
Centre for International
Governance Innovation

Conference Report — Fredericton, Canada, October 3–4, 2024

Digital Transformation of the Canadian Financial Services Industry

Robert Fay



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67 Erb Street West
Waterloo, ON, Canada N2L 6C2
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About the Author

Robert (Bob) Fay is a highly accomplished and respected leader in the field of digital economy research. With more than 30 years of experience working in the public and private sectors, he has developed expertise in economics, policy analysis and strategic planning.

Bob served as managing director of digital economy at the Centre for International Governance Innovation (CIGI), where he led a network of researchers focused on the intersection of technology, trade, innovation and governance. In this position, he has played a key role in shaping the discourse around the digital economy and has contributed to numerous policy debates and research initiatives on topics such as data governance, digital innovation and the future of work.

Before joining CIGI, Bob held various leadership positions at the Bank of Canada (BoC), where he was responsible for the assessment of digital technologies for Canada's economy and international economic developments, and provided short-term forecasting, structural analysis and policy advice. He was also special assistant to BoC Governor Mark Carney and his chief of staff, playing a key role in delivering policy direction. Bob began his career as an economist at the Organisation for Economic Co-operation and Development, where he worked on labour market issues and country-specific analyses.

Bob holds an M.A. in economics from Queen's University and has published numerous research papers and policy briefs on a range of economic and policy topics.

Acronyms and Abbreviations

AI	artificial intelligence
AML	anti-money laundering
CDB	consumer-driven banking
CTF	counter-terrorist financing
DLT	distributed ledger technology
GFC	global financial crisis
ID	identification
OSFI	Office of the Superintendent of Financial Institutions
RTGS	real-time gross settlement
SINs	social insurance numbers

Introduction

On October 3–4, 2024, the Centre for International Governance Innovation (CIGI) — alongside Cornell University Law School, the McKenna Institute and the University of New Brunswick Law School — hosted an in-person conference that brought together high-level policy makers, entrepreneurs, academics, and finance, legal and technology professionals to explore the opportunities and challenges presented by the digital transformation of the Canadian financial services industry and how policy should adapt to this changing financial, technological and regulatory landscape. This discussion built on CIGI's previous work (see Fay et al. 2021, 2022, 2023), with an overriding goal to help build and expand the relationships and policy networks necessary to capitalize on the opportunities presented by digital transformation and to mitigate the threats that it may pose to Canadian consumers, businesses and governments. Key themes covered included:

- the public and private sector roles in building digital infrastructure;
- open banking and finance;
- real-time payments and payments governance; and
- digital identification (ID) and privacy challenges.

The conference was held under the CIGI Rule, and does not purport to represent a consensus among the participants, nor to convey the views of any individual or organization. Here are the key takeaways from the conference.

→ **The digital transformation of the financial sector presents enormous opportunities but requires modernized governance frameworks that reflect the evolving digital ecosystem.**

- The digital transformation of Canada's financial sector will drive innovation, enhance consumer welfare and boost productivity and GDP. New digital platforms and technologies can lower transaction costs, increase market liquidity and foster competition. Meanwhile, cross-border payment solutions and digital ID systems present opportunities for global integration and seamless financial interactions.

Ultimately, this digital transformation can result in a consumer-driven banking (CDB) approach to provide new financial services at lower costs.

- To fully achieve these benefits, governance of the financial system needs to adapt. While this governance has historically been based on a hub-and-spoke network model with centralized intermediation and siloed structures, new forms of finance have moved to a web-based model for which traditional forms of regulation may not be appropriate or effective. Although regulation had previously centred on the protection of the hubs, it must now also focus on the supervision and safety of the entire network and how information flows across it. This shift in focus requires modernized governance structures in line with the new financial structures to boost opportunities and alleviate concerns around privacy, cybersecurity and system stability. At the same time, an appropriate balance between safety and innovation must be found, as in the saying that “a ship is safest in harbour, but that’s not what it’s intended for.”
- **Canada faces both opportunities and challenges in this evolving ecosystem.**
- At the heart of financial services is the payments system, which is undergoing substantial changes in many jurisdictions. Platforms are adopting new technologies associated with public permissionless blockchains, distributed ledger technology (DLT), smart contracts and tokenization, while application programming interfaces have opened up enormous changes to payments systems. Nevertheless, it is important for policy makers to keep in mind that technology exists to solve issues and should not drive policy choices.
 - Relative to other major jurisdictions, however, Canada's reform efforts have lagged. Policies supporting CDB and real-time payments remain underdeveloped, with implementation likely delayed until at least 2027. Canada's fragmented federal and provincial regulatory systems slow innovation and the adoption of digital finance solutions, while the highly concentrated banking system creates

