of the key findings from RBC Investor & Treasury Services' Private Capital Survey 2019.

The full report is available at: [rbcs.com/pcs](http://rbcs.com/pcs)



**Survey Highlights**

**Fundraising**



Expect increases to come from pensions



View Asia (excluding China) as one of the key geographies for fundraising

**Disruptors**



Big Data viewed as having the biggest potential to disrupt private capital investment and service space



Blockchain and crowdfunding viewed as offering no value to fund sponsors

**Outsourcing & Domiciliation**



Likely to increase outsourcing of both data management and technology



Cayman Islands, Delaware and Luxembourg continue to be domiciles of choice but Luxembourg closing the gap on Cayman Islands



# Addressing market fragmentation

Putting a holistic approach to rule-making on the global agenda

**Prudent market regulation and supervision can play a meaningful role in mitigating systemic incidents and protecting investors, while at the same time, forging global best practices. In contrast, fragmented rule-making may create inconsistencies in how financial institutions are required to conduct themselves across different jurisdictions, and could result in broader market-wide risks going unchecked.**

**Market fragmentation adds to costs**  
A January 2019 report by the Institute of International Finance (IIF), a global industry association comprising a wide range of financial institutions including banks and asset managers, cautioned that fragmentation can result in diverging standards, uncontrolled extraterritoriality, and reduced cross-border cooperation and information sharing.<sup>1</sup> The absence of standardized or uniform regulation is of particular concern for asset managers given the increased focus on conducting business in the most cost effective manner.

The costs of regulatory fragmentation can be significant. The International Federation of Accountants and Business at the Organisation for Economic Co-operation and Development

estimates that regulatory divergence costs financial institutions USD 780 billion on an annual basis.<sup>2</sup> These variances among regulatory agencies can amount to between five percent and 10 percent of the annual turnovers at financial institutions globally.<sup>3</sup>

“Divergence often means asset managers are subject to variable reporting requirements in different markets. In the European Union (EU), which has been at the forefront of market-wide standardization, there remain elements of fragmentation. For instance, the interpretation, and application of the Annex IV reporting requirements under the Alternative Investment Fund Managers Directive (AIFMD) is inconsistent across EU markets, while the template has a lot of overlap with other EU rules such as the second Markets in Financial Instruments Directive (MiFID II),” said Andrea Horton, Managing Director, Governance & Regulatory Solutions at RBC Investor & Treasury Services. Until these differences are rationalized, the cost of regulatory compliance will remain high.

**Divergence often means asset managers are subject to variable reporting requirements in different markets**

As noted in a recent report issued by the International Securities and Derivatives Association (ISDA) regulatory driven market fragmentation clearly exists. “Data and reporting is an obvious example. If all jurisdictions require market participants to report generally the same information to trade repositories, but each requires different data forms and formats in which such information should be reported as part of its rule set, then firms will incur significant expense in complying with myriad rules. Discrepancies such as those related to data standards will also impact the ability of regulators to monitor risk on a global basis.”<sup>4</sup>

Another unintended consequence of fragmentation is extraterritoriality, which has become increasingly evident in global derivatives markets, under which individual rule-making bodies have created unique frameworks for the clearing, reporting, and trading of over-the-counter (OTC) contracts. According to the IIF report, “Implementation of these reforms is largely complete across markets including the United States, EU, and Japan. In some cases the extraterritorial application of rules, and insufficient deference between home-country and third-country regimes, has resulted in a system which is operationally complex, costly and has caused certain markets to fragment along geographical lines.”<sup>5</sup>

**Recent geopolitical events have intensified the risk of wider regulatory fragmentation materializing over the next few years**

**Fragmentation creates risks for fund managers**

In addition to adding costs for asset managers, arbitraging regulation can also create risks. The IIF paper highlights that OTC and exchange-traded derivatives reporting to trade repositories, for example, has been “uneven across jurisdictions”. Despite the rules being introduced to help regulators preemptively spot systemic risks in derivatives markets, the IIF concedes that the lack of harmonization around data quality is a concern.<sup>6</sup> As OTC and exchange-traded derivative reporting is not fully harmonized, regulators are finding it difficult to measure and benchmark risks based on the information available at the trade repositories.

The IIF report also warns that impediments to cross-border cooperation and information sharing could impact market integrity. A number of countries, including China and India, have strict data localization rules precluding the movement of data by institutions outside of their home markets.<sup>7</sup> Such restrictions can be problematic for asset managers with global footprints, as these laws prevent “the internal sharing of data for risk management, cyber-security, and regulatory (e.g., anti-money laundering) purposes.”<sup>8</sup> The introduction of more flexibility for cross-border information sharing would help enable institutions to holistically monitor and manage risks across multiple jurisdictions.

**Living in a less fragmented world**

While global bodies such as the Financial Stability Board (FSB) do seek to minimize regulatory fragmentation, the direction of the current political environment is making it increasingly difficult. Recent geopolitical events have intensified the risk of wider regulatory fragmentation materializing over the next few years. For example, under MiFID II, European investment firms can only trade shares either on EU exchanges or foreign exchanges that have been given the seal of equivalence by the European Commission.<sup>9</sup> As United Kingdom exchanges will no longer be equivalent after Brexit, EU investment firms will not be able to trade securities listed in London if they are also listed on a European Economic Area (EEA) stock exchange or venue.<sup>10</sup> This risks forcing EU investors to execute certain trades on less liquid EEA exchanges, adding to their costs and exacerbating fragmentation even further in a post-Brexit world.<sup>11</sup>

**Another unintended consequence of fragmentation is extraterritoriality**

Calls for change are mounting and greater momentum and awareness is expected in the coming months. In addition to the FSB’s efforts, for example, the G20 Osaka Summit in June 2019 prioritized financial market fragmentation as a top agenda item. Shunsuke Shirakawa, vice-commissioner for international affairs at Japan’s Financial Services Agency (FSA), notes the need for pragmatic solutions. “The first stage is the international rule-setting stage. The second is the national rule-making stage and the third

## KEY INSIGHTS

- Fragmentation adds costs to financial institutions globally as it can result in firms duplicating regulatory reporting or having to follow different standards and requirements
- A lack of consistent regulation may exacerbate market volatility, as different agencies may adopt their own unique standards or reporting methodologies making it more challenging to assess and identify systemic risks

one is supervisory cooperation. At each of these stages if we can communicate more closely we can be better in terms of market fragmentation,” he said.<sup>12</sup>

Moving towards a more globally integrated approach to regulation is essential to help improve regulatory oversight and supervision while removing inefficiencies for managers.

### Sources

- <sup>1</sup> IIF (January 2019) Addressing market fragmentation: The need for enhanced global regulatory cooperation
- <sup>2</sup> The Banker (May 24, 2018) The ever rising cost of global regulatory fragmentation
- <sup>3</sup> Ibid. IIF
- <sup>4</sup> ISDA (January 2019) Regulatory Driven Market Fragmentation
- <sup>5</sup> Ibid. IIF
- <sup>6</sup> Ibid.
- <sup>7</sup> Ibid.
- <sup>8</sup> Ibid.
- <sup>9</sup> Pensions & Investments (February 14, 2019) UK investors will lose EU market access in no deal Brexit, ESMA chief
- <sup>10</sup> Investment Week (February 15, 2019) How will European investors buy UK shares post-Brexit?
- <sup>11</sup> Ibid.
- <sup>12</sup> ISDA (April 2019) Market Fragmentation: Key Issues and Impacts

# Building a data strategy

Five themes guiding the future of data management



Over the past decade, we have transformed from a world in which institutions focused on the control and management of transactional information to the current state, which includes exponential volumes of crowdsourced and alternate data.

In order to retain a competitive edge, radically different approaches to data management, utilization, and access are required. Increasingly, organizations are starting to consider and develop solutions using artificial intelligence (AI) and machine learning to help harness and leverage this intake of data and derive insights that help provide value to both themselves and their clients.

Panelists at RBC Investor & Treasury Services' recent Investor Forum discussed data management challenges and successes, where five broad themes emerged.<sup>1</sup>

## 1. The emergence of data ethics

Jennifer Stott, Senior Vice-President and Chief Data Officer at RBC, commented that “throughout the financial services world, ‘data ethics’ questions are arising about what we can do with data versus what we should do with data.”

One emerging theme is the concept that data generated by an individual can be wholly owned by that individual, added Nira Sivakumar, Partner and AI Strategy Leader, Deloitte Omnia. “In the European Union, for example, the introduction of the General Data Protection Regulation in 2018 focused on data protection and privacy for individual citizens meaning institutions are now faced with challenges about managing consent for the use of that data,” she said.

It raises a number of important considerations. “This is a challenging topic. Is there a notion of consent if I’ve published something on Twitter? What expectations do individuals have for the use and control of the content they’ve created on social media,” she questioned.

## 2. The rise of social media

From an institutional perspective, social media data is an external asset that can contribute to consumer insights in far different ways than internally held data. Social media feeds

have become highly valuable in determining market sentiment and anticipating market movement and business opportunities. As a result, rapid assessment of social media data is a competitive advantage.

There is not necessarily consensus among legal or privacy professions about how or even whether social media data can be used, commented Sivakumar, “leaving aside questions about the quality and reliability of that data.”

## ‘Data ethics’ questions are arising about what we can do with data versus what we should do with data

In order to manage data effectively, we need baseline rules to determine where data comes from and who owns it, commented Craig Gatten, Vice-President, Client Reporting and Data Management, CI Investments Inc. “While this is an area of healthy debate, we still have a long way to go,” he added.

## 3. A growing need for data literacy

Data literacy, or the ability to derive meaningful information from data, is another pivot point, notes Stott. “Across organizations, we are building awareness and understanding of what data is, why data is important, how organizations can be accountable for the data they use, and the importance of securing authoritative data sources.”

The need for organizational data literacy stands in contrast to how other institutional assets are managed. While companies are adept in the management of their other assets, such as inventory and human resources, many are still evolving their management practices with respect to ‘data as an asset’.

“All participants in the data journey need to agree on how to assess, qualify, and manage the data they use to drive their business objectives forward. That’s when data becomes a true asset,” added Stott.

## 4. The role of organizational change management

An element of managing data that has been underestimated is the need for organizational change management, or “getting organizations to think differently about data,” Stott said.

Data is often “trapped” or locked in applications, but the valuable asset is the data, and not the application that allows organizations to use it. Reorienting organizational practices to unlock the potential of this data can require a top-to-bottom cultural shift that goes beyond new policies and procedures.

These changes pose challenges for organizations that are traditionally organized around highly structured data and transactional sources, said Gatten, “although we are starting to see some ‘quick wins.’ Helping stakeholders resolve data pain points can be a way to build a robust organizational data capacity,” he noted.

## 5. Building a fit-for-purpose data infrastructure

As institutions grapple with data that has not been generated “within their four walls” and which they do not own, they are also relying on data infrastructures which again they neither own nor directly control.

Today’s data can provide access to key business-driving insights virtually instantaneously, but rapid access depends on exponentially growing processing power. As a result, organizations are now increasingly turning to cloud vendors to provide dynamic scalable data storage and support ‘compute for analytics’ workloads. Building the equivalent capacity internally, in contrast, would be prohibitively expensive.

## Participants in the data journey need to agree on how to assess, qualify, and manage the data they use to drive their business objectives forward

The growth of external, cloud-based data storage and processing solutions means that organizations need to balance how data is stored and managed internally and externally, but also allows them “to dial consumption up and down as needed,” commented Gatten. “Today, we’ve moved to a full ecosystem of many different tools to address our system-wide data needs,” he said, “addressing where and how we store, access, and process data, both structured and unstructured.”

Data management is an evolving landscape, where new demands, disciplines, and resources require a re-evaluation of standard practices. As the scale of data management has increased, so has the sophistication required to handle new data sources and flows, creating opportunities for stewardship and growth.

## KEY INSIGHTS

- Organizations are building data literacy capacity so that data can ultimately be managed as an organizational asset, much like inventory and human resources
- Data is now derived from both direct and alternate sources and organizations must find ways to harness and leverage data they may not generate or directly control
- Rapid access to data-driven insights is a competitive advantage, but building internal capacity can be prohibitively expensive, so organizations are increasingly turning to external vendors to provide decentralized data storage and processing

Source  
<sup>1</sup> RBC Investor & Treasury Services' Investor Forum (May 8, 2019) Managing Data: Successes and Challenges

# Alternative data: New models emerge

Shifting demands for financial data putting pressure on incumbent vendors



Market participants, including institutional investors, face cost pressures and a changing set of data requirements. They are looking to more affordable alternatives to the traditional providers of market and financial data subscriptions and searching for unique datasets that can add greater insights. As new requirements emerge, it is opening the door to smaller and more specialized firms. At the same time, incumbents are adapting and beginning to introduce more “à la carte” products and solutions.

#### The model is shifting

For decades, large “one stop shop” multi-service data vendors such as Bloomberg and Thomson Reuters have been the primary sources of breaking news, market price information, ratings, and research for financial institutions. Their services come with a heavy price tag, between USD 20,000 and USD 25,000 per year for Bloomberg terminals and up to USD 22,000 a year for the Thomson Reuters Eikon platform. In recent years, however, the business model has begun to shift and more specialized competitors have entered the marketplace. These disruptors are gaining traction and are challenging the incumbent providers due to changing market and industry dynamics. In 2016, for example, Bloomberg experienced a drop in its terminal subscriptions for the first time since the financial crisis in 2008.

