

Participant Reflections from the Future of Money Roundtable

# THE FUTURE OF MONEY

## Innovation, Regulation, and Trust in Open Banking and Digital Currencies

**Daniel Munro, Ph.D.**  
Senior Fellow  
Innovation Policy Lab  
Munk School of Global Affairs & Public Policy

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# PART ONE

# Shaping the Future of Money

# THE FUTURE OF MONEY

at **munk school**



## I - SHAPING THE FUTURE OF MONEY

As a technology for holding and exchanging value, money has played a central role in the development of modern economies and societies. But money is undergoing rapid change in the 21st century. Emerging forms of currency and commerce are introducing new opportunities for exchange and innovation – as well as new challenges and risks.

Innovations like open banking and digital currencies have the potential to generate benefits for consumers and improve the competitiveness of Canada's financial sector. At the same time, these innovations generate risks for consumer privacy and data security,

financial inclusion and equity, the stability of the financial system, and the ability of governments to manage the economy. If left unaddressed, these risks could undermine the very benefits these innovations promise. Given the rapid diffusion of open banking and digital currencies in Canada and abroad, there is an urgent need for discussion and action on both their promises and perils. What do we want the future of money to look like in Canada?

## THE FUTURE OF MONEY EVENT

In May 2022, the Munk School of Global Affairs & Public Policy at the University of Toronto hosted The Future of Money (FOM22), which brought together leaders in business, government, and society to discuss the opportunities and challenges presented by the transformation of money in the 21st century. A morning roundtable with approximately three dozen participants speaking under Chatham House rule was followed by an afternoon public panel before an audience of approximately 1,000 people.

Prior to the event, the Innovation Policy Lab at the Munk School prepared a discussion paper on the Future of Money which:

- provided introductions to two pressing future of money issues – open banking and digital (or crypto) currencies;
- highlighted the implications of each innovation for individuals, organizations, and the economy and society more broadly;
- articulated key questions and considerations that FOM2022 participants and other stakeholders were invited to discuss; and

- set out broad regulatory options for ensuring that new and emerging features of the future of money work to the benefit of individuals and organizations.

The policy paper framed the issues to provide a foundation for discussion but did not endorse any specific regulatory options. How the future of money unfolds is a question for a democratic society. The aim of the paper was to lay out the stakes and the possible directions.

This post-event paper includes the text of the initial discussion paper as well as insights shared by participants at FOM2022. It provides a sense of how participants reacted to the issues and their thoughts on regulatory options. The discussions at FOM2022 were lively and there were many areas of disagreement. Recognizing the diversity of views, this follow-up paper shares participants' insights without evaluation nor attempts to identify a consensus view. Instead, it captures the state of debate while leaving the key questions open for further discussion.





# PART TWO

## Innovation, Regulation, and Trust

## II - INNOVATION, REGULATION & TRUST

Financial systems are built on trust. Whether something can serve as money – as a medium of exchange – depends on whether a critical mass of people trust it. Similarly, whether an institution can succeed as a source of financial advice and services depends on whether a critical mass of people trust that institution to offer sound advice and reliable service. For digital currencies and open banking to succeed in Canada they will need to gain the trust of Canadians – no small feat when financial well-being, privacy, and even the health of democratic politics may be at stake. Will Canadians trust open banking and digital currencies?

Gaining trust, the philosopher Onora O’Neill suggests, depends on trustworthiness – that is, on whether a person, institution or system deserves to have trust placed in it.<sup>[1]</sup> Do we have confidence that a person, institution or system will meet its obligations – in good times and bad? What evidence do we have for such confidence? Will institutions accept responsibility and compensate for theft or loss that occurs on their watch, or will they shift blame to others? Will they use the data and information they hold about clients appropriately? Can open banking and digital currencies demonstrate trustworthiness?

For open banking, a key challenge is whether non-traditional financial providers can demonstrate that they can be trusted with consumers’ sensitive financial data.

What assurances will consumers have that their financial information will be safely and securely collected, transferred and stored, and used only for those purposes to which they have consented? For digital currencies, the challenges may be stronger. With thousands of digital currencies in circulation and no central authority or accountability mechanism to address theft, technological failure, or other adverse event that would destroy value through non-market means, why should consumers trust digital currencies as media of exchange and/or investment assets?

Regulation can play an important role in facilitating trust and trustworthiness. Although regulation is often viewed as an enemy of innovation, well-designed regulation can enable innovation – by reducing uncertainty, establishing a level playing field, and establishing mechanisms to manage risk and liability. Finding the right balance where regulation enables rather than impedes innovation and competitiveness, while managing and mitigating risks, is a central challenge for the future of money. Whether that balance exists in the case of open banking and digital currencies – and whether it can be found – are open questions.



# PART THREE

# Open Banking

## III - OPEN BANKING

Canada has a stable and resilient banking and financial system which garners high levels of consumer confidence and international praise for weathering global economic shocks like the Great Recession and the COVID-19 pandemic.[2] Banks and other large financial institutions have strong reputations as prudent stewards of Canadians' finances and financial data. Surveys show that nearly half of Canadians (46 percent) trust banks to "operate competently and effectively and to do the right thing" – bested only by hospitals (67 percent) and grocery and food retail (60 percent) among 15 sectors.[3] While Canada is often criticized for risk aversion and missed innovation opportunities, there is something to be said for moving carefully in financial matters. All else equal, most Canadians likely would prefer a stable over an unstable financial system.

At the same time, many are concerned that Canada is not pursuing and benefitting quickly enough from digitally-enabled financial innovations like open banking. Open banking would allow customers to direct their banks to share certain kinds of financial data with third-party entities who, in turn, use that data to design better financial products, services, and prices.

Careful management of Canadians' finances and financial data is essential, but barriers to data sharing may be preventing consumers from receiving better financial services and impeding fintech firms' opportunities for innovation and growth.

*Is it possible for Canada to have a financial system that is both stable and innovative – that embraces both an innovative use of financial data to benefit consumers and a commitment to maintaining high standards of privacy, security and stewardship of sensitive financial data?*

### WHAT IS OPEN BANKING?

Open banking allows consumers to direct banks and other financial institutions to share their financial data with other financial providers to enable those third-party providers to design new and better financial products, services and prices for consumers. [4] Open banking views consumers, rather than institutions, as the owners of their financial data and empowers them to use and share that data as they see fit.

Banks and other large financial institutions collect data about customers – such as personal data, profiles of financial assets and liabilities, and transaction data. They also generate new kinds of data through analysis – such as risk scores and creditworthiness. Both kinds of data help financial institutions develop customized products and services for clients and set appropriate prices and conditions on the basis of robust risk assessments.

But control of data has tended to reside primarily with banks, making it difficult for non-traditional providers to design and offer competing products to consumers.

Open banking aims to give consumers more control over financial data so that they can share it, if they wish, with non-traditional providers to receive different and presumably better financial products.

## ENABLING OPEN BANKING THROUGH TECHNOLOGY AND REGULATION

Open banking requires technology that enables and regulation that permits data sharing among financial institutions.

- From a technology standpoint, the effective functioning of open banking requires a way for financial providers to access consumers' data in usable forms. Ideally, institutions share consumer data, when appropriate, through secure application programming interfaces (APIs) with standardized data protocols.<sup>[5]</sup> This allows institutions to share data securely and in formats that all institutions understand and can use, eliminating the need to re-code data for different systems. One barrier to open banking in Canada is a lack of agreement and coordination on API design and data protocols.
- From a regulatory standpoint, secure consumer-directed open banking requires a regulatory framework that permits consumers to authorize access to their data and requires institutions that hold it to provide it to authorized 3rd parties. A regulatory framework should also include provisions that address privacy, security, liability, and accreditation of new financial providers. Another barrier to open banking in Canada is lack of agreement and coordination on how a regulatory framework for open banking should address these issues.



## ANTICIPATED BENEFITS OF OPEN BANKING

Open banking shifts power in the financial industry towards consumers, which can spur both new and incumbent firms to offer better products and services.[6] Although questions remain about the magnitude and distribution of benefits,[7] there is emerging evidence from other jurisdictions that enabling consumers to share their data with non-traditional financial providers can improve access to products and services, financial knowledge and financial well-being.