resistance to competition and innovation (particularly around CDB), and regulatory frameworks favour established institutions, limiting opportunities for financial technology (fintech) start-ups. Policy makers must take advantage of this delay by ensuring regulatory frameworks are responsive to the rapidly evolving digital economy; in other words, there is a need to “go where the puck is headed,” and that requires regulators working in conjunction with many different stakeholders so they learn as industry learns and as consumer preferences shift. At the same time, the digital delivery of financial services online or via smartphones creates opportunities to increase the quantity and quality of services, while demographic changes, including immigration, can act as a driver to spur more innovative financial products tailored to diverse populations.

→ **New technology, new players, new regulation.**

- Distributed ledgers, such as blockchain and digital currencies, continue to attract attention for their potential to revolutionize payments and asset transfers. Artificial intelligence (AI) and machine learning are being integrated into financial models for risk assessment, fraud detection and robo-advisory services. Smart contracts and advanced encryption have enabled new forms of financial services. Ultimately, technology is there to meet the needs of consumers; it should not be the driver.
- Regulations in this new environment should be based on core principles, such as “same risk, same activity, same rules,” and encourage consistency across jurisdictions to address cross-border challenges posed by mobile capital, data and digital platforms. At the same time, policies should ensure that compliance requirements are scalable to institution size and risk exposure. For example, smaller institutions face disproportionate burdens from regulations, especially in cybersecurity and anti-money laundering (AML).
- There is a need to foster collaboration among regulators, fintechs and incumbents to co-develop solutions, while regulators must also be equipped with the resources

and expertise needed to monitor new technologies and their uses effectively.

→ **CDB lags.**

- A system where consumers control their financial data and can securely share it with third parties can lead to substantial benefits: improved access to tailored financial services and products; increased competition among financial institutions; and greater empowerment of consumers to control their financial data. At the same time, it will require substantial education to inform Canadians of the benefits and security of CDB, as well as actively seeking their input on what the system should look like. It will require close federal-provincial regulatory cooperation and a clear governance structure to address liability, data security and consumer protection, as well as clearer standards around data access, security and withdrawal of consent. Progress has been made but continued delays in CBD’s implementation create risks to consumers via screen scraping and higher costs.

→ **Building digital infrastructure requires both public and private sector action.**

- A robust digital infrastructure underpins innovation, drives GDP growth and enhances global competitiveness. Investments in real-time, data-rich payments, CDB and digital ID are essential for modernizing Canada’s financial system.
- Building a modern digital financial infrastructure in Canada requires strategic collaboration between the public and private sectors. While challenges such as fragmentation and high costs persist, there is significant potential to drive innovation and enhance economic resilience with the right investments and policies. Canada should build infrastructure that supports scalability, inclusivity and security to prepare for future technological advancements.
- Businesses should innovate around public infrastructure, creating consumer-focused products and services. The private sector must develop technologies for cybersecurity, fraud prevention and seamless integration of digital ID and payments. Private firms

can also provide technical expertise and innovation, ensuring public infrastructure is modern and efficient.