It was only the second time the number of subscriptions had been reduced since the company launched in 1981.<sup>1</sup>

#### Cost pressures are weighing on clients

This shift in client preferences may be due in part to the high cost of the full-service data provider solutions. Similar to Bloomberg’s contraction in terminal subscriptions, Reuters also saw its market share dip. In 2017, both firms lost market share while smaller rivals grew their share of the market.<sup>2</sup>

Financial firms are facing a range of cost pressures with profits squeezed by lower interest rates and stronger capital requirements. As a result, they are becoming more selective in the products they purchase.<sup>3,4</sup>

The opportunity to subscribe to services provided by smaller data vendors is an attractive proposition. For example, Capital IQ reportedly charges between USD 7,500 and USD 13,000 per year depending on the number of users.<sup>5</sup>

**Financial firms are facing a range of cost pressures with profits squeezed by lower interest rates and stronger capital requirements**

#### Changing regulatory requirements

Regulatory compliance is one area where demand for more specialized services has grown. Risk and compliance customers were the fastest-growing customer group in 2017.<sup>6</sup>

Data vendors have used the implementation of the second Markets in Financial Instruments Directive (MiFID II), the European market regulation implemented in January 2018, as an opportunity to provide clients with tailored solutions to help them navigate and comply with the new rules. Both Bloomberg and Reuters have developed new services to help clients with their MiFID II compliance obligations.<sup>7</sup>

“A lot of the vendors [of financial information] are facing headwinds,” said Douglas B. Taylor, founder and managing director of the consultant Burton-Taylor, in a Financial Times article. “The combination of machines replacing traders where they can, and cutbacks overall in financial institutions in terms of budgets has made it difficult for all vendors frankly to maintain [terminal numbers].”<sup>8</sup>

#### The impact of electronic trading

Financial institutions are increasingly moving toward electronic trading and seeking out data providers that can support them through that transition. Global markets are accessible through electronic trading, yet divergent financial regulation has led to market fragmentation. Clients likely need more market data from numerous sources in order to form a consolidated view of multiple markets.<sup>9</sup>

“Just as the broader world of finance is changing, the market for financial information could be approaching an inflection point. Data providers are realizing they must adapt and innovate to maintain a competitive position. Clients are looking for access to flexible data solutions that are easy to use and integrate, rather than through tightly controlled closed platforms and strict contractual terms,” commented Jamie Stevenson, Global Product Head, Data and Analytics at RBC Investor & Treasury Services.

#### Smaller firms are disrupting the industry

Though the incumbent data vendors saw their market share weaken, overall spending on financial data hit record highs during 2016 and 2017.

According to DataCompliance LLC,<sup>10</sup> the most successful data vendors are those that focus their core business on providing proprietary data, including evaluated pricing, benchmarks, credit markets, indices, and analytics. Firms that do this include the Intercontinental Exchange, or ICE, IHS Markit, Moody’s Analytics, MSCI Inc. and S&P Global Market Intelligence, according to the report. It said those vendors’ combined revenues grew 95 percent between 2010 and 2017.

“In contrast, vendors with a product suite built upon an aggregated model such as Bloomberg, FactSet, Morningstar, and Thomson Reuters have seen significantly lower revenue growth,” the report said.

#### Startups are proliferating

In addition to firms such as S&P Global Market Intelligence and Moody’s Analytics disrupting traditional data provision services, there has also been a proliferation of newer entrants in this space.

For example, Symphony Communication which launched in 2015 was designed to compete with Bloomberg’s instant messenger. Estimize Inc., founded in 2011, provides earnings and other estimates based on crowd sourced data. Meanwhile, websites including Briefing.com and Money.net are seeking to disrupt the worlds of financial news, commentary, analysis, and charts.<sup>11</sup>

The Canadian Pension Plan Investment Board said it had formed a dedicated team to experiment with alternative forms of data to complement its traditional methods of information-gathering.<sup>12</sup> For example, it recently used a public registry to help with analysis of the US real estate market.

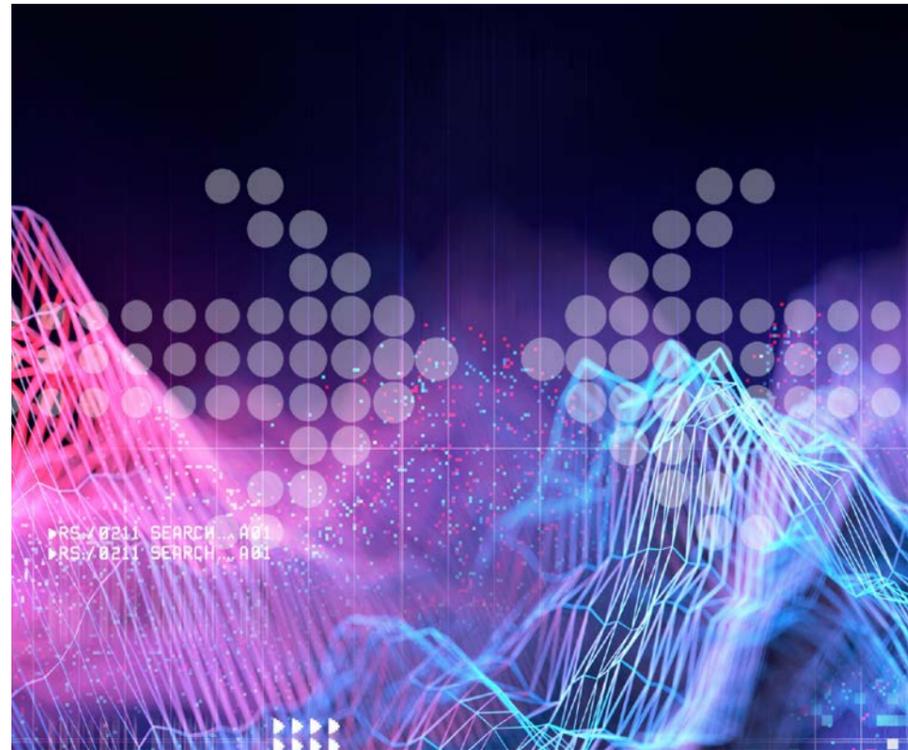
“One of the things that we’ve been focused on for the last couple of years is being able to use not only the traditional financial data that we get from the traditional sources like Bloomberg in making our investment decisions, but also the increasing volume of alternative data that is available,” Deborah Orida, the global head of active equities, told the Financial Post.<sup>13</sup>

**Traditional market data providers are responding to the competition by disaggregating their services and providing a wider range of products beyond the traditional terminal licenses**

#### Vendors respond by disaggregating and diversifying

Traditional market data providers are responding to the competition by disaggregating their services and providing a wider range of products beyond the traditional terminal licenses. Thomson Reuters, for example, offers Eikon Messenger as a standalone application.

While Bloomberg still focuses largely on its terminal product, it recognizes that revenue growth is coming from non-terminal businesses. Those include Application Programming Interfaces and data feed services such as the open data website Bloomberg Enterprise Access Point, the flagship real-time market data feed, B-PIPE, and PolarLake, a data management service marketed to chief data officers.



### KEY INSIGHTS

- Financial market participants have a growing number of options when selecting data providers
- Many are moving away from “one stop shop” data provider models and are seeking out more specialized products and services from providers that have niche expertise that may better align with their requirements
- While Bloomberg and Thomson Reuters continue to hold strong market share they are also beginning to offer more specialized solutions as alternatives to their full-service terminal subscriptions

#### Sources

- <sup>1</sup> Financial Times (March 28, 2017) Bloomberg suffers rare drop in terminal numbers as banks cut back
- <sup>2</sup> Financial Times (March 22, 2018) Bloomberg and Reuters lose data share to smaller rivals
- <sup>3</sup> Ibid. Financial Times (March 28, 2017)
- <sup>4</sup> Intercontinental Exchange 5 Trends Behind the Expansion of Market Connectivity
- <sup>5</sup> Wall Street Prep Bloomberg vs. Capital IQ vs. FactSet vs. Thomson Reuters Eikon
- <sup>6</sup> Ibid. Financial Times (March 22, 2018)
- <sup>7</sup> Ibid.
- <sup>8</sup> Ibid. Financial Times (March 28, 2017)
- <sup>9</sup> Ibid. Intercontinental Exchange
- <sup>10</sup> Data Compliance LLC (May 16, 2018) Top Global Financial Information Providers, Who, Why & Future Trends
- <sup>11</sup> Ibid. Wall Street
- <sup>12</sup> Financial Post (March 18, 2019) How CPPIB is tapping ‘alternative data’ to refine its investment processes
- <sup>13</sup> Ibid.

## Recently Launched | RBC Insights

# 2019 Canadian Asset & Wealth Manager Survey

### How are managers planning to grow in tumultuous times?

Canadian asset and wealth managers are facing a growing list of challenges—from increased client expectations and fee compression to regulatory change and the prospect of technology disruption.

RBC Investor & Treasury Services’ second annual Canadian Asset and Wealth Manager Survey provides the perspectives of 89 managers from across the country on how they plan to navigate today’s dynamic environment in the drive for profitable growth.



Results now available at: [rbcsits.com](http://rbcsits.com)

## Survey Highlights

### Challenges

**Increased client expectations** are perceived to be the most pressing challenge (15%), overtaking **increased regulation** (12%)

**Improve efficiency** (17%), **attract new clients** (16%) and **leverage technology** (15%) were identified as the top strategies to address the challenges

### Growth

Managers intend to achieve growth over the next year by **broadening their investor base** (23%), **increasing marketing efforts** (20%) and **expanding their product offering** (19%)

### Technology

Similar to last year, near-term technology investments will focus on **process automation** and **managing client relationships** (23% each), followed by **data analytics**, which increased in popularity overall (11% to 15%)

### Data

**Make more informed investment decisions** (29%) and **increase back-office efficiency** (24%) are seen as the top two benefits of data

Year-over-year, **quality and accuracy** remains the biggest challenge in managing data but at a significantly lower level of popularity (36% to 20%); **cost**, a new category in 2019, assumed second place (16%)

### Product

**70%** of managers plan to introduce new products in the near term, up from 55% last year

**Exchange-traded funds** continue to be the top product launch in the near term (17%) but **liquid alternatives** are close behind (16%), slightly ahead of private debt (15%) and private equity (14%)

### SRI

Nearly **two-thirds** of respondents view socially responsible investing (SRI) to be important to their firm’s strategy including an average importance score of 3.6\*

### Value

According to respondents, their clients continue to deem **service** and **high returns** as the most important factors in the client-manager relationship (29% and 18% respectively) but the importance of these factors is declining as **low fees** increased in year-over-year popularity (6% to 13%)

### Outlook

Overall, managers are **more confident** in their ability to adapt to the changing business environment compared to 2018 (3.7 to 4.0)\*

Percentages show proportion of choices

\* Based on a 5-point scale (5=extremely confident/important and 1=not at all confident/important)



# Effective data management strategies

Breaking down silos is key

**Effectively harnessing the power of data can be a daunting journey but it is a necessity in today's highly competitive environment. Firms today are looking to use data more than ever before to help make informed decisions and gain profound insight into markets that are marked by rapid disruption.**

How is the C-suite adapting? Some 60 percent of CEOs say they are concerned that their internal processes may not withstand the kind of disruption impacting their market sectors<sup>1</sup>. As C-suite executives look to embrace digital solutions, they must also be prepared to tackle the siloed approach that may be prevalent

within their firms in order to corral and leverage digital assets across departmental boundaries. This can be a challenging undertaking.

Jamie Stevenson, Managing Director, Global Head of Product Management, Data & Analytics at RBC Investor & Treasury Services, spoke with Shreshant Dabir, Partner, National Leader, AI and Intelligent Automation at KPMG, and asked about the headwinds faced by firms as they strive to optimize their data strategies.

**JS: How has data evolved to become so essential to firms today?**

**SD:** Leveraging data is critical for firms today given we have become a culture that now places a high value on 'intangibles'. For example, banks

were traditionally associated with structures and places that held and protected your money. Stone buildings with big pillars and imposing walls that projected trust and security.

But banks no longer hold cash in vaults nor do they move that physical asset around at the same scale. In its place, data has become the asset that needs to be managed and protected. As a result, the concept of trust has evolved from that prior association with tangibles to virtual elements represented by data. That's the gold. Data and the analytics derived from that data are intrinsic and valuable assets.

**JS: How can asset managers deal with growing concerns over managing and protecting data?**

**SD:** Without a doubt, firms must manage data with the utmost care and responsibility. The potential reputational and financial risks associated with misuse can be significant. That sense of ownership and accountability for data, including how the data gets used, has to manifest itself across the organization, from the technology that gets built to the people who use and manage the data.

We cannot underestimate the value of our human resources as data guardians. While companies may have sound policies and technological checks and balances in place,

it is also incumbent on people within the organization to respect and understand the value of that data and play an active role in preventing its misuse.

**JS: Managing data has been likened to a long journey. Are we there yet?**

**SD:** The financial crisis of 2008 and 2009 brought the issue of data management to the forefront, and highlighted the insufficiency of data control mechanisms at that time. It became clear during this period that investors were not fully aware of the positions they had taken, nor did they have clarity on their assets and liabilities. The sweeping regulatory response that followed drove companies to build stronger and more comprehensive data management processes that focused on greater transparency and investor protection.

The data journey continues and progress is being made. Organizations are now creating roles such as chief data officer, setting up data governance frameworks, and instituting programs where governance is a tier-one priority. That is all good news, but there is still work to be done to ensure the appropriate structures and resources are put in place. The velocity of change is accelerating and staying competitive means embracing and investing in digital technologies.

**JS: How does the silo mentality impact an organization's ability to develop effective data management systems?**

**SD:** I believe that silos are an unintended consequence of the drive to achieve organizational efficiency – for example, it was more efficient to group people that worked in the same line of business into a department. That certainly made sense when commonality of people capability drove capacity efficiency and growth, but systems are now automating many functions that were done by human hands. That human centric organizational concept of hierarchy and assimilation is no longer an appropriate model. Today's world is evolving and data knows no boundaries.

