CAPITOLO 12
FINTECH REGULATION IN CANADA

di Ryan Clements


Canada has a very robust financial system, characterized by a relatively small number of large capitalization national banks that integrate fintech internally to improve and expand operations, products and customer service. Despite the size and stability of its major banks, Canada has been criticized as lagging globally in consumer fintech adoption rates and fostering new fintech market entrants. The supervisory frameworks for non-bank fintech firms in Canada has some agency fragmentation costs, which can serve as a barrier to entry for new firms. The following report outlines the law of fintech, as it applies in Canada, including the regulatory frameworks for fintech money (e-money, virtual currency and electronic payments); fintech financings (initial coin offerings, peer to peer lending and invoice trading); and fintech financial services (smart contract investing, robo-advisors, algorithmic trading and market automation, artificial intelligence, decentralized autonomous organizations, and crypto hedge and other investment funds).

1. Fintech Integration in Canada

The major banks in Canada use financial technology (fintech) to enhance and expand customer service, products and operations. Canada’s banking system is stable, but consolidated, with strong “customer

1 See PriceWaterhouseCoopers (PWC), Canadian Banks 2016 Embracing the Fintech Movement, Perspectives on the Canadian Banking Industry, 2016, at pg. 11.
retention” rates and trust. Canadian banks fared well, compared to many international counterparts, during the 2008 global financial crisis. These banks are regulated through an “integrated” supervisory framework, that is both “risk-based” and “principle-based,” under the federal supervision of The Office of the Superintendent of Financial Institutions (OSFI). Since banks are central to fintech integration in Canada, there are a higher proportion of bank-tech “partnerships” than global averages. The market dominance of Canada’s major banks has, however, led to criticism that it “lags” in fintech “consumer adoption rates,” and the establishment of new fintech firms.

Canadian banks may also be creating “entry barriers” for new consumer-facing fintech start-ups. As a result, non-bank fintech firms in Canada represent only a small portion of the total market, and it can be difficult to get customers to “trust” new firms since they are used to only dealing with large banks, which they’ve had relationships with for many years. In addition, unlike other international jurisdictions, such as the European Union, Canada does not currently have an “open banking” framework where consumers can easily share and port their financial data with

3 See L. Savage, From Trial to Triumph: How Canada’s Past Financial Crisis Helped Shape A Superior Regulatory System, 7(15) SPP Research Papers, University of Calgary School of Public Policy, May 2014.
6 See Watson - Laplante, An Overview of Fintech in Canada, supra note 2, at pg. 4.
8 PriceWaterhouseCoopers, Canadian Banks 2016, supra note 1, at pg. 11.
non-bank fintech firms; although in early 2019 the federal Department of Finance undertook public consultations into the merits of open banking.10

No single regulatory agency oversees all non-bank, consumer facing, fintech firms in Canada, and the extent of provincial and federal regulation depends on the financial product or service a fintech firm provides11. When a bank adopts fintech internally, regulatory fragmentation is not a problem since OSFI is the country’s primary bank regulator, and a large proportion of financial transactions occur through a federally regulated bank12. Consumer protection in Canadian financial services is, however, “an area of shared jurisdiction” and as a result it can be a costly and challenging proposition for new fintech firms to navigate the multiple federal and provincial regulatory frameworks that may apply to them13.

To encourage fintech innovation the Canadian Securities Administrators (CSA) – an “umbrella” organization comprised of Canada’s provincial securities regulators – created a fintech “regulatory sandbox” in 2017 so firms could “test” their financial products and services with a defined customer base, under bespoke regulatory parameters, and receive potential “exemptive relief” from the securities laws that would otherwise apply14. A variety of fintech firms have access to the sandbox provided their activities come within the ambit of securities jurisdiction15. To date, the CSA regulatory sandbox has provided exemptive relief to several firms and helped launch a variety fintech ventures including crypto investment funds, international money remittance mechanisms using blockchain

11 See Clements, Regulating Fintech in Canada and the United States: Comparison, Challenges and Opportunities, supra note 5.
12 See E. Sale, Regulatory and Supervisory Rules for Banks – Office of Superintendent of Financial Institutions, 8:20 International Banking Law and Regulation, 2018; see also Clements, Regulating Fintech in Canada and the United States: Comparison, Challenges and Opportunities, supra note 5.
technology, initial coin offerings, utility tokens, and mechanisms for the issuance of tokenized securities.\textsuperscript{16}