→ **Privacy and digital ID are essential elements.**

- Digital ID is essential for enabling secure and seamless access to financial services, including CDB and real-time payments. Digital ID systems are not new — public ID systems include social insurance numbers (SINs), drivers' licences, birth certificates and so on. Private versions include facial recognition on phones. Robust digital ID systems enhance trust and efficiency by providing secure authentication and verification mechanisms. Although digital ID offers transformative potential for Canada's financial ecosystem, its success hinges on balancing privacy concerns, fostering collaboration and building public trust through education and transparency. A single digital ID system is not essential but interoperability among systems is essential. But who should be in control of digital ID systems — government, private companies or some combination of the two — remains an open question.

Given the interconnected nature of this digital transformation of finance, it is not surprising that there were a number of cross-cutting themes.

→ **Developing a national strategy for digital finance**

- Canada needs a cohesive, nationwide strategy to modernize its financial ecosystem, addressing gaps in CDB, real-time payments and digital ID. This strategy must encompass the viewpoints of a range of different stakeholders, particularly those representing consumers.

→ **Strengthening public-private collaboration**

- Governments and private firms must co-create systems that balance innovation, security and inclusivity.
- Regulatory sandboxes and pilot programs can test solutions and allow regulators and firms to learn from each other while ensuring compliance.

→ **Enhancing consumer awareness**

- Educational campaigns and transparent communication are crucial to building trust in new financial systems. At the same time, consumers must be included in the design of these financial systems.
- Demonstrating tangible benefits will drive adoption of CDB and digital ID.

→ **Learning from other jurisdictions**

- Canada can adopt successful practices from countries such as Australia, Brazil and Estonia, tailoring them to its unique governance and market structure.

Digital Transformation in Financial Services: An Overview

The digital transformation of financial services is taking place daily, with a traditional hub-and-spoke network being both supplemented and challenged by the emergence of web-based networks. The former model is one very familiar to consumers and regulators: network nodes (such as banks, stock exchanges and payments networks) with a focus on governance around the hubs to contain systemic risks; underpinning economics based on private information (in other words, banks know something about their customers that others do not); a focus on prudential safety and soundness (particularly after the 2008 global financial crisis [GFC]); and relatively limited cybersecurity and AML and counter-terrorist financing (CTF) threat vectors. Key actors in this ecosystem include telecommunications networks, financial institutions and their customers; payments networks; clearinghouses; and stock exchanges.

At the same time, the internet has transformed and continues to shape the development and delivery of financial services. In this more “open” network structure, there is greater decentralization of intermediation: network nodes become user interfaces as well as points for data collection and analysis; the underlying economics is often

based on public information and what information should be made freely available; and the focus is on network resilience and the safety of the network, and not just the nodes, against a background of relatively open-ended cybersecurity and AML-CTF threat vectors. The decentralized nature of this open environment fosters new threat vectors and requires all actors to have good cyber hygiene, although each person's capacity to achieve this in the ecosystem may be challenging.

Against this background, participants noted that regulatory frameworks have been slow to adapt and a new approach to policy making is required that recognizes that both types of systems are likely to coexist. Meanwhile, a new valuable asset has emerged — data — that requires governance mechanisms that cover the whole of the emerging ecosystem. In addition to traditional areas of attention, governance must also focus on interoperability, protection of personal privacy, competition, consumer protection and digital ID. Governance will therefore require collaboration among many different professions, including policy makers, lawyers, and tech and finance experts. Standard setting can be used to deal with some of the issues, such as interoperability, although it is important to ensure that these standards meet Canadian needs and values.

Given the ongoing technological changes, conference participants noted that governance must also be dynamic and forward looking, considering what the system might look like 25 years from now. New forms of financing are already disintermediating banks. The rise of intangible assets has large implications for financing, especially for small and medium enterprises, since it is difficult to secure loans against them. Further, as more financing moves off the balance sheets of conventional financial intermediaries, this movement will have even greater implications not only for the role of banks but also for monetary policy.

Policy priorities therefore require a rethink. Regulation of the Canadian financial system has tended to focus on safety above all other considerations. On the one hand, this concern for safety has been considered a Canadian advantage given that Canada weathered the global financial crisis better than many other countries. On the other hand, this overriding focus on safety may have come at the expense of both the quality and quantity of financial services delivered to

Canadians. And an overriding focus on safety in and of itself creates risks (for example, by entrenching vested interests). At the same time, the new business models emerging from this ecosystem may create jurisdictional issues between the federal government and the provinces that could lead to Canadian Charter of Rights and Freedoms issues that need to be addressed sooner rather than later.