In particular, open banking may facilitate, or is already facilitating:

- **better rates** for a range of financial services, which can reduce costs and improve savings;[8]
- improvements in consumers' **ability to compare products** across financial providers and to **switch providers**;<sup>[9]</sup>
- **faster credit risk assessments** and **increased access to loans**, especially among those with limited or non-traditional credit histories – with limited to no impact on loan default rates, according to recent analyses;<sup>[10]</sup>
- **new or improved financial products and services** – such as tax-preparation tools and budget-tracking apps, consumer financial management tools, small business financial management tools and services, and financial and investment advice and management.<sup>[11]</sup>

Open banking can also generate benefits for the broader financial system and economy. The data- and technology-enabled activities of new financial providers can improve productivity in the financial sector as a whole

and spur new and incumbent firms to further innovate.<sup>[12]</sup>

That, in turn, can contribute to more productive allocations of skilled labour and generate firm-level surplus that can be re-invested in research and innovation and/or used to improve wages. The resulting virtuous circle of financial sector innovation and growth may also place the sector on a stronger foundation to compete with global challengers – both domestically and abroad. Given Canada's persistently weak innovation performance and its implications for economic growth and Canadians' well-being, open banking provides an opportunity to improve.



## ISSUES AND QUESTIONS

Open banking promises a variety of benefits — but there are risks. As the Advisory Committee on Open Banking notes, “managing risk and fostering innovation should be viewed as equally important.”<sup>[13]</sup> Whether consumers come to trust open banking – and whether it is trustworthy – will depend on how well technological and regulatory frameworks protect data and financial well-being, while empowering consumers to use their data to secure benefits.

The need to move quickly is clear. Millions of Canadians already provide third-party financial providers with login and password information to access banking data through a “screen scraping” technique. This largely unregulated open banking “grey zone” not only allows customers to share sensitive data with unvetted institutions, it also exposes consumers to loss and liability risk since the very act of sharing login information violates customers’ agreements with their banks in many cases. As important as it is to get the regulatory guardrails right for open banking, it is also important for regulators to move quickly to minimize the risks millions of consumers already face.<sup>[14]</sup>

***What are the major issues and questions that need to be addressed to enable and regulate open banking?***

### **1.Consumer Empowerment and Protection**

Open banking must both empower and protect consumers. While some open banking advocates say that Canada needs to move quickly or risk falling further behind other jurisdictions, other voices maintain that consumers’ interests need to be protected with clear guidelines about data control and consent, privacy, and liability.<sup>[15]</sup>

### **1.1 Data Control and Permissions**

- **What is needed to empower consumers to control and share their financial data? What kinds of data should they be able to share, with whom, for what purposes, and with what conditions?**

If consumers are to control and be empowered to share, their data as they see fit, Canada will need clear rules about what kinds of data can be shared, with whom, for what purposes, and under what conditions. The Advisory Committee on Open Banking notes that, for consumers to exercise meaningful control, data sharing agreements must be written in plain language and clearly stipulate which data they are requesting and sharing, with whom, any why.<sup>[16]</sup> For many consumers, keeping track of what they have and have not authorized at different institutions, even with plain language agreements, may be challenging.<sup>[17]</sup> Data sharing agreements that are too onerous or required for too many different kinds of data requests could slow the open and efficient transfer of data on which open banking depends.

Canada will also need to make decisions about what kinds of data can be shared. Financial institutions tend to hold two kinds of data:

- **Consumer- or consumer-provided data** are data that have been provided or generated by consumers themselves, including demographic data, information about assets and liabilities, and transaction data.

- **Derived data** are data generated by financial institutions through additional analysis, such as credit risk assessments, market analyses, and new product or service design.[18]

Whereas consumer data might straightforwardly be viewed as belonging to consumers, financial institutions that invest in methods to generate derived data view those data as their own. The Advisory Committee on Open Banking agrees that derived data should be excluded from open banking arrangements.[19] While this seems reasonable, drawing a clear line between consumer and derived data (in part because derived data depends on consumer data for its generation) will be a challenge for open banking.

## 1.2 Privacy

- **What is needed to protect consumer privacy in an open banking environment?**

When consumers authorize financial institutions to access and use their data, they expect the data to remain private and not be used to elicit additional information without their consent. As Scassa notes, “financial data is among the most sensitive of personal data, and making it more readily accessible raises significant privacy and security issues... The troves of interoperable financial data will also be a tempting resource for data analytics, AI and machine learning. Even if the data is de-identified, there may be legitimate concerns about how it is used and for what purposes.”[20] In this light, there are concerns that open banking could amplify risks to privacy by permitting more and new kinds of financial providers to access Canadians’ data.

Few observers think that Canada’s existing privacy legislation is sufficient, but opinion is divided about how much change is needed for open banking. At present, how organizations collect, use and disclose personal information is governed by the Personal Information Protection and Electronic Documents Act (PIPEDA)[21] which some analysts maintain has “notoriously weak enforcement provisions.”[22] Changes were tabled in 2021 – as Bill C-11 (to enact the Consumer Privacy Protection Act) – but the bill died on the order paper and a new bill has not yet been passed.[23] What must financial institutions guarantee with respect to consumer privacy? What penalties and compensations are appropriate for violations of privacy? Are Canada’s privacy laws and regulations equipped for open banking?



### 1.3 Liability

- **Who should be liable when consumer data or assets are lost, stolen or misused in an open banking environment?**

In conventional banking, liability for non-market loss is established through agreements between banks and their clients. In many cases, banks compensate customers for losses that are a result of institutional negligence (or theft or misuse by third parties), so long as customers did not play an active role in the loss. In the current grey area of open banking – where insecure screen scraping techniques are being used – consumers are exposed to substantial risk and liability because, in many cases, they violate their agreements with their banks when they provide login credentials to third parties. Safe and secure open banking will require new liability rules that “advance economic outcomes and consumer welfare.”[24]

### 1.4 Financial Equity and Inclusion

- **What arrangements are needed to ensure that open banking reduces rather than exacerbates inequality and exploitation of vulnerable consumers? "**

Open banking advocates claim that financial well-being for less well-off Canadians and financial inclusion will improve with open banking. Better access to and use of financial data by third-party providers is expected to enable more favourable credit and loan decisions for those with unconventional credit histories, increased savings from better priced financial products, and better tools for financial management and financial literacy.



Yet, there do not appear to be any attempts to quantify the magnitude of these promised improvements, nor analyses which examine whether improvements for the less affluent would be substantial enough to keep pace with benefits achieved among the more affluent.

Additionally, there are concerns that open banking creates new opportunities for “exploitation of vulnerable individuals” through, for example, “sales pitches for technological fixes for their financial woes.”[25] With more institutions able to access more data and engage directly with consumers, more of this is likely. Another concern has to do with unintended, but nevertheless consequential, bias in algorithmic and automated decision-making systems. Open banking promises better products and prices based on more sophisticated and automated data analyses, but there is a risk that poorly analyzed data could contribute to bias against customers along gendered, racial, geographic, or other demographic characteristics.[26]

## 2. Data Security

- **What measures are needed to ensure data security in an open banking environment?**

Open banking depends on data portability, which means that more data will be shared among more institutions generating more vectors and opportunities for data security breaches.[27] As Bauer and Ahmad note, “the key threat to open banking is its security vulnerability, which can undermine the entire open ecosystem. As a general proposition, [financial institutions] are at a higher risk of cyberattacks given the financial windfall for hackers. This risk increases when new connections are made between various entities.”[28] While cyber security in the financial sector has always been a priority, the proliferation of new institutions – especially new financial providers with limited experience and insufficient resources for cyber security – generates new risks.

At the same time, in the current grey zone of open banking there are millions of Canadians providing their bank login details to third-party providers to “screen scrape” their data, resulting in reams of data being collected, stored, and used with unclear rules about data security and liability. In that case, not moving ahead with formal, well-regulated open banking arrangements may entail just as much, or more, data security risk. There is a case to be made that formally enabling and regulating open banking would constitute harm reduction.