In addition to the CSA sandbox, there are several provincial regulatory, and private market initiatives that also support the fintech market in Canada including a provincial regulatory “super sandbox,” and a Fintech Accelerator Office, in the country’s largest province Ontario\textsuperscript{17}. Also, the provincial securities commissions of Ontario, Quebec, British Columbia and Alberta have created either working groups, new economy divisions, or advisory offices to encourage and support fintech growth\textsuperscript{18}. Further, a variety of private innovation “accelerators”, innovation labs or “hubs” and other university-supported innovation centres have been launched throughout the country to support fintech development\textsuperscript{19}.

2. Fintech Money

2.1. Electronic Money & Virtual Currency

The Bank of Canada (BOC) is the nation’s central bank and “fiscal agent,” and is responsible for the country’s monetary policy, currency, payments, settlement and financial system stability\textsuperscript{20}. Given its legal jurisdiction over currency in Canada, the BOC has undertaken extensive research on “e-money developments” and adoption, and their impact on payment systems, monetary goals and systemic risk\textsuperscript{21}. E-money (the

\begin{itemize}
\item \textsuperscript{19} See for example DMZ-BMO Fintech Accelerator, https://dmz.ryerson.ca/programs/fintech/; see also COMPETITION BUREAU OF CANADA, Canada’s Progress in Fintech, https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04392.html
\item \textsuperscript{20} BANK OF CANADA, About the Bank, https://www.bankofcanada.ca/about/#what-the-bank-does.
\item \textsuperscript{21} See B. FUNG - M. MOLICO – G. STUBER, Electronic Money and Payments: Recent (segue)
The ability to “directly store monetary value in an electronic device or communications network”) takes many forms in Canada including prepaid cards using “payment networks such as Visa or Mastercard,” online services like PayPal, or decentralized virtual currencies like Bitcoin\(^{22}\). Virtual currencies, like Bitcoin, are not widely used in Canada for transactional purposes, largely due to the stability of Canadian banks, and the ubiquitous usage of “e-payment systems” like “contactless debit cards and credit cards” that are widely issued by Canadian financial institutions and heavily used by bank customers\(^{23}\).

It is possible that in the future, the BOC could look to develop a national virtual currency\(^{24}\). No such initiative has been announced to date, and researchers from the BOC have noted that such a development would entail “trade-offs” influenced by how the technology is designed (“as a token or an account; centralized or decentralized”), the extent of monetary policy improvements, and potential risk\(^{25}\). The BOC has recently developed a “policy framework” to help clarify and distill these trade-offs\(^{26}\). Other academic studies suggest that a sovereign virtual currency could present “functionality” and create “security” since it would be controlled by a central bank\(^{27}\). The BOC has added that perhaps the most “compelling” argument for a government-controlled e-money system is to

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“increase competition and spur innovation” particularly in the banking sector.\footnote{Kahn - Rivadeneyra - Wong, Should The Central Bank Issue E-Money, supra note 24, at pg. 2.}


Effective July 1, 2020, dealers of virtual currency will be required to register with the Financial Transactions and Reports Analysis Center of Canada (FINTRAC)\footnote{See Financial Transactions and Reports Analysis Center of Canada, http://www.fintrac-canafe.gc.ca/intro-eng.asp.}, Canada’s money laundering authority, and submit to enhanced reporting for “suspicious transactions” in excess of $10,000, and also comply with strict record keeping and identify verification requirements.\footnote{See Gowlings WLG, Enhanced Disclosure for Virtual Currency, supra note 30.} Companies who deal in virtual currency are also subject to
oversight by the Department of Justice with respect to fraud, and both provincial and federal consumer protection rules.\textsuperscript{37} Canadian companies or exchanges, dealing in virtual currency, may also be subject to securities laws, depending on the nature of their operations and whether they provide virtual currency custody services to platform users.\textsuperscript{38}

2.2. Electronic Payments

Canada’s payment system is overseen by the federal Minister of Finance, and the provision of “payments infrastructure” is delegated to Payments Canada – a “public purpose, non-profit organization” funded by financial institutions that use this infrastructure.\textsuperscript{39} The BOC has overlapping regulatory jurisdiction for payments given their authority over “clearing and settlement systems” and “payments systemic risk.”\textsuperscript{40} Fintech payments companies in Canada may also be required to register with FINTRAC as a “money services business,”\textsuperscript{41} adhere to anti-money laundering (AML) rules, and comply with criminal code, privacy standards, and consumer protection legislation.\textsuperscript{42}

\textsuperscript{37} See Clements, Regulating Fintech in Canada and the United States, supra note 5, at pg. 14.