The Current Digital Finance Landscape: Opportunities and Challenges

At their most basic level, financial platforms are the infrastructure that specify how data is stored, accessed and acted upon to facilitate the transfer of financial assets — in other words, data is central to these platforms.¹ In effect, the platforms create the interoperability of assets between money and securities and across borders. Examples include central bank real-time gross settlement (RTGS) systems or continuous linked settlement for foreign exchange. The transfer of assets on a platform requires a ledger — essentially a database that records claims on an issuer and typically involves three distinct parties: operators who are responsible for the safekeeping and updating of ledgers, issuers who create assets and owners who may or may not be able to directly access the ledger. Ledger operators typically perform multiple functions, such as specializing in certain assets, selecting participants, building and running applications, and then separately updating the ledger. Ledgers may be simple: for instance, they may allow two counterparties to exchange assets directly, with the ledger being updated accordingly to a more complex form referred to as a “common ledger platform.” An example of the latter is the RTGS systems where banks pledge assets to a central bank to settle claims with other banks.

In any case, platforms are adopting new technologies associated with public permissionless

¹ See Staff of the International Monetary Fund (2024) for a greater exposition of these issues.

blockchains, DLT, smart contracts and tokenization. This opens up several opportunities and risks. Opportunities include potentially lower transaction and access costs and greater market liquidity, efficiency and competition. At the same time, these developments could have broader macro-financial implications related to capital flows and contagion, market integration and foreign currency use, among others.

Against this evolving background, a variety of questions arise: Who should set the rules for the platforms — the public or private sector — or should there be an open framework? What are the implications for the legitimacy of these platforms, particularly in terms of efficiency, inclusion and fairness? To what extent could these new types of platforms lower transaction costs and improve market liquidity? Could they create new channels for contagion? What role could the central bank play in their development (for example, via the introduction of a central bank digital currency)? How should consumers be involved in the design of the governance framework? These questions need to be considered early in the digitalization process.

Against this background, policy makers need to decide on priorities and then look to technology providers to propose solutions. For example, in Brazil, the government mandated the central bank to develop a fast payments system that would help to boost financial inclusion and lower the costs for consumers. This demand was then met with the development of the Pix fast payments system.

Canada lags, however, in adopting real-time payments and CDB, partly due to resistance from traditional banks and fragmented regulatory frameworks. Modernizing infrastructure and fostering competition are essential for driving innovation and reducing costs. Although Canada faces significant challenges in transforming its digital finance landscape, the opportunities to enhance consumer choice, reduce costs and drive innovation are vast. Progress requires coordinated efforts among governments, regulators, banks and fintechs.

Participants noted that there is an enormous opportunity to meet customer needs with the advent of fintech — namely, the digital delivery of financial services online or via mobile phone. Fintech has been through multiple waves and the latest is a focus on retail customer and small business needs. This customer-centric approach

has a number of prerequisites: ensuring that data — particularly personal data — is secure and not tampered with in order to build trust, moving ahead with consumer-directed finance and learning from others globally. Further, even large financial institutions do not manage their data well and need assistance to, for example, present their data for advisers to share with clients in a meaningful way.

Fintechs are not only small, innovative entrants — in fact, they can be any size and in any area of finance. But they all face barriers, including regulations, funding gaps, compliance costs, competition and customer-acquisition costs. A lack of competition has been viewed as the main barrier in Canadian banking, with an unwillingness by the government to promote competition. The threat of big tech is also a concern for regulators. By contrast, the United Kingdom and Australia have taken a different approach, using federal government-led strategies to help promote fintech ecosystems.