As technology solutions are increasingly being used to augment what humans do, siloed vertical operations need to become horizontal. Cutting across those silos requires greater

collaboration and can reveal pockets of data or insights that may have broader applicability and value across a firm. It's acknowledging that the data or systems you are responsible for may be beneficial to others. The business imperative to change needs to transcend borders and business silos.

**JS: Can we expect more government oversight over how companies manage data?**

**SD:** Data stewardship rests with governments, firms, and individuals yet the roles and responsibilities are not clear. The lines are blurred between what can be considered uniquely yours versus what belongs to someone else. Consider that Facebook photo or social post and how it can be consumed and shared. We all want to be assured that our data is safe and protected and there is growing pressure to ensure that rules are in place to help support those efforts. Companies are very aware of this. KPMG is collaborating with several organizations to develop a framework that allows enterprises to be self-governing and aware of the good and the potential risks across the data continuum – from data management and automation to advanced techniques harnessing the power of algorithms.

The government plays an essential role in setting the ground rules on how private firms manage and govern their data assets. Canada, for example, introduced the Digital Charter, which includes the responsible use of artificial intelligence. We are also seeing corporate information managers step up to deal with digital disruption to ensure that new technology models are developed and deployed appropriately.

**JS: How are advances in data-driven technology changing the way companies handle information?**

**SD:** Data-driven technologies are enabling companies to be more agile in adapting to their clients' needs and to be more operationally efficient. This changing competitive landscape requires the provision of more timely, relevant, and customized products and services.

To enable these business capabilities, which are primarily based on digital value creation, organizations must establish data-first design

principles. This includes how they store and manage structured and unstructured data, from internal and external sources and continuous and instantaneous data streams.



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Source  
<sup>1</sup> KPMG (June 2017) Global CEO Outlook Survey



# Protecting your firm

Smart cyber policies needed as attacks increase in frequency and sophistication

**While technology can help detect and prevent cyber crime, it is an organization's human capital that has the opportunity to be its strongest line of defence, or weakest link.**

With the growing frequency of cyber events around the world, organizations need to deploy both technology solutions and non-technical policies that enable staff to be sufficiently prepared to spot, prevent, or react to a cyber attack.

**There has never been a better time for cyber crime**

Cyber crime is a lucrative business with a low barrier to entry and a low risk of getting caught. The low cost of entry into cyber crime and

accessibility of malicious software online has increased the sophistication, and frequency of attacks, as well as the cost to victims.

"Long gone are the days when you need to be technically savvy to attack an organization," explained RBC's Laurie Pezzente, Senior Vice-President and Chief Security Officer at RBC Investor & Treasury Services' recent Investor Forum.<sup>1</sup>

Like the entrepreneurs who got rich during the gold rush not by digging but by selling shovels, Pezzente says that history is repeating itself in the cyber underworld.

Estimated costs of cyber crime to the global economy are expected to grow from over USD 600 billion in 2018 to USD 6 trillion by 2021.

While the average cost of each data breach is approximately USD 4 million, that figure only accounts for the value of the stolen data, and not the damage caused to the organization's reputation, share value, or potential regulatory fines. Resiliency to cyber attacks has therefore become an imperative for all businesses everywhere.

**Not all data is created equal, and should not be protected equally**

The first step towards greater cyber-resiliency is understanding the full scope of the data that might be breached. Pezzente explains that securing everything is not necessarily realistic from a cost perspective, so it is important for organizations to understand which of their assets are most likely to be targeted, and what value they have.

"It's an exercise that first assesses and determines critical data sets, identifies the risks if that data were to be lost or destroyed, followed by a risk appetite or tolerance discussion," she said. "If it was destroyed, what are the financial impacts? What is the potential reputational impact?"

**It is important for organizations to understand which of their assets are most likely to be targeted, and what value they have**

This approach, explains Pezzente, helps organizations determine how much they should invest in protecting each individual asset, and how to react in the event of its theft.

**Defending against cyber crime: people and technology**

Humans are both the strongest defence against cyber attacks, and the weakest link, according to Pezzente. The most common avenue for attack is not a weakness in data protection technology, but human error. At the same time Pezzente points to the Bangladesh Bank theft of 2016 as an example of how humans are the strongest defence against attack. While cyber criminals were successful in transferring USD 81 million out of the bank, a Federal Reserve

## KEY INSIGHTS

- Cyber crime is becoming more frequent, sophisticated, and accessible with the sale of malicious software on the web
- While technology can help prevent an attack, humans have the opportunity to be the strongest defence, or the weakest link
- Organizations should devise a non-technical post-attack playbook to mitigate potential reputational, financial, and regulatory risks

**If attacks are inevitable, responses should be well rehearsed**

As cyber crime becomes more common, more accessible, and more sophisticated Pezzente believes it is not a matter of if, but when. As a result, organizations have no excuse for being caught flat-footed in the event of a breach, even those outside the IT department.

**Identifying the true value of digital assets and protecting them accordingly can enable organizations to make better use of their cyber security budgets, and help them better prepare for managing an attack**

"The real playbook is how you're going to deal with the business damage associated with this incident," she says. The non-technical response playbook, according to Pezzente, should include a plan for communicating the situation to employees, customers, and authorities, and instructions on how to respond to a range of hypothetical scenarios.

"How would you respond if you were given a ransom note from somebody who has stolen your data?" she asks. "Are you going to pay the ransom? It's important that you think these things through long before an incident happens."

**Cyber crime is often considered an IT problem that requires an IT solution, but technology is only one part of the equation**

Identifying the true value of digital assets and protecting them accordingly can enable organizations to make better use of their cyber security budgets, and help them better prepare for managing an attack. Organizations should also strive to encourage strong cyber hygiene across the entire organization by sharing insights on how employees can avoid inadvertently enabling an attack, through early identification, and preventative actions. Pezzente concludes that, "Becoming cyber resilient in the golden age for cyber crime requires a company-wide solution."

employee successfully blocked another USD 850 million by identifying anomalies, including typos, in the transfer instructions.

"As a result of one individual paying attention to what was going on inside the organization and questioning whether or not this was appropriate, they lost USD 81 million instead of USD 1 billion," she said.

Pezzente says that she keeps her colleagues on their toes by sending monthly simulated phishing emails to RBC's 84,000+ employees globally, which are intended to mimic common events and threat scenarios. "We hope that employees don't click, but in the event that they do, they get in-the-moment training on how they could have identified that particular email as a phishing email," she said.

**Humans are both the strongest defence against cyber attacks, and the weakest link**

Not only has the organization gotten better at passing her tests over the years, but also in identifying phishing emails from more malicious sources.

Source

<sup>1</sup> RBC Investor & Treasury Services' Investor Forum (May 8, 2019) Building a Cyber-Resilient Organization

# Data: The new revolution in asset servicing

Jamie Stevenson discusses three areas of focus when activating a data program

**Technology evolution has long been synonymous with financial services, and its most recent digital advancements in areas such as data are now rapidly providing opportunities for previously untapped analysis and insights.**

Data strategy has become a key focus of discussion between asset servicers and their asset management, institutional investor, and pension clients. Custodians are now spending more and more time immersed in the worlds of their clients to investigate and understand what they do with the (often mountains of) information that we provide.

Many clients lack the time and expertise to keep pace with rapidly-advancing technology. Asset servicers, on the other hand, are uniquely positioned to leverage data to help clients oversee their back-office, provide insights into the distribution of their funds, improve their investment and risk portfolios, and support innovation. To reflect these new priorities, custodians are building on their technology expertise and recruiting a wealth of talent from universities in disciplines such as disruptive technologies and big data.

**APIs are optimizing this process by allowing clients to access their data in a more flexible and integrated way**

There are three main areas of focus when activating a practical data program. First the use of Application Programming Interfaces

(APIs): the relationship between asset managers and asset servicers generates large amounts of data which are shared through traditional channels such as SWIFT, file transfers, spreadsheets, online, and fax. APIs are optimizing this process by allowing clients to access their data in a more flexible and integrated way. These simplified data exchanges are reducing complexity and improving the client experience. For example, one of our largest clients now publishes NAV prices directly onto their website, securely pulling data directly from our data lake.

The second area of focus is data as a new service: RBC and other custodians are providing data platforms to support asset managers. Clients leverage their asset servicers' technological tools and talent to accelerate their own strategies. The advent of data lakes and widespread adoption of the cloud are creating a digital eco-system where data can be put in an environment where it is shared and blended securely. This provides clients with a platform to dig into analytics, as well as access to our talent.

**Data programs can help investment teams make better informed investment decisions by identifying trends and exceptions**

The resulting client insights should be leveraged to inform and shape new data services. Currently we are talking to our clients about the potential of using alternative data sources, such as social media or news feeds, to gain insights above and beyond what can be found through traditional market data systems. Further, we as



custodians have significant data assets, many of which are of interest to our clients.

The third area of focus is improving the client experience. It is vital to not just talk about technology, but to demonstrate improvements in service levels, creativity, and use of data to provide new value to clients, all enabled by technology.

For example, there are several practical ways data services can help clients immediately. Data programs can help investment teams make better informed investment decisions by identifying trends and exceptions. Smart use of data can also better support the management of distribution channels, and improve client services, effectively incorporating data and technology to improve the overall digital experience. Data can also help asset managers oversee complex operations and enhance risk management to more effectively comply with regulatory demands.

**New technologies such as artificial intelligence (AI), machine learning, robotics, and data analytics are driving the emergence of radically different business models**

Ultimately, new technologies such as AI, machine learning, robotics, and data analytics are driving the emergence of radically different business models. When I first used Amazon, I was blown away by the customer experience of buying something online, paying for it, and having it delivered to my home or desk. Even when I had to return something, I clicked a button, printed a label, and a courier picked it up. The data that is collected across that customer journey continues to drive innovation at Amazon, and custodians have the same opportunities to use insights to enhance our service levels and develop our products.

I think that the question going forward is the extent to which advances in data and technology can transform business models and innovate products for the benefit of end investors.

Will we see the same level of disruption as we have in retail banking which has ultimately improved the customer experience, making it easier to move money, save, and manage life events?

Jamie Stevenson is Managing Director, Global Head of Product Management, Data & Analytics at RBC Investor & Treasury Services.

Source  
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# Canada's response to digitization

## Canada's new Digital Charter addresses innovation and privacy in today's data-driven economy

Digital technology is transforming society and the economy, changing how people work, shop, and interact with each other as well as how companies do business. Data is a vital resource that helps people and companies increase their productivity and opens the door to new opportunities. Economic, political, and social decisions are also increasingly made or influenced by data, including activity on the Internet and across social media.

The power and persuasion of today's data-driven digital economy has led the Canadian government to establish a Digital Charter with

10 principles aimed at fostering innovation and economic growth, while also recognizing concerns around data privacy and protection.

"We must find a way to protect [personal] data, while still being open to the economic opportunities of a data-driven world. Our competitiveness depends on it," says Navdeep Bains, Canada's Minister of Innovation, Science, and Economic Development.<sup>1</sup>

**More nations adopting digital standards**  
Canada is among a growing number of nations looking to both embrace and protect its citizens in the rapidly advancing digital age. The Organisation for Economic Co-operation Development and partner countries, including Canada, recently developed a set of intergovernmental policy guidelines on

### KEY INSIGHTS

- Canada's new Digital Charter aims to empower data-driven innovation while also ensuring privacy protection
- The Digital Charter encourages equal access to the digital economy, providing employees with the necessary tools to connect and improve their skills to keep pace with change
- Canada's competitiveness depends on how it uses and manages data

artificial intelligence (AI), vowing to "uphold international standards that aim to ensure AI systems are designed to be robust, safe, fair, and trustworthy."<sup>2</sup> Other principles and guidelines are being made around the world to try to promote the responsible use of data.

The Canadian government says its goal with the Digital Charter is to ensure the ethical use of data to promote openness and transparency to improve lives. Governments are also working to prevent, as much as possible, the unethical or illegal use of data that can lead to fraud or even extremist activities. For instance, Canada recently signed the Christchurch Call to Action, a global pledge to work towards eliminating terrorist and extremist content online.<sup>3</sup>

Cracking down on these activities not only helps to save lives, but promotes economic stability and freedom. The Digital Charter aims to use data for good, which organizations across the country agree is important in today's competitive marketplace.

"With the Digital Charter, Canada is making progress in both embracing and reinforcing the value of data to spur innovation and economic growth while protecting citizens, and organizations from data misuse," says Jamie Stevenson, Managing Director, Global Head of Product Management, Data & Analytics at

RBC Investor & Treasury Services. "These are fundamental principles that should form the basis of any data strategy."

### Data use: preparing and protecting Canadians

The Digital Charter was unveiled in the spring of 2019 based on findings from the National Digital and Data Consultations, which sought to better understand "how Canada can drive digital innovation, prepare Canadians for the future of work, and ensure they have trust and confidence in how their data is used."<sup>4</sup>

### Canadians are concerned about how their personal data could be used, and want measures in place to protect their privacy and security

The government describes data as a "powerful tool," alongside technologies such as robotics, AI, and machine learning that can help unlock and drive ground breaking research and innovation. However, the consultations also revealed that many Canadians are concerned about how their personal data could be used, and want measures in place to protect their privacy and security.