\textsuperscript{39} See Payments Canada, About Us, https://www.payments.ca/about-us/what-we-do.


\textsuperscript{42} See Clements, Regulating Fintech in Canada and the United States, supra note 5, at pg. 19-20.

In 2017 the federal *Department of Finance* sought public consultation for a “new retail payments oversight framework,” and introduced the concept of a “payment service provider” (PSP) for virtual currency businesses with disclosure obligations, privacy and “operational standards”, requirements to “safeguard” funds, and liability for violations and unauthorized transactions. The federal government’s new payments framework will depart from “entity” based regulation and instead regulate “functions” or “activities”.

In fintech payments, a potential barrier to entry for new consumer-facing firms in Canada is the inability to obtain consumer data to “test technology”, and new firms must generally partner with existing banks to access “core payments infrastructure” like the *Automated Clearing Settlement System*. Incumbent banks compete with new firms for financial customers, so they also have an incentive to strategically deny partnerships under the justification of “de-risking.”

In December 2018, the Government of Canada, through *Payments Canada*, issued a “delivery roadmap” for the completion of the payments modernization project, highlighting three new payments infrastructure elements including a “high-value payments system” called *Lynx*; a “real time rail” for smaller value transfers (which would be available to a wider variety of participants beyond banks); and a new “retail batch payments” mechanism. The finalization of all three projects will take place in stages, with ultimate completion estimated in late 2021, and it will help to foster

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47 See *COMPETITION BUREAU OF CANADA, Technology-Led Innovation In The Canadian Financial Services Sector*, supra note 41 at pg. 5.


competition in the payments space including new fintech market entrants.\textsuperscript{50}

*Project Jasper*, a research initiative jointly sponsored by the Department of Finance, the BOC, and several private stakeholders is currently investigating how blockchain technology can improve wholesale payments.\textsuperscript{51} Also in 2018, a proof of concept was announced for a blockchain-based “instantaneous clearing and settlement of securities” framework.\textsuperscript{52} Further, recent consultations by the Department of Finance on “open banking” (which gives bank customers have more control and portability over their personal financial data) could accelerate the development of new consumer-facing fintech payment companies in Canada.\textsuperscript{53}

3. Fintech Financing

3.1. Initial Coin Offerings

Canadian securities regulators (like those in the U.S.)\textsuperscript{54} have applied securities jurisprudence to initial coin offerings (ICOs).\textsuperscript{55} In 2017, Canadian securities authorities advised that pre-established legal rules, including tests distilled from *Pacific Coast Coin Exchange*\textsuperscript{56} (one of the leading Supreme Court of Canada cases on the definition of an “investment


\textsuperscript{53} See *GOVERNMENT OF CANADA, DEPARTMENT OF FINANCE*, *Department of Finance Canada Launches Consultations on Open Banking*, supra note 10.

\textsuperscript{54} See *CLEMENTS*, *Regulating Fintech in Canada and the United States*, supra note 5, at pg. 15-17.


contract”) and similar cases, would be applied to determine whether an ICO is an “investment contract” and thus falling within the ambit of securities law\(^{57}\). In 2018, securities regulators also opined on the status of “utility tokens,” and stated that when considering the “totality” of the offering circumstances many tokens that purport to serve as a “utility” (like as a payment mechanism on a network for the purchase of goods or services) are actually a “security” and subject to securities laws\(^{58}\).

Provincial securities regulators in both Ontario and British Columbia have published various advisory notes, and comment requests, seeking input on the securities ramifications of companies using blockchain technology in capital raising contexts\(^{59}\). The Canadian ICO market has fallen from its peak in 2017, yet it could serve as a valuable capital raising mechanism in the future\(^{60}\). In 2017, the Ontario Securities Commission approved the ICO of TokenFunder Inc\(^{61}\), – a “smart token asset management platform” for companies wanting to raise money using virtual tokens\(^{62}\).