Sandboxes are tools that have been proposed to help fintechs and regulators learn from each other. While good in theory, they are no panacea. One goal is for regulators to learn from fintechs and consider how regulations might need to adapt to create an innovative regulatory framework that is also trusted by consumers. However, experiments in Alberta and Ontario had little take up: the purpose of the sandbox was not clear, and, ironically, participation may have had a negative stigma attached to it. Sandboxes also require regulatory cooperation among agencies, given that fintechs can touch many different financial activities, while regulators must also be open to changing their practices.

Educating consumers about fintechs has also been noted as important. For example, many customers think that they have real-time payments but they do not, and they are not aware of their potential choices (though counterfactuals are hard to describe and understand).

New Technology, New Players, New Regulation

The emergence of new players and new technologies in the financial system is ongoing. For

example, distributed ledgers such as blockchain and crypto-assets have the potential to revolutionize payments and asset transfers. At the same time, AI and machine learning have penetrated all areas of financial services and are being integrated into financial models for risk assessment, fraud detection and robo-advisory services, while smart contracts and advanced encryption have enabled new forms of financial services. New players and technologies have helped to increase efficiency in operations and service delivery, create new financial products and services previously unavailable, and enhance consumer experience through automation and personalization.

Although these emerging technologies present significant opportunities, addressing their risks and regulatory challenges will be key to ensuring stability while fostering innovation. New fintech players are entering and changing the financial ecosystem with business models that may not be captured under current regulatory frameworks or might challenge these frameworks if they are hybrid models touching different parts of the financial system. Thus, existing regulatory models may not yet be suitable to address the risks posed by new players, and efforts to map new business models into existing regulatory frameworks also create risks. Meanwhile, a “wait-and-see” approach to allow innovation to flourish can create both individual and systemic risks. Although AI and its uses are pervasive across banks in all operations, the risks around these uses are not well understood and the Office of Superintendent of Financial Institutions (OSFI) only has guidance in place, not specific regulations. This lack of regulation prompts questions, for example: Could the use of similar AI systems lead to herding behaviour? Is there an overreliance on cloud services or solo providers and what risks may emanate from that concentration (such as the 2022 Rogers outage)?² What developments are considered innovative and need to be encouraged and how might that outlook vary over time? For instance, what was considered an innovative product prior to the 2008 GFC might not be regarded in the same way moving forward?

A number of wide-ranging recommendations emerged from this discussion. Given the speed of change, a focus on principles seems a reasonable first step. The necessary regulatory evolution should take a principles-based approach, with

“same risk, same activity, same rules” used as a guiding philosophy. At the same time, there should be proportionality in regulation since smaller institutions face disproportionate burdens from regulations, especially in cybersecurity and AML, which have high fixed costs; thus, policies should ensure that compliance requirements are scalable to institution size and risk exposure. Perhaps some of these functions — particularly cybersecurity, AML and fraud detection — could be built into the payments system and available to all participants as a “public good.” Meanwhile, AI systems such as regulatory technology and supervisory technology can assist regulators in fraud detection, credit-risk modelling and robo-advisory services.

Although the financial system has very capable individual regulators in place, how to regulate the system as a whole remains an open question. For example, given the large number of linkages created by the “nodes,” small operators may create big risks via interconnectedness, which must be accounted for in regulator mandates.

Participants argued that regulation will also need to consider developments across jurisdictions and ensure interoperability, with standard setting being an important element of the regulatory toolbox. In addition, a fintech may be regulated in one jurisdiction under a particular regulator and its activities may be classified and regulated differently in another. For example, is a stablecoin to be classified as a security or as another type of financial instrument?

Ultimately, a whole-of-government approach is needed within Canada since the issues faced by financial system regulators span different policy areas, such as privacy, competition and consumer protection and can create new systemic risks that require a coordinated approach; governance should also seek to foster collaboration among regulators, fintechs and incumbents to co-develop solutions. A particular issue in Canada is that when something is not directly regulated at the federal level, it falls to the provinces and territories to impose regulations, which can create regulatory gaps. Should the provinces and territories lack the capability to fill those gaps, that might result in mandating a role for federal regulators. In any case, it must be ensured that regulators have sufficient resources and expertise to monitor new technologies effectively.