"The way forward on data collection, management, and use must be built on a strong foundation of trust and transparency between citizens, companies, and government," the government states.<sup>5</sup>

The consultations included input from digital leaders, cross-country roundtables, and everyday Canadians who shared their vision for a competitive, inclusive, digital, and data-driven Canada in three areas: skills and talent; unleashing innovation; and privacy and trust.<sup>6</sup>

"Canadians understand the potential of data. They also told us that we must find ways to use data responsibly," says Bains. "The good news is that, under Canada's new digital and data principles, these are complementary, not competing priorities. Canada's digital and data principles lay down the foundation that will allow us to build an innovative, people-centred, and inclusive digital and data economy built on trust."<sup>7</sup>

### 1. Data to drive skills and talent

It has been called Canada's "quiet crisis." According to an RBC report, half of all jobs will be disrupted by technology and automation in the next decade, some slowly, some drastically.<sup>8</sup>

The Canadian government cited this report in its outline of the Digital Charter, describing how new technologies such as data analytics, AI, and machine learning will impact the future of work. "It will be important that Canadians are adaptable and nimble," the government states, adding that it will require a combination of technical skills as well as "soft skills" such as critical thinking, leadership, and resilience.<sup>9</sup>

By promoting "universal access" and other principles, the Digital Charter aims to ensure the digital economy helps to prepare youth for the workplace of the future and supports all employees in learning new skills for career changes. The recommendation is for companies to embrace digital technology adoption, to ensure data is accurate and that benefits of a digital and data-driven society are available to all.

### 2. Data to drive innovation

Data drives innovation, fuels productivity, and helps Canada become more globally competitive. It is not only the acceleration of technology that matters, but how quickly companies integrate it into their operations. For example, the government cites McKinsey Global Institute forecasts that suggest AI could potentially deliver additional economic output of around USD 13 trillion by 2030, boosting global GDP by about 1.2 percent a year.<sup>10</sup>

The Digital Charter, through principles such as "a level playing field" aims to help Canada build a culture of innovation. "Canada must be a leader, embrace change, and make big bets in areas of strength. Those who quickly adapt are best placed to benefit from the new digital marketplace," the government states.<sup>11</sup>

### 3. Data privacy and trust

Protecting data privacy and promoting trust are a key part of the Digital Charter amid growing concerns among Canadians about how their personal information is being used. While the Personal Information Protection and Electronic Documents Act (PIPEDA) and other frameworks provide some protection, "there remains important questions about how to ensure these frameworks are transparent, and have the

appropriate approach to maintain Canadian's privacy and trust in an increasingly data-driven world," the government states.<sup>12</sup>

The Digital Charter aims to address core values, including a right to privacy, through principles such as "safety and security" and "data and digital for good." It also calls on companies to ensure they have the right protections in place to prevent online security breaches, data misuse and manipulation, and malware.

### The digital way forward

"Trust and privacy are key to ensuring a strong, competitive economy, and building a more inclusive, prosperous Canada," says Bains. "As our world continues to evolve and becomes increasingly more digitized, we must remain proactive, fostering a flexible environment where Canadians can seize the benefits available through the digital economy while maintaining a protective framework that supports our fundamental Canadian values."<sup>13</sup>

The Digital Charter is Canada's next step in addressing the digital and data transformation in society and business. The government is working to balance the economic drivers of a data-driven economy with due consideration for concerns associated with privacy and trust.

While there is no simple solution, the government is providing guidance on how business and society should embrace and manage the opportunities and challenges that come with the rapidly advancing digital age.

"We are committed to principles to guide how data, trust, and privacy fit into our plan to grow our economy through innovation and build sustainable growth by leveraging digital and data transformation, as a nation, we can't afford not to get this right," Bains says.<sup>14</sup>

### Sources

- 1 Government of Canada: Canada's Digital Charter: Trust in a digital world
- 2 OECD: Forty-two countries adopt new OECD Principles on Artificial Intelligence
- 3 Government of Canada: Canada's Digital Charter in Action: A Plan by Canadians, for Canadians
- 4 Ibid.
- 5 Ibid.
- 6 Ibid.
- 7 Government of Canada: Canada's Digital Charter: Trust in a digital world
- 8 RBC Humans Wanted: How Canadian youth can thrive in the age of disruption
- 9 Government of Canada: Canada's Digital Charter in Action: A Plan by Canadians, for Canadians
- 10 Ibid.
- 11 Ibid.
- 12 Ibid.
- 13 Ibid.
- 14 Ibid.



## Regtech: Who's onboard?

Regtech firms look to help shoulder compliance demands

**As regulators globally continue to demand that firms strengthen their risk management systems, regtech entrepreneurs see technology as the answer to rising compliance costs and an opportunity to boost trust with clients. Regulated entities support the ambitions, but the slow pace of adoption is a concern.**

**The global wave of regulation is expected to continue**

Where fintech is the intersection between finance and technology, regtech focuses on technologies that facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities.<sup>1</sup> Increasing levels of regulation and the rise of data-driven technologies have fostered the emergence of

specialist regtech firms developing compliance solutions that promise to reduce the cost, time, and resources devoted to address regulatory pain points.

Financial services firms and other regulated entities have had to deal with a wave of regulatory obligations in recent years, with those operating in the European Union contending with the introduction of the second Markets in Financial Instruments Directive (MiFID II), the Payment Services Directive (PSD2), and the General Data Protection Regulation (GDPR) in 2018 alone. The weight and pace of regulation is not expected to ease significantly as the roll out of new open banking and data protection regimes in multiple jurisdictions is expected to result in regulators introducing more robust systems to manage misconduct risk.<sup>2</sup>

**Australian regtechs seek to bridge the trust deficit in the post-Royal Commission landscape**

The findings of Australia's Royal Commission inquiry into banking, superannuation, and financial services industry misconduct shone a spotlight on the importance of trust in client relationships and how it can be eroded through porous risk management and outdated technology. The Royal Commission's final report signaled a broader remit for the Australian Prudential Regulation Authority, the financial sector watchdog, to monitor misconduct, culture, and other non-financial risks. Technology is inevitably going to play an important role in how industry responds to the new landscape, according to panelists at a recent Financial Services Council's Technology Series Workshop in Sydney, which focused on regtech.

"In order to deliver what the community really expects, it's about trust. That means trust and integrity through all of the processes we have, and that will undoubtedly require automation," said panelist Lisa Schutz, a director of Australia's RegTech Association and CEO of Verifier, an Australian-based consumer driven data sharing platform.

### KEY INSIGHTS

- As regulators demand enhanced systems to manage risk, regtechs see technology as a way of rebuilding trust in client relationships
- Financial services firms are receptive to regtechs but long procurement lead-times are seen as impeding development of the sector
- The liberation of customer data with the advent of open banking may offer a boost for regtechs through increased collaboration

**Where fintech is the intersection between finance and technology, regtech focuses on technologies that facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities**

Australia's regtech sector has grown rapidly over the last two years as the adoption of artificial intelligence continues to gather pace in financial services. While automation and advanced analytics have been deployed in capital allocation, credit assessment, trading, and other areas, financial institutions are also eager to employ machine learning to improve regulatory compliance and monitor cultural risk concerns among employees.

**Regtechs are battling procurement barriers**

The demand has sparked a proliferation of boutique start-ups offering solutions to specific compliance needs, as opposed to the traditional full-service solutions offered by incumbent global providers. However, the regtech sector's growth is still tempered by typically long procurement lead-times that many banks and large financial institutions require for technology-based solutions. From

the banks' side, there is also some skepticism as to whether the regtechs have the sophistication to work inside their systems.

"If I'm a bank, the question might be, 'How can I do my procurement a little differently for a start-up, a scale-up, or a small business that is not going to be able to afford that two-year procurement timeframe?' Because, at least 12 months of it is with lawyers and advisors to get through the procurement process," said panelist Deborah Young, The RegTech Association CEO. "It's about the acceleration of adoption. That's really where the rubber hits the road."

There have nonetheless been a number of tie-ups, with 'Big Four' banks Westpac and ANZ working with Sydney-based regtech Red Marker.<sup>3</sup> American Express has also adopted the cloud-based technology platform of Australian regtech Simple KYC. Panelist Justin Burman, Director of Full Product Services (APAC) at RBC Investor & Treasury Services (RBC I&TS) said the barriers to entry for procuring regtechs were gradually coming down. "We're engaging with those fintechs to create the micro-solutions that are being talked about where they really push us forward in terms of our capability," he said. "I see the procurement timeframe coming down. While there is still a long way to go, certainly the leaders in our industry are embracing the technologies which are available."

**While the financial services industry is embracing the power of data and data-driven technology, the advent of open banking is expected to act as a further impetus for the regtech sector**

**Open banking is expected to accelerate collaboration between banks and tech firms**

Procurement challenges may also be eased with the involvement of established, larger tech and professional services firms that can act as a Trojan horse for smaller regtechs to access big clients. Microsoft recently joined the Regtech Association as it looks to boost its compliance offerings and become a bridge between banks and start-ups. "If a regtech firm can go into a bank having ticked four of the procurement boxes because they're already on Microsoft's

technology, then that actually helps to immediately build trust with that organization," said Regtech CEO Young.

While the financial services industry is embracing the power of data and data-driven technology, the advent of open banking is expected to act as a further impetus for the regtech sector. As the first part of a phased-in introduction of open banking, Australia's major banks will have to make all consumer data related to credit card, deposit, and transaction accounts available from July 1, 2019, allowing clients to make easier comparisons, and shop around for service offerings better aligned to their needs.

The liberation of customer data is expected to create demand for regtech solutions and may drive more collaboration between financial institutions and the more nimble regtech firms. Schutz noted that, "Open data is a consumer right not an obligation, and the consent process is going to require automation support, which will create demand for regtech solutions for consent engines and audit processes."

RBC I&TS' Burman concluded that, "Banks and global asset managers need to adopt a universal approach to regulation. Collaborating to determine the best practice approach to respond to regulatory requirements will result in solutions that are more cost efficient to the end user. The challenge is to make use of the tools, services, and technologies at our disposal to make the provision of insightful, meaningful data more efficient, and more accessible."

#### Sources

- <sup>1</sup> Thomson Reuters (2017) Fintech, Regtech and the Role of Compliance
- <sup>2</sup> Deloitte (2018) Financial Markets Regulatory Outlook 2019
- <sup>3</sup> Australian Financial Review (March 2, 2017) Kaplan buys Red Marker

# How regulators are rethinking the supervision of emerging tech

Regulators adopt new strategies and digital tools to align with industry trends



## KEY INSIGHTS

- Supervisors are aiming to better understand how emerging technologies may impact business models by improving their knowledge of data processes
- New digital tools are being introduced to augment regulatory activities
- Regulatory sandboxes, accelerator programs, and innovation hubs have become commonplace and regulators are now seeking to take lessons from these gated experiments into the broader industry

**Emerging technologies are driving rapid innovation in asset management and transforming business models. As asset managers increasingly rely on digital tools to streamline operations and realize new efficiencies, regulators are looking for ways to maintain appropriate oversight of this rapidly evolving industry.**

Global management consulting firm Oliver Wyman believes regulators must act quickly to stay on top of the growing complexity of financial ecosystems. Their report titled, 'Supervising Tomorrow', based on a survey of leading regulators around the globe, found that all major markets are expecting to undergo significant change in the supervisory model over the next decade.<sup>1</sup> Some regulators are already taking measures to define what this new era of supervision may look like.

The Monetary Authority of Singapore (MAS), for example, recently announced the creation of a dedicated technology group to improve data analytics capacity and to strengthen supervision of continually evolving technology risks.<sup>2</sup> The move reflects the need for regulators to move both technology and data to the centre of their supervisory strategies as they

seek to address the impact of ongoing change and disruption in the financial sector. More regulators are expected to follow suit and increase digital capabilities as the industry continues to innovate.

"The Monetary Authority of Singapore has taken great strides to redefine how supervisors should be thinking about emerging technologies and the new business models they are enabling," says Hong Paterson, Singapore Country Head and Managing Director at RBC Investor & Treasury Services (RBC I&TS). "By merging cyber, data analytics, and regulatory roles into one division they have laid the groundwork for a new approach to supervision."

Martin Andersson, partner at Oliver Wyman, commented that, "The transformation will be challenging. The way supervisory agencies are organized, the kind of work they do, and the kind of people they employ will need to change. The result will be agencies better plugged into the activity they supervise and better able to fulfill their economically vital mission."<sup>3</sup>

**Supervisory change must start from within**  
Regulators are expected to undergo profound change in their internal organizational structures over the next decade. According to the Supervising Tomorrow report, 90 percent of financial authorities believe more technology

specialists will need to be recruited, while 80 percent anticipate demand for analytical skills to grow.<sup>4</sup> An agile and flexible working environment could help attract and retain technical experts in the public sector, but broader cultural shifts may be necessary to prepare supervisory bodies for the changes ahead and the workplace of tomorrow.

**More regulators are expected to increase digital capabilities as the industry continues to innovate**

Supervisors are working more closely with market participants through regulatory sandboxes, accelerator programs, and innovation hubs. The Oliver Wyman report found that 75 percent of respondents expect to collaborate with financial institutions to test regulations.

Supervisors are required to remain neutral toward industry participants and both regulatory and institutional governance models may need to be revised to compel an unbiased level of collaboration, which may require the introduction of clear partnership rules.

**New business models are prompting a reassessment of operational risk**  
Another challenge that supervisors face is the rapidly growing scope and complexity of

the technological infrastructure underpinning the asset management industry. Disruptive developments in recent years such as robo-advisers, cryptocurrencies, and peer-to-peer lending are redefining business models. Regulatory authorities must learn and adapt in lock-step in order to help mitigate and manage potential industry risks.

**Broader cultural shifts may be necessary to prepare supervisory bodies for the changes ahead and the workplace of tomorrow**

In response to these emerging technologies and industry changes, authorities are reassessing their traditional risk-based approach to supervision. The Supervising Tomorrow report found that 70 percent of regulatory agencies believe that utilizing data to inform supervisory priorities will be the most significant change to the traditional risk-based supervisory model over the next decade.<sup>5</sup> Greater expertise in data processes could allow regulators to anticipate how new business models will be enabled by emerging technologies and may allow them to become more effective in their duties.

Andrea Horton, Managing Director, Governance & Regulatory Solutions at RBC I&TS notes that, "Just as asset management firms must remain

agile to new digital advances, regulators must also stay on the pulse of innovation."