Also, in 2017, Ontario-based Kik Interactive\(^{63}\) launched an ICO in the U.S.; however, the offering precluded Canadian investors from participating because Canadian securities regulators interpreted it as an “offering of securities”\(^{64}\). This determination was contested by Kik, who has insisted

\(^{57}\) See CANADIAN SECURITIES ADMINISTRATORS, CSA Staff Notice 46-307, Cryptocurrency Offerings, supra note 56, at pg. 3.


\(^{64}\) See GOODMAN - PARTRIDGE, Cryptocurrency in Canada, supra note 40, at pg. 5.
that its “Kin” token is a pure utility token. Ultimately the U.S. took the same position as Canadian securities regulators when, in June 2019, the Securities and Exchange Commission (SEC) sued Kik for an illegal distribution of securities to U.S. investors. Kik has vehemently denied, and is actively fighting, the SEC’s allegations.

The CSA, jointly with the Investment Industry Regulatory Organization of Canada (IIROC) (the self-regulatory organization for Canadian investment dealers and advisers) jointly issued, in March 2019, a consultation paper for a proposed crypto-asset trading platform regulatory framework, which would take jurisdiction over the trading of tokenized securities, and other commodity-type crypto-assets, like Bitcoin, that aren’t securities on their own but may create a security or a derivative based on how they are traded on a platform. This proposal was welcomed by some industry participants; yet it also attracted criticism by others as an overreach of legal jurisdiction on the part of the regulators. Also, some commenters believe the framework’s steep requirements and costs will hurt businesses.

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### 3.2. Peer to Peer Lending and Invoice Trading

There is strong demand in Canada for fintech credit and marketplace lending products, particularly from small businesses, and start-ups, who often have difficulty procuring credit from traditional banks.\footnote{E. HEINRICH, Fintech Options Ease The Pain Points of Financing For Entrepreneurs, Financial Post, October 21, 2017, https://business.financialpost.com/entrepreneur/money/new-financing-options-cibc.} There is slow take-up, however, of fintech invoice trading or factoring.\footnote{See A. BADOUR, -D.J. LYNDE – M. HILLSTROM, Financial Stability Board Issues Report on Fintech Credit Platforms, McCarthy Tetrault, July 21, 2017, https://www.mccarthy.ca/fr/node/29041.} Nevertheless, there are firms in Canada that provide fintech factoring services thereby creating the ability for companies to transform receivables into “working capital” loans through a fintech platform.\footnote{See NEXT DOOR LENDING, http://www.nextdoorlending.ca/; see also FUND THROUGH, https://www.fundthrough.com/.}

In terms of conventional fintech credit demand in the country, Lending Loop (launched in 2015)\footnote{See LENDING LOOP, https://www.lendingloop.ca.} has funded loans in excess of $20 million, from more than 20,000 accredited investors throughout Canada, and the government of Ontario recently committed $3 million to further support loans sourced through Lending Loop.\footnote{See C. ASANO - M. KING, Peer-to-Peer Lending Will Help Small Businesses Stay Afloat, The Globe and Mail, May 30, 2018, https://www.theglobeandmail.com/business/commentary/article-peer-to-peer-lending-will-help-small-businesses-stay-afloat/.} Researchers from the Centre For International Governance Innovation recently noted, with respect to funding needs for “small and medium enterprises” (SMEs) in Canada that the country’s large national banks often won’t service this market because the costs associated with underwriting SME loans “is seen as unprofitable".\footnote{See HINTON - LOMBARDI - WAJDA, Issues in Bringing Canadian Fintech to the International Stage, supra note 9, at pg. 3.}

In addition to a lack of credit availability and supply, most Canadian borrowers also trust the large banks, and the Canadian Competition Bureau...
suggests that new fintech credit platforms, and peer to peer lenders must earn customers trust, and that this can be difficult to achieve\textsuperscript{78}.