2 See Fay et al. (2021).

Consumer-Driven Banking

There was a lively debate during the CDB panel regarding the very slow pace of movement in Canada compared to other major jurisdictions that already have a system in place; in some cases, this trend goes back many years and exists in jurisdictions where Canadian banks already operate. The notion that the large penetration of bank accounts in Canada lessens the need for CDB was disabused: it was argued that some groups may actually be underbanked and unable to access credit or financial services that can be tailored to their needs.

Participants also argued that the potential economic benefits of CDB for consumers are substantial, including improved access to tailored financial services and products; increased competition among financial institutions that should lead to better quality and quantity of offerings at lower costs; and the empowerment of consumers to control their financial data.

Against this argument, a 2020 survey conducted by the Federal Consumer Agency of Canada surprisingly found both low recognition for CDB and a reluctance to use it where it was recognized. Though these results are now quite dated, there was agreement that the term “open banking” was not suitable, suggesting a potential “free for all” with personal data and, not surprisingly, raising large concerns with consumers. CDB was deemed a more suitable moniker.

Participants noted the difficulties that fintechs often have in accessing consumer data and the risks posed by screen scraping, as well as the high costs and inefficiencies of transferring accounts between institutions and the strong opposition to fintechs from traditional banks. In addition, slow legislative and regulatory progress, with no concrete timelines for implementation, creates uncertainty and is not conducive to creating a vibrant ecosystem for innovation; such delays only benefit incumbent institutions that appear reluctant to embrace CDB — to the detriment of their consumers.

To foster the development of CDB, participants proposed actions in many areas, including a framework for regulatory oversight that establishes a clear governance structure to address liability, data security and consumer

protection (while noting that the working groups on CDB had made substantial progress in these areas); a clear definition of consumer rights, such as withdrawing consent and accessing private data across institutions; and education campaigns on the benefits and security of CDB, with real-life use cases demonstrating how it can improve consumers’ financial well-being.

Participants noted that the government can play an important role in familiarizing consumers with CDB by adopting it for public services such as tax payments while initiating pilot programs or sandbox environments to test CDB systems. Given the different jurisdictional issues in Canada, a unified framework that aligns federal and provincial efforts while prioritizing consumer interests is a necessity. Ultimately, consumer engagement in the development of CDB was recognized as essential.

Building Digital Infrastructure: Public and Private Sector Roles

The need for cooperation and collaboration was a theme that resonated throughout the conference, particularly in the case for the provision of digital infrastructure. A robust digital infrastructure underpins innovation, drives GDP growth and enhances global competitiveness, while investments in real-time payments, CDB and digital ID are essential for modernizing Canada’s financial system. Digital infrastructure therefore requires both public and private sector actions and collaboration to thrive.

This infrastructure has two distinct elements: the first is foundational infrastructure, viewed as primarily a role for the public sector, with innovation coming from the private sector to develop value-added services. An example of this public-private infrastructure is GPS: the digital infrastructure to support it was publicly developed, which then enabled the private sector to innovate by creating services such as e-commerce and ride-sharing platforms.

Second, collaboration is also required to develop technologies for cybersecurity, fraud prevention

and the seamless integration of digital ID and payments, where private sector firms can provide their technical expertise and innovation, ensuring that public infrastructure is modern and efficient.

The discussion quickly turned to payments and the urgent need to advance real-time rail given that payments in Canada remain among the most expensive globally, adding burdens on consumers and businesses while lacking the capacity to take advantage of the rich data-sharing capabilities necessary for advanced AI applications and the development of innovative services for consumers. One view that was expressed is that the twenty-first-century payments platform is completely different from the twentieth-century one: in this regard, Canada is still living in the twentieth century and it will take substantial leadership, courage and a lot of work to move into the twenty-first century, let alone look ahead many decades.