**Supervisors seek to use data tools to augment their intelligence**

Advanced algorithms have deeply impacted the asset management industry and increased the volume and velocity of transactions. Now, regulators are following suit and adopting automated technologies to detect anomalies and unusual patterns in data. By using technology to analyze data streams from funds and other financial institutions, regulators are aiming to establish a real-time view of the behaviour of each sector of the economy.

MAS' new technology group has already begun pioneering new technologies to detect market manipulation. The authority's 'Project Apollo' is a digital tool that complements human decision-making with augmented intelligence. The tool models rogue behaviour using traits identified by experts, and provides analysis and predictions during early stages of investigations.<sup>6</sup> Other regulators are now seeking to employ similar supervisory technologies to improve efficiencies.

In its latest 'Trends, Risks and Vulnerabilities' report, the European Securities and Markets Authority claims market participants are increasingly using new automated tools in areas

such as fraud detection, regulatory reporting, and risk management. Meanwhile potential applications of new tools for regulators include greater surveillance capacity and improved data collection and management.<sup>7</sup>

**Just as asset management firms must remain agile to new digital advances, regulators must also stay on the pulse of innovation**

As the use of technology increases across the asset management industry, so does the complexity and volume of data that is generated. It has never been more important for supervisors to adapt to the sector's evolving landscape leveraging similar digital tools and resources.

### Sources

- <sup>1</sup> Oliver Wyman (February 2019) Supervising Tomorrow
- <sup>2</sup> Monetary Authority of Singapore (March 6, 2019) MAS Makes Senior Management Changes and Sets Up Technology Group
- <sup>3</sup> Ibid. (February, 2019)
- <sup>4</sup> Ibid.
- <sup>5</sup> Ibid.
- <sup>6</sup> Monetary Authority of Singapore (March 20, 2019) Enforcement Report
- <sup>7</sup> ESMA (February 28, 2019) ESMA report on Trends, Risks and Vulnerabilities No. 1, 2019

# FSB report on financial stability, governance implications of ‘decentralized financial technologies’

## REGULATORY INTELLIGENCE

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THOMSON REUTERS



The Financial Stability Board (FSB) has published a report on the financial stability, regulatory and governance implications of decentralized forms of financial technology (fintech). The report is the latest in a series of updates focused on the impact of technology and builds on the February 2019 report entitled “Fintech and Market Structure in Financial Services”.

The report considers several forms of decentralization in financial services and identifies technology which is decentralizing — or may in the future decentralize — financial activities. It makes a preliminary assessment of which financial services are beginning to, and may in the future, incorporate such forms of technology.

### Key issues

The FSB defines fintech as technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services.

One aspect of fintech is the emergence of decentralized forms of financial technology which are defined as those applications of technology that may reduce or eliminate the need for one or more intermediaries or centralised processes in the provision of financial services.

There are a number of different types of decentralization in financial services. These vary in the degree to which they affect different segments of financial services, but generally take three broad forms:

- **Decentralization of decision-making.** This involves a move away from a single trusted financial intermediary or infrastructure toward systems in which a broad set of users is able to make decisions about whether and how to undertake financial transactions.
- **Decentralization of risk-taking.** This involves the shift away from the retention of risk (e.g., credit and liquidity risk) on the balance sheets of individual traditional financial intermediaries toward more direct matching of individual users and providers of financial services.

- **Decentralization of recordkeeping.** This involves a move away from centrally-held data and records, toward systems in which the ability to store and access data is extended across broader consortia of users. Verification of such data and records may also be more distributed, for example, via consensus mechanisms.

The FSB has provided a number of case studies which focus on the use of distributed ledger technology (DLT) and the peer-to-peer (P2P) marketplace to illustrate the potential benefits and risks associated with decentralized forms of financial technology.

The FSB considers that the application of decentralized forms of financial technology may reduce some of the financial stability risks associated with traditional financial institutions and intermediaries. For example, the growth and/or dispersion of financial service providers could increase diversity in the financial system and reduce the concentration of service providers. Some decentralized forms of technology could reduce the reliance on existing intermediaries to channel short-term funding into lending, thereby reducing solvency and liquidity risks arising across their balance sheets.

The degree to which these financial stability benefits are realized is, however, likely to depend on how, in practice, decentralized types of technology affect the structure of financial services and the financial system more generally. The potential implications for financial stability may depend on not only the degree of decentralization to which such technology gives rise but also the prevalence of their application in the financial services industry.

On the other side of the equation, decentralized forms of financial technology may be seen to raise the following risks to financial stability:

- New forms of concentration risks may arise in what might appear to be decentralized systems. In addition to using similar technology, many activities in larger DLT systems (e.g., ownership of the assets, control over source code, operation of the infrastructure, crypto-assets mining and code development) remain concentrated in a relatively small set of persons (e.g., software developers) or entities.

- Greater procyclicality could emerge, particularly in the supply of credit. For example, P2P matching platforms may exhibit larger and sharper swings in their provision of credit than existing financial institutions. This may apply particularly where lending decisions are automated and/or rely on novel data or models whose performance remains untested in a downturn.
- Diffused or unclear responsibility and accountability may arise where the allocation of liability in a more decentralized financial system may be unclear. Such legal risk may be particularly problematic in systems that are permissionless or where participants remain anonymous, and in connection with liabilities arising from smart contracts.
- Recovery and resolution challenges may arise, particularly where current approaches to the recovery and resolution of financial institutions are reliant on centralized recordkeeping and claims on market participants whose identity and location are known.
- Other operational and legal risks may also arise, particularly in permissionless systems that involve large networks of anonymous users. Technology such as DLT that rely on algorithms (e.g., proof-of-work) to achieve consensus might be vulnerable to adversarial dynamics in which certain actors seek to “verify” fraudulent transactions. This might also frustrate the process of agreeing settlement finality in the case of decentralized payment and settlement systems.

If the cumulative effects of, and interaction between, these risks were to cause market participants to lose confidence in financial markets, this may also increase risks to financial stability. They may allow the build-up of risks in parts of the system that cannot easily be monitored. There may also be a risk of regulatory arbitrage if financial services that are provided in a decentralized manner may not be (or may only partially be) subject to regulation, particularly where this differs between jurisdictions.



Decentralized financial services might also be less responsive to certain official sector interventions that have previously been used to remedy threats to financial stability. For example, liquidity facilities offered by central banks, including those offered as part of their role as lender-of-last-resort, have traditionally been granted to regulated financial institutions operating through traditional centralized structures, rather than decentralized forms of technology. Greater use of decentralized forms of financial technology might reduce the efficacy of these or other services provided by central banks. It might also prompt their redesign to make them interoperable with decentralized forms of financial technology.

**Compliance tips and next steps**

The impact of technology is a significant business and compliance challenge for financial services firms and policy makers alike. In the report on decentralized kinds of financial technology the FSB has highlighted something of a shopping list of potential challenges, issues and concerns, many of which go to the heart of the current system of financial services regulation.

“Significant use of decentralized financial technologies may have implications for the effectiveness and enforceability of current regulatory frameworks, particularly where

the execution of supervisory and oversight mandates focuses on the presence of centralized decision-making entities (e.g., financial intermediaries). A more decentralized financial system may reinforce the importance of an activity-based approach to regulation, particularly where it delivers financial services that are difficult to link to specific entities and/or jurisdictions,” the FSB said.

Just as regulators such as the Bank of England are highlighting the need to “Manage the machines: the governance of artificial intelligence”, with a focus on the need for boards and senior managers to take responsibility and ensure the proper use of the data from artificial intelligence and machine learning, backed up by appropriate skill sets, so the FSB is potentially changing the playing field.

Financial services regulators will need to assess the impact that decentralized forms of financial technology could have on the approach to public policy. In particular they could:

- **Be used to avoid regulation or engage in misconduct:** decentralized forms of financial technology have the potential to anonymise users and to enable them to offer financial services that, while coming under the purview of regulatory authorities, may lessen the effectiveness of current financial

regulation and facilitate misconduct. This is even more pertinent when set against the background of the roll-out of individual accountability regimes.

- **Raise enforcement concerns:** regulatory enforcement following misconduct or data breaches may be more difficult with decentralized decision-making or record-keeping across multiple players.
- **Increase jurisdictional uncertainty:** the use of decentralized financial technology could increase the degree to which financial services are provided across borders. Such technology may also increase the ease and speed with which providers of financial services are able to change their locations, including in response to actions of authorities. The FSB cites the example of some cryptoasset trading platforms moving their headquarters between jurisdictions in response to regulatory actions.

Decentralized forms of financial technology may also mean that financial activities can be executed without a clear geographic location. For example, decentralized autonomous organisations may in the future use autonomous systems to control access to assets and resources, without relying on individuals located in a given jurisdiction. As

the FSB put it, “this may challenge authorities’ enforcement of relevant jurisdictions’ laws and regulations”.

As a result of the FSB’s considerations there are a number of areas for further assessment including:

- **Financial regulation and regulatory approaches:** for example, by considering the appropriateness, applicability and effectiveness of current financial regulations for financial businesses and activities based on decentralized forms of financial technology, and exploring ways to address potential regulatory gaps and financial stability concerns. Some jurisdictions may consider new ways of administering or enforcing regulation. This might include embedding restrictions in computer code, the implications of which have yet to be explored under legal theory.
- **Financial supervision:** for example, by assessing how decentralized forms of financial technology could lead to gaps or overlaps in supervisory systems, and updating or modifying data reporting processes accordingly (such as with respect to supervising activities on distributed ledgers). New data could also provide supervisors with greater and timelier insights

into potential systemic risks, through the real-time tracking of asset ownership and shifting of associated risks. That said, acquiring and analysing such data may prove to be resource-intensive for both market participants and regulators.

- **The proportional and consistent application of regulation of decentralized forms of financial technology:** for example, by continuing to regulate decentralized forms of financial technology in a manner proportionate to the risks they pose. In places, the application of decentralized forms of financial technology may present challenges to the technology-neutral approach to regulation taken by some authorities.

The FSB has concluded that decentralized types of financial technology are likely to continue to evolve rapidly. Early liaison between regulators and a wider group of stakeholders might help ensure that regulatory and other public policy objectives are considered in the initial design of technical protocols and applications which “should help limit the emergence of unforeseen complications at a later stage”.



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# Global regulators warn banks to prepare for “zombie” benchmarks — IOSCO summit

## REGULATORY INTELLIGENCE

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Senior regulators have issued a warning to market participants who are complacent about the two-year deadline for ending their reliance on the tainted Libor benchmark. Banks are taking huge risks by delaying their transition work, an industry panel at the International Organization of Securities Commissions (IOSCO) conference in Sydney heard.

Christopher Giancarlo, chairman of the U.S. Commodity Futures Trading Commission (CFTC), said Libor was likely to be “unrepresentative” by the end of 2021.

“In other words, it will be in a ‘zombie state’ to the extent that the benchmark administrator is not willing to continue publishing a Libor rate,” he told a forum hosted by the Reserve Bank of Australia (RBA).

“From a financial stability and market integrity perspective, our expectation is that transactions that account for a substantial proportion of risk in global financial markets will have transitioned away from Libor to SOFR.”

The remainder of 2019 will be a critical year in the transition roadmap, Giancarlo said. If market participants fall behind during their transition work then it will be hard to complete that work before the end of 2021.

The CFTC is urging market participants to ensure they have fallback provisions in their contracts well before the 2021 compliance deadline.

“2020 should be when firms seriously transition away from Libor — both by moving their current exposures out of Libor and ensuring that all new transactions reference SOFR,” he said.

Guy Debelle, deputy governor at the Reserve Bank of Australia, said market participants who waited too long risked putting themselves in difficult negotiating positions. Waiting until the end of 2021 could prove disastrous, he said.

“On that day it’s going to be clear that one of the parties is going to be worse off and one of the parties is going to be better off. You’re not going to agree,” the RBA official said.

“That’s why it’s sensible to work out what these fallbacks are now. From a wholesale market perspective, I don’t think that’s too challenging an exercise.”

Firms should aim to amend their existing documents to be able to switch from Libor to SOFR, SONIA and other relevant reference rates, the panel heard.

### Stuck in denial

Andrew Bailey, chief executive of the Financial Conduct Authority (FCA), said the market had changed significantly since the introduction of Libor. The misconduct surrounding the setting of the key international benchmark had brought this to a head. Any organizations that thought they could rely on the continuance of Libor beyond 2021 were deluding themselves, he said.

“The origin of Libor was in dealing with the separation between global and domestic markets. That separation no longer exists, which makes Libor increasingly a legacy benchmark,” he said.

“Libor is now based on very thin markets. In some cases, there aren’t markets there and the consequence of that is that it places too much emphasis on so-called expert judgement.”

From 2022 onwards, the UK regulator will no longer use its powers of compulsion to maintain the Libor benchmark. At that stage, the contributors have made it clear they will stop providing submissions.

### Alternatives rising

Over the past year a number of alternative risk-free benchmarks have launched. In the US-dollar market the dominant benchmark is SOFR; in the UK it is SONIA. More than half of interest

rate derivatives in sterling are now quoted in SONIA. Last week, 77% of interest rate trading was in SONIA, Bailey said.

“About \$150 billion of Sonia derivatives are being traded each week. That is good start but we have a long way to go.”

The new benchmarks will need to address two key elements: the term structures and what Bailey calls “the proxy for the credit risk or funding risk element.” The FCA would focus on addressing those two challenges for the remainder of this year, he said.

“We do not think there is a solution which involves muddling along with Libor,” Bailey said.

“The timetable is deliberately aggressive, so there’s a lot still to be done. We recognize that, we’re very realistic about it and we’re very keen to work with the market to solve these issues.”

### ARC of reform

The IOSCO forum heard the move away from Libor has been more successful in the derivative markets than the cash markets. In the United States, the transition efforts are being pushed by the Alternative Rates Committee (ARC). North American regulators were keen to ensure other jurisdictions are part of this process, Giancarlo said.