New fintech credit firms in Canada are subject to a costly (and often complex) host of regulations that, when fragmented across supervisory agencies, can serve as a market entry barrier\textsuperscript{79}. For example, these companies must adhere to Canadian securities rules (since peer-to-peer loans fall within the definition of a “security”) and firms that facilitate these loans are considered “dealers” that are in the “business of trading” peer to peer loans, attracting registration and disclosure requirements (subject to available securities law exemptions)\textsuperscript{80}. These firms must also register as “money services businesses” (MSBs) and comply with FINTRAC obligations regarding AML\textsuperscript{81}.

4. Fintech Financial Services

4.1. Smart Contract Investment Vehicles

Blockchain technology and smart contracts could potentially “transform” investing in Canada by lowering “barriers to entry and fees for investors” and enhancing transparency of records for audit purposes\textsuperscript{82}. There are limitations, however, when using smart contracts in commercial contexts, including as investment vehicles, such as “verification” problems and computer coding challenges\textsuperscript{83}. While smart contract investment vehicles have not experienced widespread take-up to date in Canada, they do stimulate important, and unsettled, legal questions as identified by the

\textsuperscript{78} \textit{Competition Bureau of Canada}, \textit{Technology-Led Innovation In The Canadian Financial Services Sector}, supra note 41, at pg. 47.  
\textsuperscript{79} See \textit{Clements}, \textit{Regulating Fintech in Canada and the United States}, supra note 5, at pg. 18.  
\textsuperscript{81} \textit{Stikeman Elliott LLP}, \textit{Fintech in Canada}, supra note 15.  
\textsuperscript{82} See D. Dowsett, \textit{How Blockchain is Revolutionizing Investment}, Investco Canada Blog, November 15, 2018, \textit{https://blog.invesco.ca/blockchain-revolutionizing-investment/}.  

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federal Department of Justice such as how (and to whom) do you assign accountability and liability when something goes wrong?

4.2. Robo-advisers and Automated Personal Wealth Management Services

The demand for robo-advisers and algorithmic wealth management services in Canada continues to grow, with successful platforms emerging like Nest Wealth, Justwealth, Wealthsimple and WealthBar. A robo-advisory platform in Canada is potentially subject to a variety of federal and provincial laws including: anti-money laundering (AML) and terrorism financing rules; securities rules and associated regulations, and additional oversight through IIROC in relation to know your client (KYC) and “suitability” assessments. They also must comply with prohibitions against fraud, federal criminal code provisions; consumer protection rules; prudential banking standards, and OSFI oversight if the robo-advisory platform is accessible through a federal banking institution.

In 2015, the CSA provided guidance on “online advice” and algorithmic portfolio management in CSA Staff Notice 31-342 including client obligations, due diligence and information gathering by firms. The regulatory framework applicable to robo-advisors in Canada requires a “human” engagement, in what’s been described by one major Canadian law

86 See Clements, supra note 5, at pg. 21-22.
87 See Clements, supra note 5, at pg. 22.
88 See Clements, supra note 5, at pg. 22.
89 See Clements, supra note 5, at pg. 22.
firm as a “hybrid model” of human advice coupled with technology. Platforms that provide “order execution only” (OEO) services (such as a discount brokerage) are also prohibited by IIROC (pursuant to Notice 18-0076) from providing investment advice. In addition, pursuant to additional CSA guidelines, robo-advisors in Canada are subject to restrictions on conventional trading mechanisms such as margin, leverage or short selling.

4.3. Algorithmic Trading and Market Automation

Trading in Canada, like many other global markets, has been dramatically altered with the increasingly dominant onset of algorithmic and high-frequency trading (HFT) and market automation. While these innovations have many benefits, including enhanced liquidity, lowered costs of trading and improved “price discovery”, they are also controversial in Canada – particularly HFT – for its impact on market stability, efficiency and the creation of potentially “illusory liquidity”. This development has also attracted criticism in Canada by traditional traders. Recent research data from the U.S. suggests that algorithmic and automated trading strategies can have a “procyclical” impact and “exacerbate” price swings. Other criticisms of algorithmic trading, and machine learning in financial markets include their influence on irrational catastrophic events like

93 STIKEMAN ELLIOT LLP, Fintech in Canada, supra note 15.
95 INVESTMENT INDUSTRY REGULATORY ORGANIZATION OF CANADA, IIROC Notice 18-0076, supra note 95.
“flash crashes,” and the fact that they are often programmed with “typical data” which is not useful (perhaps even harmful) in systemic events or crises\(^\text{100}\).