Exactly what data security requirements are needed, by whom, and with what kind of oversight are open questions. Should financial providers be required to implement specific, regulator approved data security measures – including technologies and processes to protect data from theft and misuse? Or should they simply be held liable for losses and allowed to take whatever data security measures they regard as necessary and prudent to limit their exposure?

## 3. Infrastructure and Technical Standards

- **What digital infrastructure and technical standards are needed to enable secure and efficient transmission of data among institutions?**

Data portability requires a data transmission infrastructure that is secure, efficient, and consumer-friendly. Banks and new financial providers require shared technical infrastructure and data formatting standards to enable and empower consumers to own and share their data as they see fit. Open





banking infrastructure will also need clear protocols and processes for consumers to provide and manage consent, and to authenticate their identities.[29] In short, open banking requires both user tools (“faucets”) to empower consumers to turn their data flows on and off as they see fit, and a background infrastructure (“plumbing”) that facilitates the flow of data from one institution to another.

There is disagreement about who should design and operate infrastructure and standards, and how. One approach is to have common technical standards to avoid fragmentation and ensure a consistent consumer experience across the financial system. This would reduce friction for consumers who wish to deal with multiple institutions, and enable cooperation on data security and liability. By contrast, permitting multiple consumer-facing standards to flourish allows for innovation and competition to identify consumer-preferred models.[30] Which approach to infrastructure and standards would maximize benefits and minimize risks for consumers?

Should the decision rest with financial providers (with multiple standards likely emerging); to a regulatory or advisory body (with common standards likely emerging); or a mixed approach?

#### **4. Financial System Stability**

- **Is it possible to have an innovative financial system, that is also stable and trustworthy? Is open banking consistent with stability and trustworthiness?**

Canada has a reputation for having a stable and resilient financial system, but also one that is arguably averse to innovation and competition that might further benefit consumers. Open banking aims to offer more emphasis on the latter. Can it do so without undermining the stability and resilience on which Canadians have come to rely? Whether open banking negatively affects financial system stability depends on how well stakeholders address issues related to consumer empowerment and protection, data security, and technical infrastructure and data standards. If risks are well-managed and consumers have safe and beneficial experiences, then consumer confidence will be stable, or even improve given new benefits. If not, then financial system stability may suffer.

Financial system stability and resilience will depend in part on how banks respond to innovation. Will they imagine new roles, products, and partnerships for themselves or try to hold onto market share through existing products? Stability might also be upset by foreign financial providers using open banking as a way to enter a highly regulated Canadian system.

While consumers might see benefits, the health of the domestic financial system will depend on how well domestic firms respond with competitive products and services. To be sure, regulators could impose stringent conditions on foreign financial providers to protect Canadian firms, but that might prevent consumers from reaping the full benefits of open banking.

## WHAT WE HEARD FROM PARTICIPANTS AT FOM2022 ON OPEN BANKING:

"It's clear that open banking is going to be a reality. Other countries are already well down the path towards it. But we need to do it safely and securely. Innovation will flourish when there is reciprocity among key players and when other industries – beyond finance – are involved."

"We need to move forward with open banking to advance competition and innovation. But consumers need to have confidence in what happens to their money. Digital is changing how people interact with companies and each other. Banking is a starting place. We need to think about the broader issues around wealth, accumulation of assets, asset protection, and financial security."

"To contribute to innovation and the well-being of Canadians, we need more competition, choice and efficiency in banking. But we need to make improvements and advance open banking safely and securely if it is to succeed."

"Open banking and data sharing is not an 'if', it's a 'when'. We have an opportunity to get ahead of this, to develop a framework, to develop alternative ways of getting to it. But we have to start from a place of risk mitigation. With great data comes great responsibility. Privacy and security are table stakes. When you start executing, you can figure out where your guard rails need to be."







"Maintaining consumer confidence is critical. One or two big data breaches can undermine confidence in the whole system. So we need to be transparent about what we're doing and make it secure."

"We often focus on the risks. What is the ambition? What's the positive case for doing this at all? Are we satisfied with the status quo in Canada?"

"We're talking about creating a whole ecosystem in order to create more wealth for Canadians. Part of that involves getting the technology right. We need a standard set of APIs that reduce friction in the system and make the experience easy for consumers. We also need a digital ID system to validate identity and avoid fraud. Part of it requires getting policy right. We need to ensure we have the right policy frameworks to protect consumer privacy and well-being, and enable new firms to access the system and innovate."

"We haven't talked a lot about value — where is the value to our business and where is the value to our consumer? There are intergenerational differences around the trade-off between privacy and convenience. The younger generation has a totally different mindset. We can't ignore this."

"If Canadian firms are going to be competitive in using data to delivery benefits to consumers, we need to recognize that banking data is a small slice. Data collected by big data firms gives them a much richer data system to exploit. Public policy needs to think about that."

"We keep talking as if banks and businesses own consumer data. Consumers should own their data and be able to direct how it is used."

## POLICY OPTIONS

Canadians will disagree about the extent to which open banking should be enabled and regulated. Recognizing that data sharing through screen scraping is already pervasive and generating risk, regulatory interventions are both inevitable and prudent. But what shape should they take? Four options are worth considering.

### 1. Accreditation of Market Entrants

Establishing an independent body to evaluate and accredit new financial providers could address concerns about privacy, security, and liability, as well as provide consumers with assurance that new entrants are financially and operationally fit. An accreditation body plays a central role in open banking in the U.K.[31] Candidate firms could be required to demonstrate financial fitness, clear and transparent agreements and processes for consumer consent and withdrawal of consent, evidence of security policies and protocols that meet minimum standards, acceptance of appropriate liability, demonstration of capacity to fulfill liability obligations, and other relevant criteria.[32] Foreign firms might be required to meet additional criteria to be accredited.

- **Benefits:** Accreditation can reduce, though not eliminate, concerns about a range of privacy, liability and security risks by allowing firms to demonstrate their fitness and trustworthiness. It also shifts regulatory action away from an onerous transaction-by-transaction approach to one focused on institutional integrity.
- **Risks:** Accreditation could be a barrier to entry to smaller firms who may be fit for open banking, but lack the resources to participate in an accreditation review. A practical challenge is to design an accreditation body and assessment requirements in ways that are insulated from industry capture, while ensuring responsiveness to the open banking ecosystem.



## 2. Revising Privacy Legislation

New or revised privacy legislation could clearly articulate what counts as “consumer data” (versus derived data), under what conditions firms may collect, share, and store data, what kinds of consent are required from consumers to use data, and what kinds of uses are permissible. Clear processes for reporting and investigating privacy violations, and penalties that are severe enough to discourage intentional violations, may also be worth exploring. A recent provincial act – Quebec’s Act to modernize legislative provisions as regards the protection of personal information enacted in September 2021 – may provide guidance. It includes a data portability right to enable consumers to direct institutions to share their data, as well as heavier fines for non-compliance with privacy provisions, enhanced requirements for data breach notification, consent, and data protection.[33]

- **Benefits:** Ambiguities and weaknesses in current privacy legislation are repaired, giving consumers greater confidence to share their data with new financial providers – and thus greater certainty for open banking as a whole. Clear penalties for violations would discourage unauthorized collection and use of data.
- **Risks:** Lengthy review and revision of privacy legislation could further slow Canada’s shift to open banking. Coordinating and harmonizing privacy legislation with other countries may add further complications and delay.

## 3. Technical Standards

Canada’s newly appointed open banking lead should move quickly to establish a process to discuss and design appropriate infrastructure and technical standards – “plumbing” – to enable more secure and frictionless data transmission. Given the growing phenomenon of “screen scraping” and the security and liability risks it entails, implementing clear and secure protocols is a harm reduction imperative. Moreover, given the risk of fragmentation and consumer frustration that could arise from different data formatting standards and consumer interfaces, it may be preferable to have stakeholders agree on common standards rather than letting the market decide. This will require substantial consultation among all relevant stakeholders.