“It comes down to a trade-off between financial stability and market functioning. If we continue tolerating a less than robust reference rate in order to avoid the short-term pain avoided associated with transition then we will eventually have to deal with the risks to the financial system from hundreds of trillions of dollars referencing this rate that trades in the handful and a hundred billion dollars a day.”

Concerns over market liquidity were akin to a “chicken and egg” scenario, he said.

“Liquidity begets liquidity. If you want a term rate tomorrow then you have to transact in the SOFR derivatives market today,” Giancarlo said.

The take-up of SOFR futures had been one of the most successful products ever at the Chicago Mercantile Exchange, Giancarlo said. The Intercontinental Exchange (ICE), meanwhile, has issued SOFR futures as well.

Even so, the market is still in the early stages. “For new issuances, new hedges, new loans, new transactions they should reference new rates. The sooner we stop making issuances linked to Libor, the sooner we can reduce the pain of having to deal with a bigger mess at the end of 2021.”

### “Wait and see” approach

Cathie Armour, commissioner at the Australian Securities and Investments Commission (ASIC), said the robustness of BBSW may be making the local market complacent. Many market participants were taking a “wait-and-see” approach, she said.

“I’m a little bit worried that we might be complacent because we’ve got BBSW. We worked so hard on the methodology for BBSW over the last couple of years that we’re maybe losing sight.”

“I’m really concerned about whether people are ready to negotiate contracts with appropriate fallbacks to Libor. We know that redocumenting is always a big issue and takes a lot of time and energy. I just worry that we underestimate that.”

Those who delay may risk “losing control of the situation,” Armour said.

“Inevitably, as you get closer to the period of time where Libor goes out of use, the dynamics of the market change. At that point you don’t want to absolutely have to re-open negotiations more broadly on commercial aspects of the contracts,” she said.

Bailey described the degree of preparedness in the UK as “variable.”

“Some people are being quite complacent about this. I think there is a view in some quarters, though not very many, that somehow Libor will just continue. That view is declining. But we do still come across that.”

### All benchmarks may pass

The demise of the Libor benchmark should put an end to any complacency that still exists in the marketplace, Debelle said.

“What Libor shows is that potentially these benchmarks can disappear. By and large the fallbacks didn’t envisage this happening. Now it’s clear this actually can happen. The fallback

mostly for Libor was ‘ring one of the submitting banks and ask them what the rate is.’ Well they’ve already just told you they’re not going to tell you the answer that to that question, so that fallback is not robust.”

Regulators would need to have the ability to intervene in a doomsday scenario, Armour said.

“We do have a sort of ‘end of the world scenario’. But I think everyone, including the regulators, would rather there was a robust fallback framework in place,” she said.

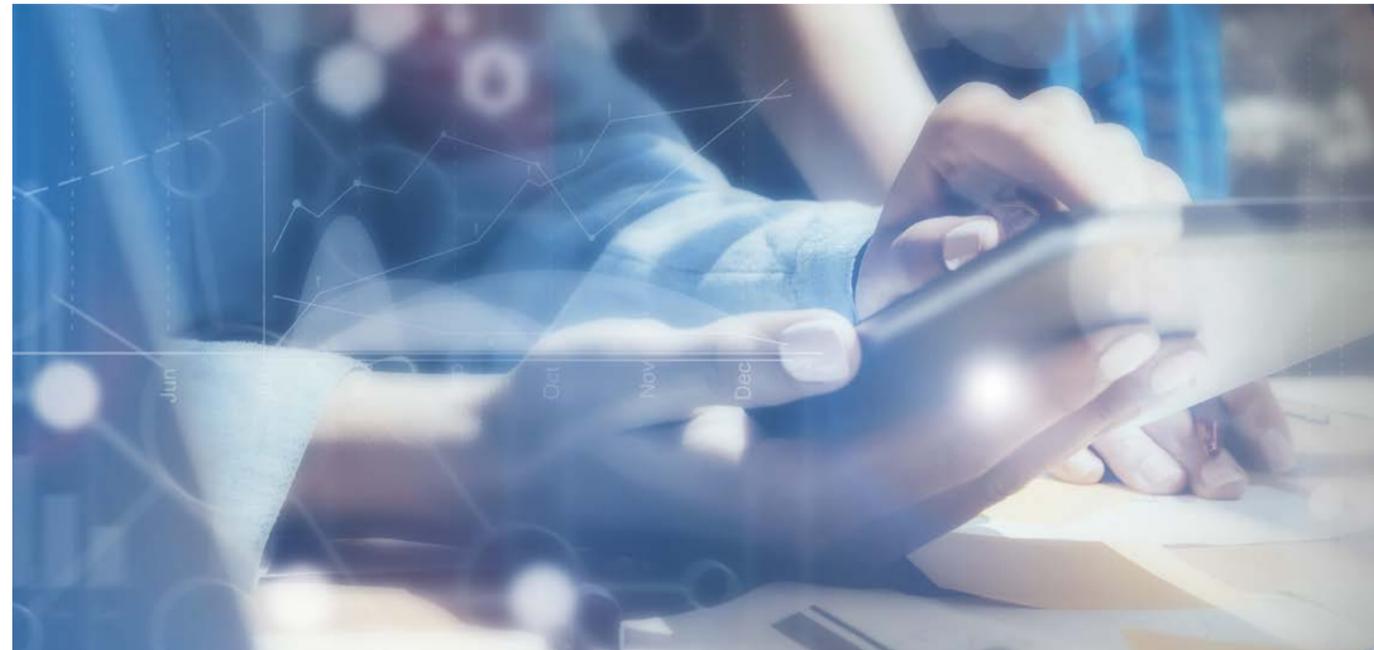
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## Finding value in MiFID II's unbundling directive

Scrutiny may do little to impede global adoption

**Concerns about the impact of unbundled research and brokerage charges under the second Markets in Financial Instruments Directive (MiFID II) have prompted reviews by European regulators, yet are unlikely to halt the regime's global adoption.**

Proponents for change are many. Global asset managers must juggle conflicting payment rules outside of Europe, and cost-conscious pension funds are putting pressure on regulators in the United States (US) to put an end to the opaque pricing of bundled research.

**MiFID II's market shake-up has squeezed small brokers**

The unbundling reform was intended to increase transparency in capital markets and

boost investor protection yet the new regime has come as a reality check for the research industry. Buy-side clients have become more reluctant to pay for coverage that was once provided free with brokerage, causing the price of research to plummet. While investors have welcomed the availability of less expensive research the price plunge has squeezed margins, placing small brokers under pressure and raising concerns of a decline in coverage for small and medium-sized firms.

**Asset managers are absorbing the costs of research**

Some 18 months on from the unbundling requirement, Europe's investment banks are concerned that unbundling is adding more strain on a sector that is already struggling to absorb declining management fees and brokerage due to the rapid rise in passive investing. With asset managers under pressure

to reduce fees, most have chosen to absorb the costs of research rather than pass them on to clients.<sup>1</sup> The consequence has been a reduction in research budgets as fund managers look to ease pressure on margins. Euro IRP, the trade body for independent research providers, has estimated that asset managers' research spending has reduced by an average of 30 percent since MiFID II came into effect in January 2018.<sup>2</sup> The contraction of the market has seen brokers cut research on small and medium-cap firms. The average number of analysts covering each stock in Germany's main small-cap index fell to 8.5 in December 2018, from over 9 a year earlier, with a significant reduction also reported in the United Kingdom's (UK) FTSE small-cap index.<sup>3</sup>

**While investors have welcomed the availability of less expensive research the price plunge has squeezed margins**

Shrinking coverage has raised fears that small-caps may lose profile among institutional investors, suffer lower liquidity, and face difficulties tapping the markets for credit. "The wider consequences are by now abundantly clear to everybody. Less coverage of smaller caps, fewer brokers focused on anything other than the very large listed companies, and

consequently weaker interest from institutional investors in the companies that represent the backbone of the European economy," said Andrea Vismara, CEO of Italian investment bank Equita.<sup>4</sup>

The effects of unbundling have also fanned concerns about the quality of research. A study by Italian regulators into the effects of MiFID II found more providers were funnelling resources into computer-based and algorithmic-driven research, rather than traditional research based on fundamental analysis.<sup>5</sup> "I believe we should try to strike a better balance between the importance of a transparent pricing system that prevents conflicts of interest, and good investment processes that are fuelled by deep investment coverage," said Carmine di Noia, a commissioner at Consob, the Italian regulator.<sup>6</sup>

**Multiple European Union (EU) regulators are reviewing unbundling's impact**

Other EU regulators have raised concerns. Robert Ophele, Chairman of the French markets watchdog Autorité des Marchés Financiers, called for a review of unbundling in part due to its "very detrimental" effects on coverage, particularly for mid-cap companies.<sup>7</sup> Germany is also reviewing MiFID II's impact a year after its implementation, having launched a consultation period with industry participants that ended in March 2019. The UK's Financial Conduct Authority (FCA), which launched a review in 2018, gave unbundling a mixed assessment in February 2019, saying it had cut costs for investors but also given rise to competition concerns.<sup>8</sup> The FCA's CEO, Andrew Bailey, reported that research fees incurred by investors in equity portfolios managed in the UK were about GBP 180 million lower in 2018 than the previous year.

**The effects of unbundling have fanned concerns about the quality of research**

Investors could stand to save approximately GBP 1 billion over the next five years, according to the FCA, which also noted that small research providers were being unfairly impacted by below-cost research offered by larger sell-side firms with more market power. "This is something we are keen to scrutinize and test, especially low-cost 'all you can eat' packages, or one-off events such as conferences priced substantially below cost," Bailey said.<sup>9</sup>

**Unbundling. The global standard?**

Such scrutiny is unlikely to see the unbundling rule rolled back. However, advocates of the reform point to the willingness of asset managers to take on the fees themselves rather than pass them on to clients, which would meet one of the principal aims of MiFID II—reducing investor costs.

"The regulation has reached its objective in the sense that asset managers need to make sure that if they pay for research, it has value," said David Petiteville, Director, Regulatory Solutions at RBC Investor & Treasury Services. "With asset managers taking on these costs, the regulation has had that intended effect."

Investment managers have also shown a preference to pay for research in non-EU markets rather than confine the unbundling to Europe. Large fund managers, particularly, are growing weary of the administrative burdens of maintaining multiple payment systems. Moreover, being globally MiFID II-compliant may also be seen as a competitive advantage to attract clients.<sup>10</sup>

**The regulation has reached its objective in the sense that asset managers need to make sure that if they pay for research, it has value**

The US has so far resisted unbundling but MiFID II has put pressure on global regulators to move to adopt this approach. Regulators may now be more open to ending the current "soft dollars" arrangement in which research is bundled by brokers. Although the Securities Exchange Commission (SEC) issued a no-action relief in October, 2017 that allowed US fund managers affected by MiFID II to continue to receive bundled research, the relief expires in 2020, and SEC officials have made no indication they intend to extend it.<sup>11</sup>

Large pension funds that invest through asset managers are also questioning whether investors are getting value for money through bundled arrangements.<sup>12</sup> Brokers, meanwhile, have countered that receiving payments for research alone might see them fall offside of US regulations as they are not registered as "investment advisors."<sup>13</sup>

### KEY INSIGHTS

- Under MiFID II, asset managers have shown willingness to absorb costs of research but have grown more judicious about spending
- Concerns about the market impacts of MiFID II are unlikely to see unbundling rolled back
- The US is under pressure to adopt unbundling as global asset managers voice concerns about costs of double billing

Nonetheless, the momentum behind the global adoption of MiFID II may ultimately override those arguments and prove too strong for the SEC to ignore.

"I do believe there is pressure from the US market to land on a single approach because right now it can be difficult to manage across markets. In one market, research may be bundled into brokerage, and in another it may be unbundled with separate fees applied," said Petiteville.

#### Sources

- <sup>1</sup> Financial Times (May 7, 2019) Where now for the rules that rocked European finance?
- <sup>2</sup> Ibid.
- <sup>3</sup> Reuters (January 2, 2019) One year after MiFID II, European stocks coverage falls
- <sup>4</sup> Financial Times (May 13, 2019) Why MiFid II is a menace to investment banking in Europe
- <sup>5</sup> Financial Times (May 7, 2019) Where now for the rules that rocked European finance?
- <sup>6</sup> Ibid.
- <sup>7</sup> Reuters (January 2, 2019) Pressure on small brokers grows a year after new EU rules
- <sup>8</sup> Pensions and Investments (February 25, 2019) Investors pay less in research fees in 2018
- <sup>9</sup> Ibid.
- <sup>10</sup> The Economist (January 5, 2019) The EU's unbundling directive is reinforcing the power of scale
- <sup>11</sup> Bloomberg (January 23, 2019) Wall Street braces for MiFID-style rules descending on the U.S.
- <sup>12</sup> Ibid.
- <sup>13</sup> Ibid.

# ESMA aims to deliver MiFID II's promised shift to lit markets, starting with frequent batch auctions

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The European Securities and Markets Authority (ESMA) aims to deliver the Markets in Financial Instruments Directive's (MiFID II) intended shift away from dark market trading to predominately lit venues. This will start with a clampdown on elements of frequent batch auctions (FBAs).

ESMA intends to look at the broader effects of the MiFID II transparency regime, including the general development of the market structure, in the upcoming MiFID II review reports, it said in its final report on frequent batch auctions, published earlier this week, which mentioned systematic internalisers (SI) as a specific point of concern.

"This is ESMA's attempt to correct the perceived failure of MiFID II to drive equities dramatically into the lit books. Most trading does happen in the lit book, but when you look at MiFID II, have the restrictions around dark trading pushed more trading into the lit? It's not entirely clear that's happened. They thought more would move into the lit markets because of the double volume cap," said Tim Cant, partner in the financial regulation team at Ashurst in London.