IIROC is responsible for establishing regulatory policy and “industry standards” for trading and market integrity through rules, compliance reviews and “market surveillance and trading review analysis”\(^\text{101}\). IIROC has created *Universal Market Integrity Rules* (UMIR) and polices to reduce risk and maintain market stability for “automated order systems”\(^\text{102}\), and has proposed amendments in relation to “client identifiers” to enhance transparency around algorithmic trading\(^\text{103}\). IIROC has also been vigilant in pursuing regulatory sanctions against programmatic trading systems and “automated order systems” that use manipulative strategies (in particular “layering, quote stuffing, quote manipulation, spoofing, and abusive liquidity detection”)\(^\text{104}\). Also, in 2015 IIROC completed a comprehensive study on HFT and its effect on equity markets in Canada to ensure that existing regulatory frameworks are adapted to this new technology and any instabilities it may create\(^\text{105}\).

IIROC rules and UMIR are further enhanced in Canada by provincial regulations and harmonized rules developed and issued through the CSA, which is active in adjusting existing regulatory frameworks to automated

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\(^{101}\) INVESTMENT INDUSTRY REGULATORY ORGANIZATION OF CANADA, *About IIROC*, https://www.iiroc.ca/about/Pages/default.aspx.


and algorithmic trading\textsuperscript{106}. In particular, the establishment in 2012 of \textit{National Instrument 23-103, Electronic Trading and Direct Electronic Access to Marketplaces} (NI 23-103)\textsuperscript{107}, and its associated companion policy\textsuperscript{108}, instituted a variety of “polices, procedures and controls to manage the risks” inherent in using algorithmic and automated trading platforms and programs\textsuperscript{109}. Further, in 2013, NI 23-103 was amended to manage risks associated with “direct electronic access.”\textsuperscript{110} IIROC and CSA also recently issued joint guidance relating to automated trading on marketplaces and alternative trading systems have also been issued for crypto-asset trading platforms in Canada\textsuperscript{111}.

4.4. Artificial Intelligence and Financial Contracts

Canada has a strong reputation for artificial intelligence (AI) development and deployment in financial services\textsuperscript{112}. The country ranks third in the number of AI experts in the world (based on a 2018 \textit{Canadian AI}...
Ecosystem Report\textsuperscript{113}) and continues to attract international companies, investment, and the formation of AI research hubs throughout the country\textsuperscript{114}. Several of Canada’s major banks have integrated AI innovations, or partnered with AI firms to enhance customer products and services (particularly in wealth management, financial budgeting and planning) and increase the efficiency of internal operations\textsuperscript{115}. There is also investor interest in start-ups that develop AI for use in financial and business processes\textsuperscript{116}.

The Government of Canada recently launched an \textit{Advisory Council on Artificial Intelligence} as part of a “comprehensive” support ecosystem for AI in the country that is “grounded in human rights, transparency and openness.”\textsuperscript{117} This ecosystem also includes the creation of a new department called “Innovation Canada” providing support to AI companies and a funding commitment for $125 million in public funds to be directed to research and development for AI (with a subsequent pledge for $950 million for an “innovation supercluster initiative” with industry)\textsuperscript{118}. There are, however, those who feel like the country could do more in AI


\textsuperscript{118} See McCARTHY TETRAULT, \textit{From Chatbots To Self-Driving Cars}, infra note 123, at pg. 8.
adoption\textsuperscript{119}, and recent data shows the country might be starting to slow in AI deployment (largely driven by employee concerns about its effect on human capital and employment), compared to international counterparts like India and Germany, despite its reputation as an AI “hotbed”\textsuperscript{120}.

There are many potential applications of AI in financial services and fintech in Canada including as a cost saving mechanism for “back-office operations,” and enhancing customer service, and process automation\textsuperscript{121}. AI can also improve advisory services, provide “inter-application enhancements” (like search functions or “chat-bots”\textsuperscript{122}), enhance portfolio allocation and management, and the generating of client risk profiles, as well as supplement credit assessment and underwriting, research, and valuation\textsuperscript{123}. AI is also useful for financial institutions in reducing the cost of regulatory compliance by facilitating “regtech” innovations to aid in automated compliance and reporting, and ensure firms are current on regulatory changes\textsuperscript{124}.