- **Benefits:** Shared and standardized infrastructure and data formats would enable rapid and secure transmission of data from one institution to another when requested by consumers. Common standards and interfaces would provide consumers with a coherent experience across institutions.
- **Risks:** Reaching agreement on shared standards among different stakeholders may be time-consuming – if an agreement can be reached at all. Common standards reduce the ability of new financial providers and partners to experiment with models that may be preferable to consumers.

#### **4. Tracking Financial Inclusion & Equity**

Ongoing monitoring and assessment of the impact of open banking on financial inclusion and vulnerability could help alert regulators and stakeholders of negative consequences for Canadians. While exploitation by malevolent actors could be minimized through accreditation, algorithmic bias and negative distributional impacts would likely remain. Systematically tracking how open banking affects different consumer demographics would provide a basis on which to make adjustments. For algorithmic bias, a more anticipatory, pro-active approach may be to require financial providers to submit automated decision-making models and anonymized data for assessment. The Treasury Board of Canada has a process to evaluate automated decision-making models in the public service which could be adapted for open banking.[34]

- **Benefits:** Tracking financial inclusion and equity, and conducting assessments of automated decision-making models, would alert regulators and stakeholders to the need to make changes to ensure inclusion and fair distribution. It could also help to improve financial system confidence among lower-income households who historically have reported lower levels of trust in banks and other financial institutions.[35]
- **Risks:** Algorithmic assessment would require more regulatory touch-points with and submissions from financial providers, risking inefficiencies and additional costs in the system. Tracking impacts on financial inclusion and well-being might generate important data, but it is not clear who would be responsible for addressing inequities.



## U.K. – LEARNING FROM A GLOBAL LEADER IN OPEN BANKING

The U.K. is a leading jurisdiction for open banking, having started down the path earlier than other advanced economies and now further along in its efforts to establish an ecosystem that supports financial innovation while protecting consumers.

### Challenge and Opportunity

Prompted by developments in data sharing and payments modernization in the European Union in the early 2010s, the U.K. established an Open Banking Working Group in 2015 to think about the opportunities, risks, and practical steps required to facilitate and regulate open banking. At the same time, the Competition and Markets Authority (CMA) conducted a review of the financial system more broadly and released a report in 2016 which concluded that “the sector is still not as innovative or competitive as it needs to be.”[36] The report argued that the U.K. financial system offered little incentive for banks to improve or expand services for customers, incumbents were doing a poor job of adopting emerging digital technologies, and barriers to new entrants were high.

The CMA directed the nine largest financial institutions to create an Open Banking Implementation Entity (OBIE) to take the technical and behavioural steps necessary to enable safe and secure sharing of financial data.[37] The OBIE is a non-profit steering group with representation from banks, “challenger banks”, fintechs, and consumer and business groups. Among its core activities are to guide the development and implementation of the technology required to enable data sharing, reach agreement on standards for data formatting, and ensure that the overall

architecture of open banking is secure against cyberattacks and fraud. When the members of the OBIE cannot reach agreement on some policy or strategy, an Implementation Trustee is empowered to make a final and binding decision for all.[38]

### Implementation

Three major implementation phases occurred in 2017 to 2018. In early 2017, banks were required to begin sharing generic impersonal information about their products, ATM locations, and other data in standardized ways to help customers make easier comparisons and decisions about products and services across institutions. The second phase, beginning in 2018, allowed and enabled customers to direct financial institutions to share their financial data with 3rd parties, while those 3rd parties were authorized to analyze customer data (to support product development and sales) and aggregate consumer data to let customers see all of their account information in one place. At the same time, the OBIE established criteria and an application process for 3rd party providers to become accredited authorized providers. Authorization can be obtained either by meeting the criteria established by the U.K.’s Financial Conduct Authority or by being authorized by another European regulator and enrolled in the OBIE directory.





## Results

By late 2021, just a few years after open banking began operation, the U.K. had become a global hub of open banking and fintech activity. The CMA notes that there are more than 330 regulated firms, including 230 3rd party providers of products and services, and more than 90 payment account service providers.<sup>[39]</sup> This marks a three-fold increase in open banking firms in the U.K. in just two years. The CMA estimates that roughly half of all small businesses and more than 4 million consumers use open banking services.<sup>[40]</sup> For their part, legacy banks have found ways to foster and play host to third-party services – viewing themselves as “platforms” and partners in the open banking ecosystem rather than mere service providers and competitors to emerging firms.<sup>[41]</sup> And, according to one analysis, by 2019, “almost half of global fintech investment went to the U.K.” because it offered certainty in its open banking regulatory regime.<sup>[42]</sup>

The results of the first few years of open banking in the U.K. have generated two interesting phenomena. The first is that the risks that open banking skeptics flag – especially unauthorized access or misuse of data – have generally not materialized. The system created has been largely secure and well-regulated. The second is that many of the benefits that open banking advocates promote – especially financial inclusion and equity – have been muted. That is, benefits have emerged, but there has been no great transformation in the financial well-being of the less well-off.

## AUSTRALIA: MUDDLING TO AN OPEN BANKING ECOSYSTEM

While not a global leader in open banking, Australia is further along than many advanced economy peers, including Canada. Australia has made some progress towards open banking – and many institutions and consumers are now participating – but regulatory decisions have slowed development and diffusion.

### Consumer Data Right and Open Banking

In the 2017 Budget, the Australian government signalled its intention to introduce open banking and commissioned a review to provide advice on the implementation. The review was published in February 2018, offered advice on phased implementation, and recommended that open banking in Australia be customer-focused; competition-enhancing (for consumer benefit); opportunity-enhancing (for business and economic benefit); and efficient and fair.<sup>[43]</sup>

Open banking in Australia is a companion to a broader Consumer Data Right initiative – a system in which consumers are empowered to direct institutions (including banks) to transfer their data to third party institutions. Open banking was effectively enabled by the 2020 Consumer Data Right legislation that, among other things, empowered Australians to direct financial institutions to share their data with other providers.<sup>[44]</sup> It essentially launched the process to open banking proposed in the 2017 budget and outlined in the 2018 review. In the first phase of its transition to open banking beginning July 1, 2020, Australia allowed consumers to direct banks to share credit and debit card

information, as well as data related to deposit and transaction bank accounts. In November 2020, data related to mortgage and personal loans were added to the list, and in July 2021, business finances, retirement account information and other accounts were included.<sup>[45]</sup>

### Status

Up and running for nearly two years, open banking in Australia has had mixed results. To date, 16 banks representing 85 percent of Australia's household deposits are open banking participants – allowing consumers to direct them to transfer data to third party providers. This is a substantial level of participation by legacy institutions and a positive sign for open banking, given worries about how legacy institutions would respond. As of December 2021, however, only thirteen 3rd party organizations have been accredited and are active as data recipients – including some fintechs, accounting firms and firms that facilitate financial product comparisons.<sup>[46]</sup>

### Accreditation Challenges

According to some observers, the slow uptake of open banking in Australia is a result of costly and onerous accreditation procedures for candidate third party providers.<sup>[47]</sup> Regulators' desire to protect consumer welfare and ensure that data recipients have acceptable levels of cybersecurity and privacy policies in place appears to be taking priority over speedy innovation. In some ways, this is surprising, since the agency leading the open banking initiative – the Australian Competition and Consumer Commission (ACCC) – has

been promoting competition as its “primary statutory objective,” albeit with a concern for consumer protection.[48] Whether Australia has the right balance between protecting consumers and facilitating innovation is an open question – and one that all jurisdictions will need to grapple with. With its prioritization of customer well-being Australia is an example of a careful, albeit slow, transition to open banking.