Firms should expect ESMA to ramp up its work on systematic internalizers — controversial

even before MiFID II go-live — and auction operators should expect requirements to increase regarding what they do, particularly for pre-trade transparency, Cant said.

Systematic internalizer operators could experience more supervisory questions about whether they are trading on a riskless principal basis, meaning they are not keeping positions on the balance sheet for more than a few seconds. There is even scope for ESMA to look more closely at sell-side trading flows as it seeks to realize the transparency regime's goal.

#### ESMA: FBA is a means to circumvent double volume cap

Final batch auctions are a type of periodic auction featuring a duration of only some milliseconds and are either triggered as soon as an order is submitted, or once a potential match has been identified. ESMA will clarify the final batch auction definition as part of its continuing work.

Cant noted that whether periodic auctions are outside MiFID II was "open to interpretation".

In June 2018, the UK Financial Conduct Authority (FCA) published a short research note on periodic auctions.

"The rising popularity of periodic auctions is an interesting part of the post-MiFID II evolution of share trading. However, this particular trading technique has grown from being tiny to being very small. It is currently far from being a major feature of the overall equity trading landscape. The data we have reviewed do not at first sight support the hypothesis that the growth of periodic auctions has been driven solely by the introduction of the [double volume cap (DVC)]. Growth has been consistent across shares that are capped as well as those that are not."

The FCA report said the regulator would further analyse the equity trading landscape, including the design, calibration and use of periodic auctions within it, to understand the market outcomes this is generating and how these align with the policy intentions of MiFID II.

ESMA has targeted final batch auctions because they gained market share after the first suspensions of trading under the double volume cap meant to encourage trading on lit venues and markets. ESMA fears final batch auctions were being used to circumvent the suspension of trading under the double volume cap.

Frequent batch auction trading experienced a "sudden surge" in market share after the first suspension of dark trading, moving from 0.5% of total trading volume on EU trading venues in January 2018 to 2.4% in August. Frequent batch auction market share stabilized at about 1.7% of total on-venue trading volumes after August. At the same time the market share of trading under waivers subject to the double volume cap has stabilized at around 4% of total on-venue trading.

"Their point, irrespective of the percentage of trading volume, [is] they want a very specific exclusion from pre-trade transparency, which they set out. Any trading which doesn't fall within one of the waivers is a breach of the principle of the rule. Even one trade would be bad," said Sam Tyfield, partner at Vedder Price in London.

ESMA's final report takes the view that two elements of frequent batch auctions — pre-trade transparency and price formation — require further guidance to align them with MiFID II's transparency requirements.

ESMA said it is important that any auction system provides market participants with information that an auction has started, to allow for genuine pre-trade transparency. ESMA intends to clarify this via supervisory guidance.

ESMA highlighted three practices in its call for evidence which it thought might undermine price formation and/or require a reference price waiver: the use of pegged orders, the use of price band limitations to ensure that the uncross price is always within the European best bid and offer price/primary book best bid offer price, and the practice of locking in prices at the beginning of the auction.

"After assessing the feedback received, ESMA remains concerned that the three practices identified in the call may weaken the price determination process of FBAs and serve as a vehicle to circumvent the DVC. Therefore, to provide certainty to the market and contribute to regulatory convergence, ESMA intends to issue in the course of the following months supervisory guidance clarifying that FBAs should be genuinely price-forming in order to operate without a waiver from pre-trade transparency," it wrote in its final report.



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# ESMA's technical advice on integrating sustainability in MIFID II, UCITS, AIFMD

## REGULATORY INTELLIGENCE

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THOMSON REUTERS

The European Securities and Markets Authority (ESMA) has published two final reports setting out technical advice for the EU Commission recommending rule changes to the second Markets in Financial Instruments Directive (MIFID II) Delegated Directive, the Undertakings for Collective Investment in Transferable Securities (UCITS) Implementing Directive and the Alternative Investment Fund Managers (AIFM) Delegated Regulation.

ESMA's final report on integrating sustainability risks and factors in MIFID II and the final report

on integrating sustainability risks and factors in the UCITS Directive and the AIFMD contain technical advice on investment firms' and investment funds' integration of sustainability risks, relating to environmental, social and good governance (ESG) considerations.

These reports contained few changes to the proposals originally put forward in ESMA's consultations on these matters, though in certain cases, some of the provisions from the revised Shareholder Rights Directive (SRD) have been included in the recommended rule

changes. Some insight into the timeframe for implementation have also been provided.

Separately, the European Insurance and Occupational Pensions Authority (EIOPA) published a final report relating to its Technical advice on the integration of sustainability risks and factors in the delegated acts under Solvency II and the Insurance Distribution Directive (IDD).

### Overview comments from ESMA on both reports

The final reports summarised ESMA's responses to some of the comments that respondents submitted to the consultations.

### Principles-based approach

ESMA said that overall most of the respondents to its consultations agreed with its principles-based approach to integrating sustainability risks and factors into the existing legislation.

### Common definitions for terminology

Many respondents noted, however, that common definitions for important concepts, such as "sustainability risks", were lacking. ESMA said that it would not be suggesting new definitions in this regard, but pointed to the new rules on sustainability-related disclosure requirements in other regulation on which the co-legislators had reached political agreement, referred to by ESMA as the Disclosure Regulation, which included these definitions.

### Taxonomy

ESMA also said that responses from trade associations stressed the need to have a common and reliable taxonomy and standardized practices in place before changes to existing legislation came into effect.

ESMA said this issue went beyond the scope of the mandates set for its technical advice, but that it would consider the issue within the remit of its powers and further reflect on this when updating guidelines on product governance at some point in 2019.

### Consistent approach

Respondents also requested consistency in approach among the various sets of legislation and ESMA confirmed that it had liaised with EIOPA in this regard.

### Timing for implementation

ESMA said that respondents asked for a minimum of 18 months for the implementation of the new measures. In the final reports, ESMA said it considered firms would have sufficient time to implement as there would be a three- to six-month objection period by the European Parliament and the Council following the adoption of the updated MIFID II delegated acts by the EU Commission. This would be followed by a 12-month delay for their entry into application.

ESMA also said the approach it had proposed should allow firms to adapt their organisations more gradually, thus reducing costs associated with the review of processes and systems.

### Updating guidance

While ESMA's original consultation paper on the topic included suggested amendments to the ESMA guidelines on MIFID II product governance requirements and the ESMA guidelines on certain aspects of the suitability requirements, ESMA had not included these in its published final report.

ESMA said it intended to update these guidelines after the updated MIFID II delegated acts had been approved. ESMA will include the points received during the public consultation within the final report on the updated guidelines later in the year.

### Application to small firms

One respondent noted that smaller firms might be affected by the cost of implementation of the new rules. ESMA confirmed that the proportionality principle applied to firms with regard to the new rules.

### Proposed changes to MIFID II

The MIFID II-related final report maintained, for the most part, the proposed text that had been proposed in ESMA's consultation paper, though a new recital was added under the organizational requirements section.

### Organizational requirements

Changes to MIFID II organizational requirements set out in the MIFID II Delegated Regulation proposed in the final report include mandating that firms should take ESG considerations into account where relevant in the provision of investment services to clients. Firms must also take ESG factors into account when establishing, implementing and maintaining adequate risk management policies and procedures.

The final report proposed two new recitals, one of which said that "firms should have in place appropriate arrangements to ensure that the inclusion of ESG considerations in the advisory process and portfolio management does not lead to misselling practices, including as an excuse to sell own-products or more costly ones, or to generate churning of clients' portfolios, or to misrepresent products or

strategies as fulfilling ESG preferences where they do not". (Churning is the practice of conducting excessive trading in a client's account mainly to generate commissions.)

The other new recital specified that investment firms' "compliance function, internal audit function, management body and senior management should consider aspects related to sustainability risk in their respective duties".

### Product governance

The final report proposed amendments to the product governance section of the MIFID II Delegated Directive including that ESG preferences (where relevant) should be taken into account when identifying potential target markets.

Additionally, firms should have adequate product governance arrangements in place to ensure the products and services they intend to offer or recommend are compatible with the customers' ESG preferences (where relevant) and that these offerings remain consistent with the ESG requirements of the target market.

### Proposed changes to UCITS and AIFMD

ESMA proposed a few tweaks to the text it originally set out in its consultation paper on the organizational requirements section. New text has been added to the operating conditions section to include further examples and to incorporate new requirements from the SRD.

### Organizational requirements

ESMA's proposed changes to the UCITS Implementing Directive and to the AIFMD Delegated Regulation were that UCITS management companies and AIFMs should take into account sustainability risks when implementing and maintaining decision making procedures and when maintaining organizational structures which specify clear reporting lines and allocated functions and responsibilities.

Another proposed change was that UCITS management companies and AIFMs should consider the necessary resources and expertise required to integrate sustainability risks within their businesses. UCITS management companies and AIFMs must also ensure that their senior management is responsible for the integration of sustainability risks.

**Operating conditions**

Changes to recitals proposed in the final report recommended that both UCITS management companies and AIFMs should identify conflicts of interests which may arise in relation to the integration of sustainability risks that might damage the interests of the UCITS/AIFs or their investors. Examples of such risks included conflicts of interest arising from remuneration or the personal transactions of relevant staff.

Management companies and AIFMs should also consider sources of conflicts that could give rise to greenwashing (making unsubstantiated or misleading claims about the environmental benefits of a product, service, technology or company practice), misselling, misrepresentation of investment strategies or churning.

Additionally, management companies and AIFMs should consider conflicts between funds with different investment strategies managed by the same UCITS management company or AIFMs and “situations where there are other business relationships with investee companies, conflicting group interests, investments in entities with close links or similar circumstances”.

Management companies and AIFMs must also consider sustainability risks and factors when complying with due diligence requirements relating to the selection and continuous monitoring of their investments. Policies and procedures on due diligence must incorporate sustainability risks and factors.

ESMA has added the requirement that, where applicable, management companies and AIFMs must “develop engagement strategies including the exercise of voting rights, where available, with a view to reducing the principal adverse impact of investee companies on sustainability factors”.

**Risk management**

The final report said that amendments should be made to existing requirements to take into account sustainability risks within risk management policies at management companies and AIFMs.

**Next steps**

ESMA said that it would work closely with the EU Commission on the transformation of the technical advice into formal delegated acts. Once the EU Commission adopted the delegated acts, they would enter into force after their publication in the Official Journal, unless the European Parliament and the Council objected to them within a period of three months, though this period could be extended to six months.

ESMA also said that it expected the new delegated acts to be applicable 12 months after they had been published in the Official Journal.

**Considerations for firms**

Firms should start considering how they will implement, manage and monitor these new sustainability requirements. Compliance, risk and/or regulatory development teams could start setting up checklists of the various requirements and areas at their firms where changes will be required and add to these as more rules and guidelines in this area are finalized during 2019.

Implementation planning of sustainability-related requirements should be coordinated with the implementation of other relevant corporate governance and stewardship legislation, such as the SRD and senior managers regime initiatives, that are already finalized or that are being finalized during 2019. Some of the EU-level legislation will have to be transposed into domestic legislation and some of the regulations will be directly applicable to firms.

Firms will need to assess what level of resource (i.e., project teams) they require for implementation, which is likely to need to take place during 2020. Firms could start planning their budgeting in this regard in 2019.

Firms should also consider assessing whether they possess the requisite skill set for implementing, managing and monitoring the new sustainability requirements. As with any new implementation initiative, firms should ensure they allow for the training of staff (including the board and senior management) and the embedding of the new requirements as part of their overall implementation planning.



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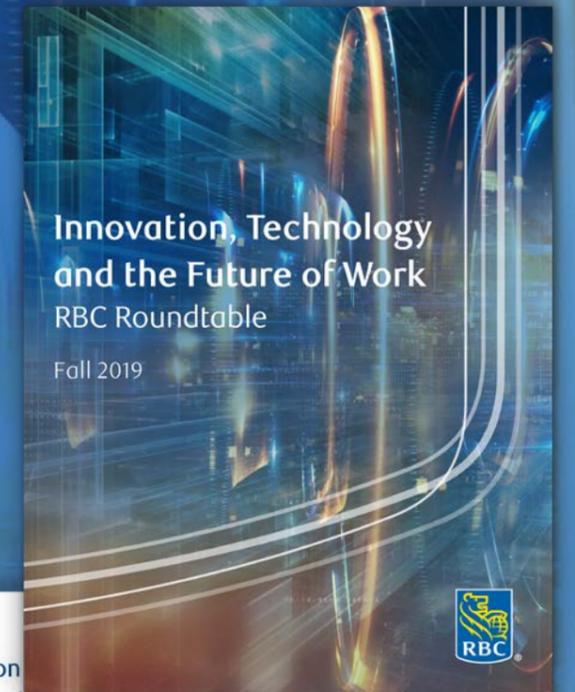
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Organizations are in the midst of a period of profound change. Data is increasing at an exponential rate. Technology is advancing rapidly. Cyber threats are becoming common place. And the workplace is undergoing a significant transformation. Opportunities abound, but risk and uncertainty are omnipresent.

*“Innovation and technology are creating significant opportunities to help us better understand our clients and improve how work gets done.”*

Helena Gottschling  
Chief Human Resources Officer, RBC

Helena Gottschling  
Chief Human Resources Officer

Laurie Pezzente  
Chief Security Officer

Foteini Agrafioti  
Chief Science Officer

Holly Shonoman  
Chief Privacy Officer

Carolyn Burke  
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# Canada reformulates the relationship between clients, securities advisers, dealers

Proposed reforms introduce a more client-focused regime

Canadian regulators are contemplating amendments to investor-protection regulations to redefine the relationships between clients and securities advisers, dealers, and representatives.