AI is also used in Canada by financial institutions and insurance companies to manage their own internal risk – a critical ongoing function given the 2008 global financial crisis\textsuperscript{125}. Advances in AI, and “automated

\begin{itemize}
\item \textsuperscript{119}J. M\textsc{c}L\textsc{e}o\textsc{d}, \textit{Canada Risks Losing Its Artificial Intelligence Edge As Adoption Lags and the Tech Goes Mainstream}, Financial Post, November 28, 2018, \url{https://business.financial-post.com/technology/canada-risks-losing-its-artificial-intelligence-edge-as-adoption-lags-and-the-tech-goes-mainstream}.
\item \textsuperscript{120}See BNN \textsc{b}lo\textsc{m}e\textsc{r}g, \textit{Canadian Companies Behind In Adopting Artificial Intelligence: Forbes Study}, September 24, 2018, \url{https://www.bnnbloomberg.ca/canadian-companies-behind-in-adopting-artificial-intelligence-forbes-study-1.1142164}.
\item \textsuperscript{121}De\textsc{l}oit\textsc{t}e, \textit{How Artificial Intelligence is Transforming The Financial Ecosystem}, \url{https://www2.deloitte.com/global/en/pages/financial-services/articles/artificial-intelligence-transforming-financial-ecosystem-deloitte-fsi.html}.
\item \textsuperscript{122}See M\textsc{c}C\textsc{a}r\textsc{h}y T\textsc{e}\textsc{t}\textsc{r}a\textsc{u}l\textsc{t}, \textit{From Chatbots To Self-Driving Cars: The Legal Risks of Adopting Artificial Intelligence In Your Business}, White Paper on Transformative Technology, September 2018, at pg. 6, \url{https://www.mccarthy.ca/sites/default/files/2018-09/McT_The%20Art_of_Artificial_Intelligence_WHITEPAPER_EN_SEPT2018.pdf}.
\item \textsuperscript{123}See C. H\textsc{u}\textsc{d}\textsc{s}on, \textit{Ten Applications of AI to Fintech}, Medium, November 28, 2018, \url{https://towardsdatascience.com/ten-applications-of-ai-to-fintech-22d626c2f6ac}.
\item \textsuperscript{124}M\textsc{c}C\textsc{a}r\textsc{h}y T\textsc{e}\textsc{t}\textsc{r}a\textsc{u}l\textsc{t}, \textit{From Chatbots To Self-Driving Cars}, supra note 123, at pg. 6.
\item \textsuperscript{125}See E. F\textsc{a}\textsc{u}r\textsc{e}, \textit{Concordia Professor Uses Artificial Intelligence To Help Financial Institutions}, Concordia News, May 27, 2019, \url{https://www.concordia.ca/news/stories/2019/05/27/concordia-professor-uses-artificial-intelligence-to-help-financial-institutions-reduce-their-exposure-to-risk.html}.
\end{itemize}
contract analysis” may also disruptively transform the Canadian legal services landscape, and several Canadian start-up companies are at the forefront of this revolution126.

There are many legal risks in deploying AI into financial services and processes in Canada, and some uncertainty on whether existing regulatory structures can sufficiently curtail these risks if widespread adoption takes place127. This analysis is made more complex by uncertainty on whether accommodating regulatory structures (to avoid business flight and “regulatory arbitrage” to more favorable international jurisdictions) are preferred over more strict rules-based frameworks that can communicate “certainty” and “predictability” to businesses as an incentive to draw more business to Canada128. As such, regulation in this area is one that will continually be adapted, and adjusted, to ensure necessary safeguards and established129.