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**PART FOUR**

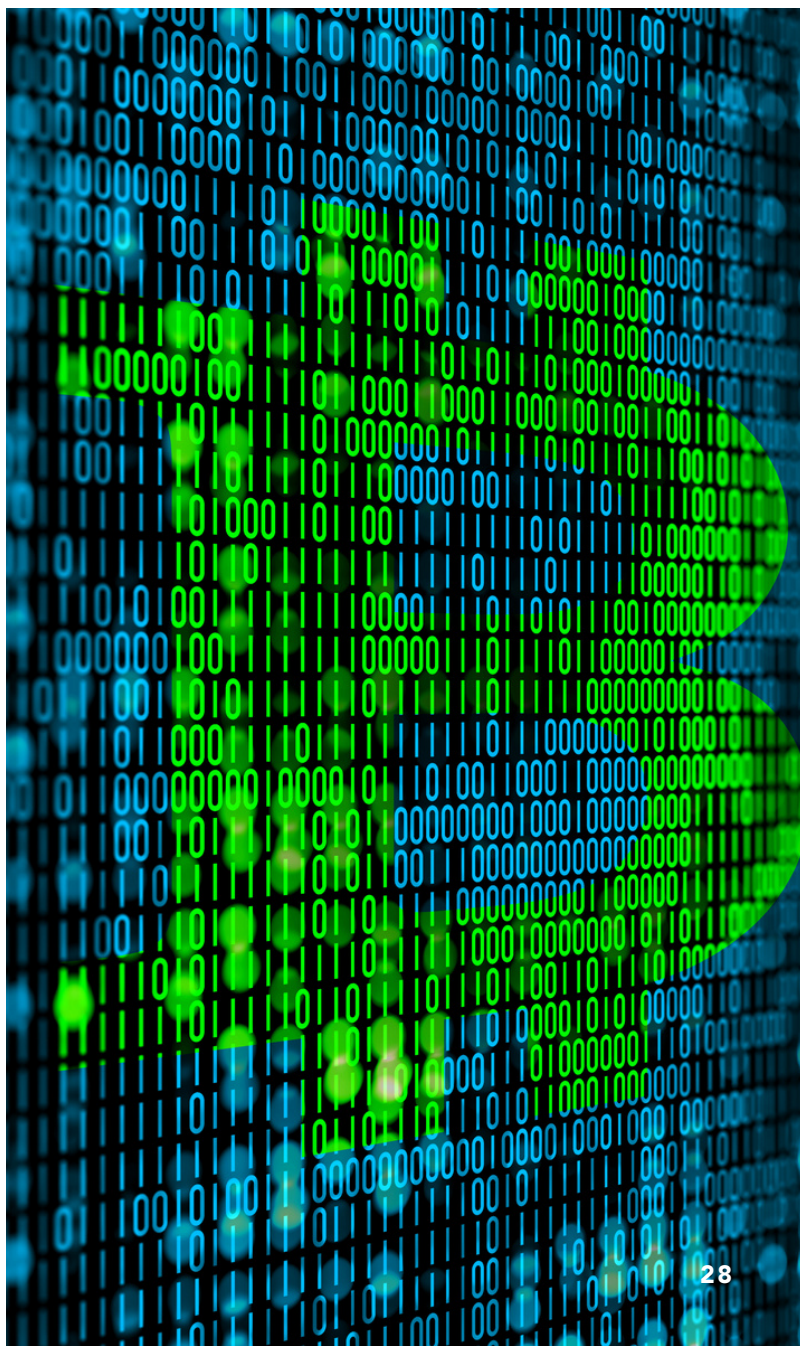
**Digital Currencies**

## IV – DIGITAL CURRENCIES

Digital currencies are a rapidly growing financial innovation that consumers, financial systems, and governments are carefully examining – both for their benefits and risks. The most prominent digital currency – Bitcoin – was launched in 2008 and has since become a well-known, if not always well-understood, asset that is used as both a medium of exchange and an investment asset. In the meantime, an estimated 20,000 additional digital currencies and tokens have been launched with a current combined market value of more than \$2 trillion USD – up from roughly \$14 billion just five years ago.<sup>[49]</sup>

There are many opportunities presented by digital currencies and crypto assets for investors, businesses, and countries. Digital currencies are touted for their potential contributions to payments modernization, facilitating financial independence for individuals and countries, as a promising investment asset and, more controversially, as a “hedge against inflation.” But there are serious risks and concerns. Digital currencies and exchanges are regarded by many as insecure, poorly understood by consumers, conducive to illicit economic activity, highly volatile, and contributors to substantial environmental harm. Even more concerning are the claims that digital currencies and assets might undermine the ability of democratic societies to collectively self-govern and exercise sound economic stewardship.

Is it possible for Canada to permit, or even embrace, digital currencies in ways that facilitate benefits for investors and businesses, while ensuring that negative impacts to consumers, the financial system, democratic governments, and the environment are minimized and well-managed? What are the issues and what regulatory guardrails are needed?



## WHAT ARE DIGITAL CURRENCIES?

While the term “crypto” covers a broad range of digital assets and platforms, digital currencies can be defined more narrowly as digital assets that are used as money and/or as investments. They are secured through cryptography, often using blockchain technology to verify and store transactions.[50] And they operate largely beyond the reach of central banks and governments by relying on peer-to-peer transactions and shared records.

The most well-known digital currency, Bitcoin, was developed in 2008 and serves as an illustration. Bitcoin operates free from central bank or government control, relying instead on peer-to-peer software and cryptography to facilitate, verify and secure transactions. A public ledger, copies of which are housed on servers across the globe, keeps track of all Bitcoin transactions and ownership.[51] Transactions are broadcast to the entire public network and collected into blocks on the blockchain - a decentralized, distributed database that registers information in digital form[52] – providing an official consensus record of ownership.

Individual holders keep track of their Bitcoin with digital wallets that can be accessed through a range of software and applications.[53] Bitcoin can be used to pay for goods and services from merchants who agree to accept them as payment and/or held and traded as investment assets.

Digital currencies are rising in popularity. As of October 2021, roughly 14 percent of Canadians held some kind of digital currency – up from just 3 percent in 2016.[54]

While few businesses accept or plan to accept digital currencies in 2022 – just 8 percent of Canadian businesses according to a recent survey[55] – the number is much higher than the few hundred who did so in 2019.[56] And they are becoming more important in investment markets. Institutional investors and large companies, like MassMutual, JP MorganChase, MicroStrategy, Tesla, and others are involved in digital currency investment and at least one cryptocurrency exchange, Coinbase, is listed on NASDAQ.[57]

## ANTICIPATED BENEFITS OF DIGITAL CURRENCIES

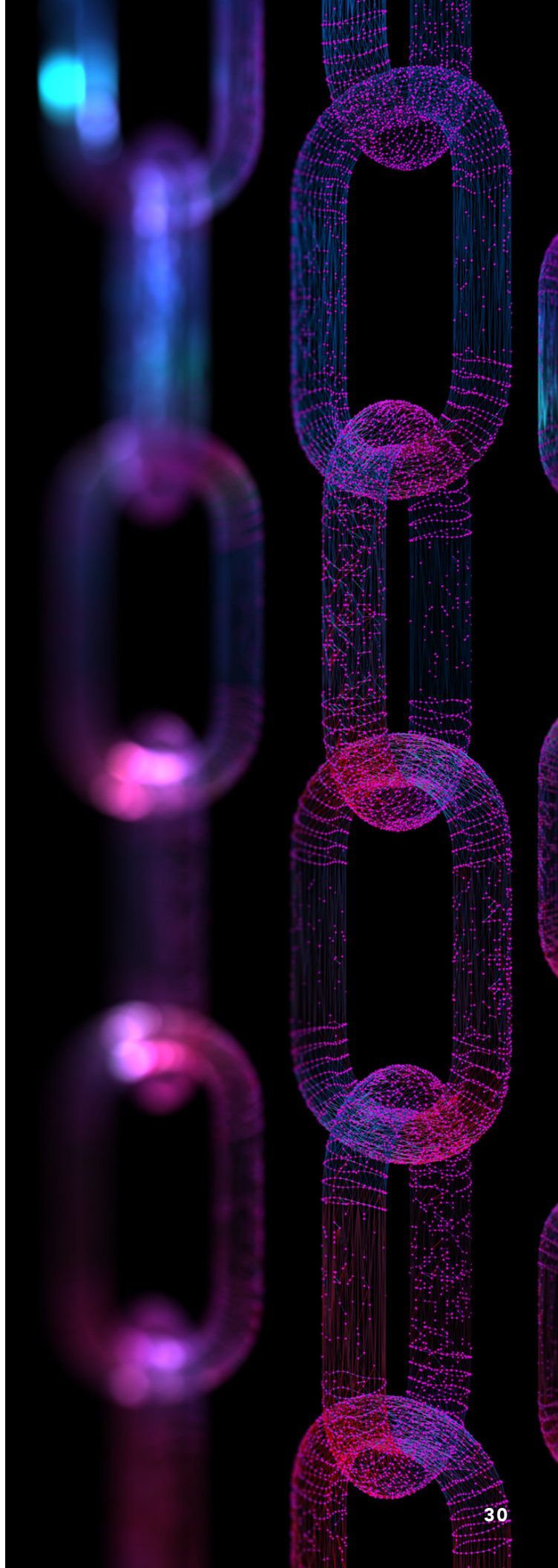
Digital currencies are touted for two categories of potential benefits – benefits arising from digital currencies as media of exchange (with greater “freedom to transact”[58] in light of limited interference from central authorities), and benefits arising from digital currencies as investment assets. Evidence about whether and to what extent digital currencies provide these benefits, and at what individual and social cost, is limited, but advocates nevertheless maintain that they have substantial potential. In particular, digital currencies are expected to offer:

- **faster and cheaper digital payments and transactions**, both domestic and global;[59]
- **freedom to transact** with less scrutiny and interference from banks and regulators;[60]
- **new investment assets** for retail and institutional investors with varying risk profiles;

- a “[hedge against inflation](#)” according to some advocates;
  - While governments and central banks can expand the conventional money supply, digital currency advocates note that the supply of some prominent currencies, notably Bitcoin, is fixed and therefore less susceptible to “[artificial inflation](#)”;[\[61\]](#)
- [financial independence](#) from global financial institutions and centres;
  - some jurisdictions, notably El Salvador, believe that cryptocurrencies can reduce dependence on and influence from the United States by making cryptocurrencies – in this case, Bitcoin – a “[parallel official currency to the U.S. dollar](#)”;[\[62\]](#)
- [financial inclusion](#) among people and communities who lack access to and/or lack of trust in the conventional banking system;
  - Participants at a 2018 Blockchain Africa Conference noted that “if aptly regulated, digital currencies could widen access to banking and financial services by providing a secure, trusted, and transparent way of saving and paying.”[\[63\]](#)

There is also the potential for jurisdictions to host crypto companies, currency exchanges, and related servers and facilities. Alberta, for example, has indicated its interest in becoming a “[cryptocurrency destination](#).”

By attracting cryptocurrency firms, the province expects to enhance its tech economy and generate more and better jobs for residents.[\[64\]](#) Whether making a jurisdiction crypto-friendly generates net benefits and contributes to an innovation economy is unclear, but many jurisdictions are competing for the opportunity to find out.





## ISSUES AND QUESTIONS

Digital currencies promise a variety of benefits, but there are substantial risks. As some analysts note, the very decentralized nature of digital currencies and the “freedom to transact”<sup>[65]</sup> that crypto-advocates find attractive, generate a range of economic, legal, political and environmental challenges. Moreover, whether consumers come to trust digital currencies – as currency or investment assets – will depend on the extent to which the crypto community and regulators can articulate their value and manage their negative effects.

### **What are the major issues and questions raised by digital currencies that need to be addressed and possibly regulated?**

#### **1. Consumer Understanding and Trust**

- *Do consumers understand and trust digital currencies? Should they?*

Despite substantial discussion of digital and crypto currencies in conventional and social media, very few consumers understand them, and fewer are prepared to trust them enough to invest. For those who aspire to have digital currencies achieve widespread acceptance, this is a significant hurdle. At the same time, it is not clear that greater awareness and understanding will lead to higher trust and acceptance. As consumers become aware of and learn more about digital currencies, many are concluding that the risks outweigh the potential benefits.

While a 2019 survey showed that 77 percent of Canadians had heard of “Bitcoin,” no other digital currency achieved more than 10 percent awareness. Ethereum was a distant second at 10.2 percent, followed by Ripple (8 percent), Litecoin (6 percent), and Dash (5 percent).<sup>[66]</sup> Another survey revealed that 14

percent of Canadians hold one or more digital currency, but that 63 percent have no intention of buying any in the future, citing concerns about price volatility (42 percent), that it “feels like gambling” (32 percent), or a poor understanding of how to “cash out” (28 percent), as reasons for not investing.<sup>[67]</sup> In short, awareness is high, but understanding is thin, and uptake is limited. Digital assets will have to gain much more awareness and understanding to become more prominent parts of the financial landscape.

#### **2. Value and Volatility**

- *How much risk does the price volatility of digital currencies pose for users and investors? What, if anything, should be done to protect consumers from volatility?*

Among the major concerns analysts and observers have about crypto are their value fundamentals and price volatility. Digital currencies are essentially speculative assets. They have no tangible backing and no obvious mechanisms for stabilizing value aside from supply restrictions. As a result, prices are highly volatile. That volatility generates risks for those who might accept digital currencies as payment for goods and services, and for retail investors who lack the knowledge and skills to manage volatility.<sup>[68]</sup>

As former senior deputy governor of the Bank of Canada, Carolyn Wilkins, notes, because “95 per cent of the crypto market is unbacked...much more needs to be done with respect to investor protection and market integrity, particularly given that exposure to these assets is widening to retail investors.”<sup>[69]</sup>

Consider Bitcoin. In 2021, Bitcoin saw price swings of 50 to 100 percent.[70] Bitcoin rose from USD \$37,000 to USD \$64,000 between January and April 2021, fell back to USD \$37,000 in July, and rose again to USD \$67,000 in November. In 2022, Bitcoin started the year at \$47,000, fell as low as \$35,000 and, as of April 2022, was priced at \$40,000.[71] Other, less prominent, digital currencies have been known to lose 100 percent of their value in just 24 hours.[72] Not only does such volatility pose a substantial risk for merchants and retail investors and impair uptake, it significantly undercuts the claim that crypto serves as a “hedge against inflation.”

### **3. Financial System Stability and Democratic Governance**

- *Are digital currencies compatible with financial system stability and democratic governance? Are digital currencies a friend or foe to democracy?*

A core rationale for digital currencies is that they can be acquired, traded, and used with limited oversight and interference from central authorities. The supply and value of digital currencies are controlled by market actors, not governments; as much a reflection of a libertarian ideology as they are currency and assets. But the same reason that makes digital currencies attractive to some – a freedom to transact – generates concern among others that they undermine the ability of central banks and governments to steer their economies prudently and fairly.

One concern relates to financial system stability. As Wilkins notes, “the crypto ecosystem is growing at light speed and the emergence of leveraged players is something to watch. A sharp fall in the value of crypto assets could trigger margin calls, forcing leveraged investors to liquidate positions. This could snowball into other asset classes, especially if interconnectedness with the traditional financial system keeps growing.”[73] Others are less concerned, noting that the size of the crypto market, while growing, is not yet large enough to generate substantial system-wide effects. A collapse in price may cause “ripples” and affect retail investors, but would not cause significant damage to the stability of financial systems or banks.[74]

Another concern relates to [economic stewardship and democratic governance](#). Central banks and governments achieve some key policy objectives by managing the money supply. Digital currencies operate outside these systems and therefore could make economic stewardship difficult if uptake reaches critical levels.[75] The possibility that governments and central banks may find it more difficult to achieve their aims raises questions about whether decentralized finance undermines, rather than bolsters, the ability of communities to collectively shape their futures.[76] Can the tension between “freedom to transact” and democratic governance be resolved? [Are cryptocurrencies friends or foes to the future of democracy?](#)

#### 4. Security and Fraud

- *What are the security and criminal implications of digital currencies? What, if anything, can be done to minimize them?*

Security violations and fraud are also concerns for digital currencies. On the one hand are concerns about theft from legitimate owners of digital currencies. On the other hand, are concerns about the extent to which the off-grid, anonymity of digital currencies enables and facilitates illegal activity. How these issues are addressed will affect consumer trust in crypto.