An important element in advancing payments modernization is multi-stakeholder governance: Who needs to be at the table and how should different interests be represented? There was a debate over whether a self-regulatory structure could best meet the needs of stakeholders. For example, the securities industry is self-regulating and there has been substantial innovation to meet the needs of its customers because doing so is in the best interests of all players in the system. By contrast, the banking industry is not self-regulated — and it is operating in an archaic, centralized system of supervision. More speculatively, is a change in the mandate of OSFI to include payments system efficiency required to change the behaviour of banks? Should payments systems be governed in order to reduce the influence of the banks, given that they have little incentive to see these systems modernized and thereby lose high fees? Should a public interest mandate be included for Payments Canada? And how is it possible to ensure that innovation is a mandate for any governance structure?

Although these questions remained unanswered, the 2011 overview by the Task Force for the Payments System Review³ could provide a model for how to move forward. It included a wide range of stakeholders: banks, telecommunications companies, consumer groups and fintechs. The task force examined

both the technology required to reform the system and the governance structure necessary to ensure that the public interest would be met.

There are particular challenges in Canada that need to be addressed: its fragmented governance structures hinder the development of unified systems, while outdated infrastructure limits interoperability and scalability. Nevertheless, Canada should aspire to develop a payments system that creates a seamless financial platform (integrating payments, accounting and tax systems) and takes advantage of the data-rich capabilities that come from a modernized payments system, allowing innovation to flourish as seen in other jurisdictions (for example, with Brazil's Pix system). Participants were asked to consider what the Canadian financial environment would look like if it had a financial platform system that is entirely intuitive and online, so that once a person buys something, banking, financial records, balance sheets and so on would be updated. This scenario amounts to thinking ahead to open finance.

Privacy and Digital ID

Digital ID has emerged as a controversial element in the digital transformation of the financial ecosystem. Although discussions have underscored its important role in enabling seamless financial transactions, digital ID has become akin to a “four-letter word” and is a source of mistrust for some, particularly around its potential implications for personal privacy, which does not get enough attention in discussions on the merits of digital ID.

On the one hand, digital ID and authentication are essential for enabling secure and seamless access to financial services, including CDB and real-time payments. Robust digital ID systems can also enhance trust and efficiency by providing authentication and verification mechanisms. On the other hand, privacy concerns may be a major barrier to the adoption of digital ID systems. Canadians appear to be wary of centralized data systems, fearing potential misuse, breaches or government overreach. They have witnessed data breaches as well as how personal data was used without consent during the COVID-19 pandemic. And they have also observed both a lack of enforcement and the inability of privacy

3 See Task Force for the Payments System Review (2011).

commissioners to administer monetary penalties for personal data breaches by private entities. The resulting progress on the creation of a digital ID system has been disappointing.

To alleviate these public concerns, a number of steps can be taken. The government has always been responsible for digital ID (for example, birth certificates, SINs, drivers' licences and so on), and perhaps there are lessons that can be learned from their use. Canada can also learn from other jurisdictions' successful implementation of these systems, such as Estonia and the European Union, and avoid any pitfalls that these jurisdictions encountered. Canada can also look to Brazil, where there has been widespread voluntary opting in to digital ID as part of the use of its fast payments system.

Digital ID systems must also prioritize anonymity while allowing for secure authentication. They must give users control over their data, including who can access it, and be transparent about how it is being used. Further, not everything can be left to regulation: more oversight and enforcement should be built into law.

Given that Canada's decentralized governance creates challenges in developing a unified digital ID framework and coordination across federal, provincial/territorial and private sectors, it will require a concerted focus on interoperability to allow different ID systems to operate, especially since digital ID mainly falls within provincial/territorial jurisdiction. Canada can implement this transition by increments via pilot projects and well-defined use cases.

Panellists concluded that while digital ID offers transformative potential for Canada's financial ecosystem, its success hinges on balancing privacy concerns, fostering collaboration, and building public trust through education and transparency that addresses issues involving both private and public digital ID systems. In short, Canada needs to develop a clear national strategy for digital ID, including an education campaign, thereby ensuring an alignment between privacy laws and technological capabilities.