4.5. Decentralized Autonomous Organizations

Decentralized autonomous organizations (or “DAOs”) are challenging conventional legal frameworks in many ways. In its most basic definition, a DAO is “a virtual organization” that exists through an expression of “computer code” which is “executed” through blockchain technology.130. In other words, the “human” component of an organization is eliminated, and management and operations of the entity are automated through “self-executing” computer code131. Perhaps the most mature technology “ecosystem” to host DAOs to date – the Ethereum Network – has an intimate Canadian connection, as it was co-created by Russian-Canadian

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127 See Mccarthy Tetrault, From Chatbots To Self-Driving Cars, supra note 123, at pgs. 6-7.
128 Mccarthy Tetrault, From Chatbots To Self-Driving Cars, supra note 123, at pg. 7.
130 Goodman - Partridge, Cryptocurrency in Canada, supra note 40, at pg. 13.
programmer Vitalik Buterin. DAOs work by “bundling” a series of smart contracts (pre-programmed, automated agreements hosted and executed on the underlying blockchain), resulting in a conventional organization, like a corporation or a business, transformed and “distilled to its most basic tasks, and operated by little more than code.” A traditional corporation is effectively a consortium of contracts also (in terms of governing bylaws, corporate constituting documents and shareholder agreements); however, a DAO eliminates the need for centralized human management and oversight through contract “automation.”

There are potential legal concerns with DAOs primarily relating to assessing liability and recovering damages (since there is no centralized organization or corporation to sue) and also establishing standing since a DAO doesn’t have a “legal personality” in the way the term is conventionally understood in Canadian law. There are also concerns with DAOs in Canada relating to the application of the rules of evidence; maintaining proper corporate governance standards; enforcing competition rules; guarding against cybersecurity, hacking risks and ensuring

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133 DJ Pangburn, The Humans Who Dream of Companies That Won’t Need Us, supra note 13.


135 See Draeger, More than Money, Get the Gist on Bitcoin, Blockchain & Smart Contracts, supra note 85.

136 See Palley, How To Sue A Decentralized Autonomous Corporation, supra note 132.


consumer financial protection\textsuperscript{141}, and enforcing taxation statutes\textsuperscript{142}. There are also uncertainties on the validity and enforceability of smart contracts altogether\textsuperscript{143}. Another challenge of a DAO is that, since it operates via servers distributed throughout the world, it is arguably “borderless” and difficult, if not impossible, for a domestic regulatory authority to shut down\textsuperscript{144}.

4.6. Crypto Hedge and Investment Funds

In September 2017, the British Columbia Securities Commission granted First Block Capital registration as an “investment fund manager” and “exempt market dealer” as a hedge fund focused on cryptocurrency investing\textsuperscript{145}. First Block Capital also introduced in 2018 a Bitcoin investment fund (the FBC Bitcoin Trust) that was restricted only to accredited investors\textsuperscript{146}.

Canada also has actively managed mutual funds dedicated to cryptocurrency investments, available to accredited investors, including the Rivemont Crypto Fund, which launched in 2017\textsuperscript{147} which holds positions in


\textsuperscript{143} See K. Nayyer, Blockchain: Lawyers, Take Note, supra note 139.

\textsuperscript{144} Maupin, Mapping the Global Legal Landscape of Blockchain and Other Distributed Ledger Technologies, supra note 142, at pg. 9-10.


Bitcoin, Bitcoin Cash, Ethereum, Ethereum Classic, Ripple and Litecoin.\textsuperscript{148} 3iQ also has established the \textit{Global Cryptoasset Fund} and \textit{Bitcoin Trust}, which are both established as “mutual fund trusts.”\textsuperscript{149}

Finally, a very interesting development in the burgeoning crypto-investment fund ecosystem is the recent Ontario Securities Commission (OSC) Panel decision overturning a prior OSC staff decision to refuse to issue a receipt for a prospectus for 3iQ Corp.’s closed-end exchange-traded “Bitcoin Fund.”\textsuperscript{150} As a result of the OSC panel decision, Canada will shortly have a closed-end bitcoin fund, offered via prospectus, that trades on a major national stock exchange and is accessible to retail investors.\textsuperscript{151}

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\textsuperscript{148} K. OWRAM, Canada’s Only Actively Managed Cryptocurrency Fund is 90% In Cash, \textit{Financial Post} (July 17, 2018), https://business.financialpost.com/investing/funds/canadas-only-actively-managed-cryptocurrency-fund-is-90-in-cash.

\textsuperscript{149} See 3iQ INVESTMENT OVERVIEW, https://3iq.ca/3iq-global-cryptoasset-fund/.


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