Consumers, merchants, and investors want their money and assets to be secure against theft. It is not clear that digital currencies have achieved the level of security users and investors expect. While other kinds of money and assets can be stolen, digital currency theft appears to be more common and, critically, much more difficult to trace and recover when it happens.[77] In 2014, the Japan-based bitcoin exchange, Mt. Gox, was hacked and \$473 million dollars' worth of bitcoins were stolen.[78] More recently, over \$600 million of the digital currency Ethereum was stolen from users on the Axie Infinity network.[79] Axie has said that it will compensate users, but the example highlights questions about how to better secure networks and who should bear the loss when tokens or currencies are stolen.

Another concern is that the anonymity and global reach of digital currency transactions facilitate and enable criminal activity, including money laundering, tax avoidance, illegal drug sales, terrorism, and other activities.[80]

Some research suggests that between 25 and 50 percent of Bitcoin transactions may be associated with some kind of illegal activity, though it is not clear what these estimates are based on.[81] There are many documented cases of cryptocurrencies being used to finance illegal activities, including a high-profile case in which the FBI shut down a website and charged its owner for facilitating illegal drug sales using Bitcoin.[82] Other analysts suggest that there is nothing unique about crime conducted through or with digital currencies – the same activities have been committed using cash and other conventional currencies.[83]



## 5. Environmental Impact

- *How should the environmental impact of digital currencies be addressed? What strategies can be used to avoid jurisdiction shopping and more damaging operations?*

Digital currencies and assets are part of the intangible economy, but their environmental impact is anything but. The underlying infrastructure – i.e., the servers required for token mining, and recording, verifying, and storing transactions – is energy intensive. According to some estimates, the annual energy required to support Bitcoin mining (the process of solving cryptographic puzzles to earn Bitcoin) and tracking transactions is equivalent to that used by Norway. Processing a single Bitcoin transaction requires \$100 worth of electricity, and generates more than 800 kilograms of carbon dioxide, according to one report. A single Ethereum transaction has a carbon footprint of 62 kilograms of carbon dioxide.[84]

The substantial environmental impact of digital currencies led China to ban all cryptocurrency mining operations in the country in 2021. A year earlier, China was the site of two thirds of the world's crypto mining operations. More recently, the U.S. Congress has announced plans to investigate digital currencies' environmental impact. Thus far, these and other moves have not reduced digital currencies' environmental effects; instead, they may have prompted crypto firms to shop for jurisdictions with weaker regulations. After China banned mining operations, a significant amount moved to neighbouring Kazakhstan where coal plants, rather than more sustainable sources of energy, are being used.[85]

## WHAT WE HEARD FROM FOM22 PARTICIPANTS ABOUT DIGITAL CURRENCIES

"None of the risks attributed to crypto are unique to crypto. Crypto is no more volatile than other asset classes. The risks are overstated."

"Public understanding is an issue. Is crypto a currency? An asset? A technology? All of these? Unless and until we can explain crypto and digital currencies to the public, adoption rates will remain low."

"Where do we want to go and what do we want to achieve with crypto? What exactly is the opportunity to be seized? There are many different answers and a lot of ambiguity at the table. What do we agree on?"

"We don't really know what crypto will do for payments, We don't know what opportunities it can unlock. We need more research."

"There is an urgency to clarify what crypto is. We need to be able to explain this to people on the ground. What is the innovation here? Why should people care? Why should regulators enable crypto rather than shut it down?"

"We should distinguish between the exchange use and investment use of crypto. People want roughly stable currency, not something with the volatility of an investment asset."







“The problem in Canada is that there are two crypto economies: A regulated one and an unregulated one. People should be free to invest in speculative assets if they want, but the whole system needs to be regulated. If you don’t regulate the wild west and the bad apples, you’ll see declining trust and a lack of confidence.”

“Crypto is transparent. Bitcoin & crypto is not the arena for money laundering that people might think it is.”

“Canada has been a leader in crypto and blockchain. The first publicly traded digital asset companies were born here. The Bitcoin Mining Council has three Canadians. After China shut down Bitcoin mining companies, Texas invited innovation in while Canada has languished. We’re sitting on our hands, finding new ways to regulate instead of innovate.”

“The entire Bitcoin network uses the energy equivalent of Christmas lights in North America. The question is not what impact Bitcoin mining has on the environment; the question is whether the Bitcoin network has value.”

## POLICY OPTIONS

Many will disagree about the nature of, and how to weigh, the benefits and harm of digital currencies. Even if there is a desire to regulate digital currencies more stringently, doing so faces the problem of engaging with assets that are designed to evade central control. Initial efforts are already underway: Budget 2022 allocated \$17.7M over five years to the Department of Finance to “review the digital currency sector.”<sup>[86]</sup> What steps can and should Canada take to better manage the risks of digital currencies? Four options are worth considering.

### **1 - Education and Financial Literacy**

Canadians’ awareness and understanding of digital currencies is limited. Of the information that is available, much comes from social and conventional media which appear to overemphasize both benefits and risks. The Financial Consumer Agency of Canada offers clear explanations of what digital currencies are, how Canadians might use them, and what risks they face in doing so, but there does not appear to be a well-funded effort to reach Canadians and enhance their understanding.<sup>[87]</sup> If digital currencies are allowed to circulate in Canada, then existing financial literacy curricula should be updated to help students understand and make informed decisions. Additionally, efforts to reach adult Canadians considering using or investing in digital currencies should be considered – perhaps prompted by their interactions with crypto exchanges and financial institutions that facilitate crypto activities.

- **Benefits:** Financial literacy initiatives can improve awareness and understanding among consumers, helping them make more informed decisions about digital currencies. As an alternative to heavier regulation, they allow digital consumer firms, exchanges, users and investors more freedom to transact.
- **Risks:** Financial literacy may put too much onus on individuals to evaluate trustworthiness rather than on digital currency firms and exchanges to operate more responsibly. It is also unclear whether financial literacy initiatives in general make much difference in long-term investor knowledge and behaviour, or in poverty rates and levels of inequality.

Finally, given deep disagreement about the benefits and risks of digital currencies, attempts to design appropriate curricula and messages may be hampered by debate and attempts by vested interests to shape outcomes.



## 2 - Accreditation and Regulation

Given concerns about security, illegal activities, irregular trading, and ensuring that consumers understand what they are investing in, Canada may want to consider more robust accreditation and regulation of digital currency trading platforms and investors. According to Wilkins, Canada was “one of the first to establish registration requirements for crypto trading platforms...[and] set expectations with regards to client protection.” But, she continues, “what’s trailing are the regulatory, supervisory and enforcement capacities.”<sup>[88]</sup> Other jurisdictions are making similar moves: The U.S. Securities and Exchange Commission and the U.K. Financial Conduct Authority want digital currencies regulated like other financial assets, with only “qualified investors and authorized brokers” permitted to trade.<sup>[89]</sup>

- **Benefits:** More robust accreditation and regulation of platforms and investors would provide ordinary consumers with greater confidence in digital currencies and the organizations that facilitate their use and trade. It would also allow for officials to better monitor and address irregularities that could negatively affect consumers.
- **Risks:** Accreditation and regulation would undercut much of what crypto-advocates find attractive about digital currencies – namely, that they are beyond the reach of central authorities. Regulation and requirements that are more substantial than in peer jurisdictions could prompt crypto firms to shift their operations elsewhere.

## 3 - Environmental Regulation

Canada could impose strong environmental regulations on crypto operations that use substantial amounts of energy and generate significant environmental impacts. This would apply only to operations that locate in Canadian jurisdictions. In parallel or alternatively, Canada could impose an environment impact tax on digital currency transactions to ensure that digital currency users are aware of and made responsible for the environmental impact to which they contribute. In both cases, the aim would be to nudge crypto operations and digital currency users towards more environmentally sustainable behaviour.<sup>[90]</sup>

- **Benefits:** Regulations and environmental impact taxes would ensure that the impact of operations and transactions are reflected in the cost of business and use, and offer a nudge to better models and behaviour.
- **Risks:** Crypto-specific regulations could contribute to jurisdiction shopping among operators – with the risk that less environmentally sustainable operations are inadvertently incentivized. It would also make it more difficult for jurisdictions, like Alberta, that want to attract crypto firms to do so. An environmental impact tax on crypto transactions would require central authority awareness of all transactions – which faces significant feasibility challenges.