Client-focused reforms introduced in June 2018 would amend the existing National Instruments (NI) 31-103, Registration Requirements, Exemptions, and Registrant Obligations, as well as its Companion Policy (CP) 31-103CP. A Canadian Securities Administrators (CSA) Staff Notice published separately in September 2018 also announced the CSA's policy decision to prohibit most forms of embedded commissions on investment fund sales. Together, this package of related amendments is intended to better align the interests of registrants and clients, improve outcomes for investors, and clarify the relationship between clients and registrants.

Comments on the proposed amendments to NI 31-103 closed in October 2018, and it is expected that, in later 2019, the CSA will release potential updates to the proposed amendments and further guidance on timing of implementation. When the proposed NI amendments were

introduced, CSA Chair President and CEO of the Autorité des marchés financiers Louis Morisset commented that they “strengthen the fundamental obligations that registrants owe their clients and are essential to investor protection.”<sup>1</sup> The CSA has also commented that the reforms demonstrate “a shared commitment by the CSA, as well as the Investment Industry Regulatory Organization of Canada and the Mutual Fund Dealers Association of Canada, to changes that would require registered firms and individuals to promote the best interests of clients and put clients’ interests first.”<sup>2</sup> The proposed amendments have further evolved since they were first introduced in response to industry feedback and advocacy.

## Enhanced focus on “suitability” at the core of proposed reforms

The package of proposed reforms would bring about significant change to “suitability,” or the requirement that investments match an investor’s needs and investment objectives. While earlier consultations on the client-focused reforms raised the possibility that a fiduciary “best interest” standard would replace existing suitability standards, ultimately the CSA chose not to pursue this outcome. Instead, the CSA has proposed to enhance existing suitability requirements by



## KEY PROVISIONS

The current proposed amendments focus on relationships between advisers and dealers, on one hand, and their clients, on the other, in the following five key areas:

- 1. Know-Your-Client (KYC):** Existing KYC requirements would be amended to establish a set of client information that a registrant, whether adviser or dealer, must collect including the personal and financial circumstances, investment needs and objectives, investment knowledge, risk profile, and investment time horizon of any investor. Registrants would also be required to take reasonable steps to obtain client confirmation of the accuracy of information captured on KYC forms, and to review and update KYCs regularly or when a significant change occurs.
- 2. Know Your Product (KYP):** A new KYP requirement would be implemented, setting out the responsibility of registrants to take reasonable steps to ensure they understand a security before offering it to clients, including how that security compares to comparable securities available for purchase. Registrants must also approve, monitor, and reassess the securities they offer.
- 3. Suitability:** While the proposed amendments fall short of including new fiduciary obligations on the part of registrants to clients, the existing suitability obligation would be significantly increased, specifically by establishing a requirement to put the client’s interest first when making a suitability determination. The amendments set out a list of factors that must be considered when determining suitability, including a shift towards “portfolio-based” rather than “trade-based” suitability.
- 4. Conflicts of Interest:** The proposed amendments move to a “best interest” standard for conflicts of interest. For registered dealers, this includes a requirement to address all conflicts of interest between the firm, its employees, and clients.
- 5. Relationship Disclosure Information:** The amendments would update disclosure obligations to require registered dealers to make publicly available any information that a reasonable investor might view as important in considering whether to become a client. Registrants would also be required to enhance existing disclosure requirements regarding restrictions on the products or services they offer, including whether a product is proprietary to that registrant.

introducing a requirement that registrants put their clients' interests first when making a suitability determination. This moves away from trade-based suitability to a broader, "investment action-based" suitability, explicitly requiring registrants to consider certain factors, including costs and their impact, in making suitability determinations.

**This package of related amendments is intended to better align the interests of registrants and clients, improve outcomes for investors, and clarify the relationship between clients and registrants**

"If the revised regulation comes into force as currently drafted," comments David Petiteville, Director, Regulatory Solutions at RBC Investor & Treasury Services "implementing and communicating new practices that stem from these changes will be critical for advisers and dealers alike. The first step will be to review existing conduct and practices, as well as relevant guidance from the regulators, to determine what, if any, changes will be required as a result."

"We also expect that fund managers and others offering securities may experience an uptick in questions from dealers and advisers on the KYP front," Petiteville adds "as the new KYP requirement means dealers and advisers have increased obligations for ensuring their understanding of specific securities before those products are suggested to clients."

**Implementing and communicating new practices that stem from these changes will be critical for advisers and dealers alike**

#### Changes built on a long history of consultation

The changes outlined in the package of reforms respond to longstanding investor-protection concerns. In 2004, the Ontario Securities Commission published a concept paper outlining a "fair-dealing model" intended to align securities regulation with the business

practices within the financial services industry. The move to ban embedded commissions was first outlined in a 2012 discussion paper followed by a series of public consultations culminating in a 2017 CSA publication summarizing discussion to date. Once final reforms are approved, the CSA has indicated it will set out a phased implementation schedule for registrants to meet.

The comment period resulted in the submission of approximately 135 comment letters from a range of market participants and industry bodies highlighting topics for further consideration. The Investment Funds Institute of Canada (IFIC), for example, noted that the proposal could be enhanced by addressing three key concerns including: preservation of choice for investors; a balance between the cost to investors and the value of the advice and products they receive; and the potential use of disclosures as a more workable approach to mitigate conflicts of interest in the best interests of clients.<sup>3</sup>

Once final reforms are approved, the CSA has indicated it will set out a phased implementation schedule for registrants to meet. While the amendments are presently in draft form, they are the result of significant efforts and consultation by the CSA, and final reforms will likely look very similar to the current draft.

#### KEY INSIGHTS

- In 2018, the Canadian Securities Administrators released a package of "client- focused reforms" to amend the existing NI 31-103, Registration Requirements, Exemptions, and Registrant Obligations, as well as its CP 31-103CP
- The proposed new regulatory regime responds to investor-protection concerns that have been the subject of consultation since 2004, and match worldwide trends towards strengthened regulations for investor protection
- The proposed reforms will require registrants to carefully review existing conduct and practices to check for and then address any gaps, and ensure compliance with the revised standards across the enterprise

#### Sources

<sup>1</sup> Canadian Securities Administrators (June 21, 2018) Canadian Securities Regulators Align To Publish Harmonized Response To Concerns With The Client-Registrant Relationship

<sup>2</sup> Ibid.

<sup>3</sup> Investment Funds Institute of Canada (October 19, 2018) IFIC Submission - Client Focused Reforms

# Proportionality needed to ease regulatory burden on Europe's banks

## REGULATORY INTELLIGENCE

PROVIDED BY



THOMSON REUTERS

The banking package signed off last month does not go far enough in reducing the regulatory burden on Europe's banks, nine European banking associations claimed yesterday.

The group, which collectively represents 80 percent of all small and medium-sized banks in Europe, is not aiming to have the regulations which were introduced after the 2008 financial crisis scrapped, just applied proportionately.

"A sensible and consistent approach to proportionality is needed to find a balance that makes all banks in Europe part of the same regulatory and supervisory framework. A proportionate approach maintains diversity and ensures a more resilient banking system," said Gilles Pierre, head of banking regulation at the Luxembourg Bankers Association (ABBL).

The nine national associations, representing banks in Austria, Croatia, Denmark, Germany, Italy, Poland, Slovakia and Slovenia, as well as Luxembourg, said that while the recently agreed revisions to the Capital Requirements Regulation (CRR2) and Capital Requirements Directive (CRD5) had introduced some "initial measures to relieve the strain on these banks", more was needed.

In March, the Basel Committee on Banking Supervision (BCBS) published a survey mapping the disparity in approaches by regional and national regulators in their implementation of its rules.

BCBS found the majority of respondents to the survey applied proportionality to the measures in their jurisdictions.

"In most cases, such measures are applied to banks that represent a relatively small share of total banking assets in the relevant jurisdiction, although there is a fair degree of heterogeneity," the BCBS said.

The European Commission has been criticized for imposing the same regulatory requirements mandated for global systemically important banks on all institutions inside the European Union.

In Frankfurt last November, Danièle Nouy, outgoing chair of the supervisory board at the European Central Bank (ECB), batted away concerns from banks attending the European banking regulation conference that regulation was negatively affecting their profitability. Nouy said, however, that the so-called small banking package (the CRR2/CRD5 revisions) would lessen the compliance burden on banks without a cross-border presence.

The nine associations said that, despite these reforms, for non-systemically important banks the costs of reporting remained "out of all proportion to the associated benefits".

They urged the European Banking Authority to speed up its work looking at how reporting requirements could be reduced for nonsystemically important banks. They also want a rethink on remuneration rules.

"These are only relevant for a handful of big banks, the complex rules have to be implemented by all financial institutions in equal measure with all the time and effort this entails," the joint statement said.

The remuneration rules, which impose restrictions on levels of bonuses as well as requirements to claw back bonus payments, have been controversial since they were introduced in 2013.



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# Hong Kong regulators forge ahead with implementation of unique transaction identifiers for OTC derivatives

REGULATORY INTELLIGENCE

PROVIDED BY



The Hong Kong Monetary Authority (HKMA) and the Securities and Futures Commission (SFC) recently issued a joint consultation on proposals to mandate the use of unique transaction identifiers (UTIs) for transactions that are reported to the Hong Kong Trade Repository.

Consistent with international developments, the structure and format of the UTIs should follow guidelines issued by the Committee on Payments and Market Infrastructures (CPMI) and the International Organisation of Securities Commissions (IOSCO).

Regulators in Hong Kong have proposed to mandate the use of UTIs for reporting obligations as a step toward establishing a harmonized mechanism to identify individual OTC derivatives transactions globally. Industry participants have been invited to submit comments on the proposals until June 25, 2019.

These proposed amendments are part of wider efforts by the HKMA and the SFC to implement a regulatory regime for the OTC derivatives market in Hong Kong that is consistent with the post-financial crisis reforms put in place by G20 countries.

Increasing the transparency of OTC derivatives transactions has been a focus area for G20 leaders. Following the global financial crisis, the G20 agreed that all OTC derivatives contracts should be reported to trade repositories. These transactions, and the parties involved in them, should be identifiable in a consistent and transparent manner. As a result, international agencies such as the Financial Stability Board (FSB), the CPMI and IOSCO have established uniform standards for the generation and use of identifiers for legal entities and transactions, and these are being adopted by G20 member jurisdictions.

#### Navigating global inconsistencies

Regulators believe that mandating the use of UTIs that can identify individual transactions globally will improve the transparency of the OTC derivatives markets. In April, the HKMA and the SFC effected the mandatory use of legal entity identifiers (LEIs) for the reporting of OTC derivatives trades to the Hong Kong Trade Repository for the reporting entity's side of the transaction.

While firms in Hong Kong have been required to report OTC derivatives transactions since 2017, the requirement to report LEIs introduced additional compliance obligations for reporting entities including the need to implement policies and procedures to request LEIs

from clients and, where needed, to provide information about obtaining LEIs to clients.

Similarly, mandatory use of UTIs will require firms to establish additional policies and procedures to ensure compliance.

The use of UTIs, and the systems that support them, is fragmented as the finalization and global implementation of a consistent standard is still pending. In practice, this has led to inconsistencies and created compliance issues that firms need to consider as they adapt to the new rules.

The HKMA currently requires reporting entities to report, if applicable, the unique swap identifier reported under mandatory reporting requirements in the United States, and the unique trade ID reported under mandatory requirements across the European Union. In cases where these do not apply, mandatory reporting of a bilaterally agreed UTI is deferred.

While the concepts for unique swap identifiers, unique trade ID and UTIs are similar, there are slight differences in format such as the maximum length of characters. Also, different jurisdictions define the scope of which transactions are reportable and the methods of reporting in different ways. A transaction that is reportable in one jurisdiction may not,



therefore, be reportable in another, or may have to be reported in a different way.

Regulators in Hong Kong have proposed to adapt the structure and format of UTIs as set out in technical guidance from the CPMI and IOSCO, except for the responsibility for generating UTIs. For the generation of UTIs, the HKMA and the SFC have proposed that counterparties bilaterally agree on who would generate UTIs for their transactions in cases where U.S. or EU identifiers do not apply.

Under the international standards, there should only be one transaction identifier for each transaction globally. As such, the HKMA and the SFC have proposed that, in the interim, UTIs should only be generated for transactions that do not have a U.S. or EU equivalent of a unique identifier. The regulators said they expect the United States and the EU to adopt the UTI format set out in the CPMI and IOSCO technical guidance in the near future.

#### Other proposed changes

Aside from the implementation of mandatory reporting of UTIs, the HKMA and the SFC have proposed several other changes to bring practices in Hong Kong in line with international developments. These include revising the designated list of entities for the masking relief of reporting obligations and updating the list of financial service providers under the clearing obligation.

Masking relief of reporting obligations for certain reporting entities was previously implemented to accommodate situations where overseas firms were prevented from submitting identifying information due to regulatory or legal barriers. There are currently 18 jurisdictions on this designated list for masking relief, including the People's Republic of China.

Following a report from the Financial Stability Board (FSB) last year outlining international developments on legal barriers for trade reporting, the HKMA and SFC have proposed to remove all of the jurisdictions from the list except for China. The regulators are of the view that it is more "prudent" to allow China to remain on the designated list for the time being.

#### Considerations

Reporting entities can expect that the proposals outlined in the consultation by the HKMA and the SFC will most likely pass in their current form, consistent with standards that are being adopted internationally.

As mentioned, regulatory requirements for OTC derivatives reporting are in flux worldwide, as individual jurisdictions adopt reforms at their own pace. Regulators in Hong Kong have made provisions in their proposals to mandate the use of UTIs.

Likewise, firms engaged in cross-border transactions should be mindful of jurisdictional differences in the structure and format of UTIs for the time being and ensure that their systems can accommodate and document the various formats of UTIs and other information needed to fulfil their reporting obligations in different jurisdictions.



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