#### **4 - Ban Cryptocurrencies; Adopt a Centrally Authorized Digital Currency**

Digital currencies simply might not be worth the risk. Some critics suggest that, in the face of security and fraud concerns, environmental impact, and threats to financial system stability and democratic authority, the best solution may be to prohibit private cryptocurrencies altogether. At the same time, recognizing some of the benefits of having digital currency – such as payments speed and efficiency – Canada might consider developing digital versions of the Canadian dollar. Other jurisdictions are already considering developing their own “Central Bank Digital Currencies” (CBDC) to complement, compete with, or completely displace private digital currencies, including the U.S., U.K., Sweden, India, China and others.[91]

- **Benefits:** Trying to surgically regulate private currencies whose very rationale is to evade central regulation may be a fool’s game; adoption of a CBDC would enhance central authorities’ ability to manage the economy and pursue legitimate political aims. A CBDC for Canada would help to maintain confidence in a central currency, allow consumers to benefit from the speed and convenience of a digital currency, and reduce exposure to some risks and irregularities of cryptocurrencies.
- **Risks:** Entirely prohibiting private cryptocurrencies is likely unfeasible and could enhance risks for consumers who continue to participate in unregulated crypto activities. Additionally, crypto advocates who are ideologically motivated may be further alienated from mainstream economic and political life.



## EL SALVADOR: A BOTCHED EMBRACE OF BITCOIN FOR FINANCIAL INDEPENDENCE AND INCLUSION

Among the attractions of digital currencies for many adopters is the idea that they can contribute to a “freedom to transact” with less interference from central authorities and financial inclusion for the “unbanked.” In the case of El Salvador, there was a hope that digital currencies could provide the country with more freedom from U.S. influence (given their reliance on the U.S. dollar as official currency), and contribute to financial inclusion for a population that is roughly 70 percent unbanked. So far, reality has not met expectations.

### Bitcoin as a Parallel Currency

In late 2021, El Salvador adopted Bitcoin as a parallel official currency, along with the U.S. dollar. The country’s president, Nayib Bukele, believes that digital currencies can reduce economic dependence on the U.S. and improve financial inclusion.[92] The Salvadorean government launched the initiative with an app, “Chivo Wallet,” which would allow citizens to use Bitcoin and other currencies, and provided each citizen who downloaded the app with \$30 USD worth of Bitcoin – roughly 0.7 percent of the country’s per capita income of \$4,131.[93] The government also ordered all “economic agents” to accept Bitcoin for payments, which includes private businesses and government agencies.[94] By ordering economic actors to accept Bitcoin, and providing an incentive and mechanism for citizens to use it, the Salvadorean government effectively established Bitcoin as an official parallel currency.

### Launch Challenges

The launch of the initiative was bumpy. There were technical issues with the app – including hacked accounts, identification verification difficulties, insufficient information technology infrastructure to support widespread adoption and use, and delays.[95] Many citizens complain that Bitcoin ATMs are scarce, it is difficult to get assistance from the government, and technical issues cause them to lose money entirely.[96] Some have abandoned the experiment altogether and returned to cash. Businesses have also faced technical difficulties and grown increasingly frustrated. Unlike citizens, however, they are not able to abandon the experiment since the government’s Bitcoin Law requires them to participate.[97] Moreover, citizens and businesses alike have complained about the price volatility of Bitcoin which has made pricing and financial planning difficult.

### Status and Issues

Touted in part for its potential to improve financial inclusion, Bitcoin has done anything but in El Salvador. Officials expected that with nearly 70 percent of the population “unbanked”[98] a digital currency would contribute to financial inclusion. But nearly half of the population have neither a smartphone nor internet access – necessary infrastructure for an economy expected to run on a digital currency.[99] Many are still on the outside.

While the government claims that 4 million Salvadoreans have downloaded the app<sup>[100]</sup> – essentially the entire population of the country – a recent survey revealed that only 68 percent are aware of Chivo Wallet and even fewer (just under half) have downloaded it.<sup>[101]</sup> Awareness and downloads are highest among young, male, educated citizens who are already banked – not the story of financial inclusion the government anticipated. Those who have not downloaded the app and claimed the \$30 USD Bitcoin incentive say that they prefer cash and/or that they do not trust Bitcoin or the system.<sup>[102]</sup>

Whether Bitcoin is right for El Salvador or not, the botched launch and operation of the initiative has done considerable damage to Salvadoreans' views of digital currencies. While the government continues to push the Bitcoin initiative and partners are working on technical issues, the damage to trust will be hard to reverse.



## EUROPEAN UNION: TIGHTENING REGULATION FOR CONSUMER PROTECTION

Legislators in the European Union recently passed legislation that creates tighter rules and safeguards for transfers of digital currencies – including a requirement that exchanges collect, hold and submit to authorities when required identifying information about digital currency transactions. Critics of the legislation worry that it creates a “surveillance regime” and will “stifle innovation.”<sup>[103]</sup>

### Challenge

European legislators and central bankers have become increasingly concerned about the risks digital currencies pose to consumers, financial stability, market manipulation, and the environment.<sup>[104]</sup> In a speech in 2021, the governor of Sweden’s central bank, Stefan Ingves, signalled that Sweden was preparing to regulate the use of bitcoin and other digital currencies in light of concerns about the use of digital currencies in crime, environmental impact, and the inefficiency of digital currency payment systems.<sup>[105]</sup> The EU recognizes the attraction of digital currencies – including “avoiding the need for a central register and institution, enabling safe and simple transactions between two parties without an intermediary.”<sup>[106]</sup> Still, authorities are worried about the effects – both intended and unintended – of unregulated digital currencies on consumers and the financial system.

### Legislation

The legislation, passed in April 2022, calls for more transparency and traceability in the digital currency system. It requires crypto firms and exchanges to keep records about transactions – including amounts and parties

involved – and be ready to provide those records to authorities when legally required. EU authorities believe that this will help to identify suspicious transactions, pursue parties involved in illicit transactions, and discourage high risk transactions.<sup>[107]</sup> Initial proposals were to activate the information and reporting requirements at transfers of 1,000 Euros or more, but the final legislation included no floor, thus effectively applying to all transactions.

### Results

As the legislation is new, it is not clear what impact it will have on managing digital currency risks or financial innovation. Regulators maintain that the unregulated grey zone could not be left unaddressed, while critics note that the information requirement effectively undermines the freedom to transact without state surveillance and oversight.

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## **PART FIVE**

# **The Future of the Future of Money**

## V – CONCLUSION: THE FUTURE OF THE FUTURE OF MONEY

The shape of the future of money in Canada will depend on the decisions and actions of governments, consumers, firms – both new and established. Open banking and digital currencies promise a range of benefits to consumers and could contribute to innovation and economic growth. Yet, there are many risks for consumers, financial system stability, and democratic governance if open banking and digital currencies are unregulated. The challenge for Canada is to identify and implement regulatory guardrails that minimize risk while supporting innovation. Central to all of this will be ensuring that the institutions and systems involved are, and are perceived to be, trustworthy by citizens.

This policy paper outlines key benefits and risks of open banking and digital currencies and served as a foundation for discussion among attendees of the Future of Money Event about what can and should be done to find the right regulatory approach. The discussions at FOM2022 advanced understanding of the issues while revealing key areas in need of further attention.

A diversity of views about the benefits and risks of financial innovation were shared at the event, and while there is ongoing disagreement about the specifics of regulatory approaches, there appears to be an emerging consensus that regulation to enable innovation and protect consumers is necessary. This paper provides regulatory options, but not answers, to help guide future deliberation. Indeed, how we regulate the future of money must be decided collectively.

Financial innovation and regulation are not merely about money – but about how a society shapes its collective economic and social life. Given the rapid diffusion of open banking and digital currencies in Canada and their possible effects, we need to continue the conversation and move towards action to ensure that our future is one we choose, and not one chosen for us through drift and circumstance.





# ENDNOTES

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