Conclusion

Many of the messages that emanated from discussions at this conference were similar to those raised in previous workshops, which reveals a lack of progress in real-time payments:

- little impetus to drive forward CDB;
- the seeming power of incumbents to delay progress to protect their own profits of consumers;
- the lack of a coherent regulatory framework that can engender trust in digital financial transformation;
- and, ultimately, a Canadian financial system that lags behind its peers to the detriment of all consumers.

This conference underscored the immense potential for digital transformation in Canada's financial services industry while highlighting the challenges that need to be addressed. Collaboration between public and private sectors, consumer-centric approaches and robust regulatory frameworks are key to ensuring a secure, inclusive and innovative financial ecosystem. By learning from global successes and accelerating domestic efforts, Canada can position itself as a leader in digital finance. The path forward will require bold leadership by the public and private sectors, clear policies and principles, extensive consumer engagement, and collective action to meet the demands of the future.

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Agenda

Thursday, October 3, 2024

- 8:00 a.m.–9:00 a.m. **REGISTRATION AND LIGHT BREAKFAST**
- 9:00 a.m.–9:05 a.m. **WELCOME REMARKS**
→ Michael Marin, Paul Samson
- 9:05 a.m.–9:10 a.m. **OPENING REMARKS**
→ The Honourable Frank McKenna (video)
- 9:10 a.m.–10:15 a.m. **THEMATIC OVERVIEW**
→ Dan Awrey
- 10:15 a.m.–10:30 a.m. **BREAK**
- 10:30 a.m.–11:45 a.m. **PANEL: The Current Digital Finance Landscape: Opportunities and Challenges: International Perspectives**
Moderator: Robert Fay
→ Tommaso Mancini-Griffoli, Baltazar Rodriguez
- 11:45 a.m.–1:00 p.m. **LUNCH**
- 1:00 p.m.–2:15 p.m. **PANEL: The Current Digital Finance Landscape: Opportunities and Challenges: Canadian Perspectives**
Moderator: Robert Fay
→ Grahame Johnson, Yash Kalash, Michael King, Lori Weir
- 2:15 p.m.–3:30 p.m. **PANEL: New Technology, New Players, New Regulation**
Moderator: Dan Awrey
→ Tim Lane, Tolga Yalkin, Giles Sutherland
- 3:30 p.m.–3:45 p.m. **BREAK**
- 3:45 p.m.–5:00 p.m. **PANEL: Consumer-Driven Finance (Open Banking)**
Moderator: Robert Fay
→ Jessica Oliver, Alexander Vronces, Samantha Tom
- 5:00 p.m.–7:00 p.m. **DINNER**

Friday, October 4, 2024

8:00 a.m.–9:00 a.m. **LIGHT BREAKFAST**

9:00 a.m.–10:30 a.m. **PANEL: Building Digital Infrastructure: Public and Private Sector Roles**

Moderator: Serge Dupont

→ **Pat Meredith, Barb Stymiest, Jason Mac Donell**

10:30 a.m.–10:45 a.m. **BREAK**

10:45 a.m.–12:00 p.m. **PANEL: Privacy and Digital Identity**

Moderator: Mark Jewett

→ **Joni Brennan, Teresa Scassa, Riri Shen**

12:00 p.m.–12:15 p.m. **CLOSING REMARKS**

12:15 p.m.–1:00 p.m. **LUNCH**

Panellists

Dan Awrey

Professor of Law, Cornell Law School

Sampath Bemgal

Assistant Professor, Management Information Systems, Faculty of Management, University of New Brunswick (UNB)

Joni Brennan

President, Digital ID & Authentication Council of Canada

Connor Colvin

Economist, Department of Finance Canada

Serge Dupont

Senior Advisor and Head, Public Policy Group, Bennett Jones LLP

Robert (Bob) Fay

Senior Fellow, CIGI

Aaloak Jaswal

Director of Innovation, Research Institute in Data Science and Artificial Intelligence, UNB

Mark Jewett

Senior Fellow, CIGI

Grahame Johnson

Assistant Deputy Minister, Financial Sector Policy Branch, Department of Finance Canada

S. Yash Kalash

Research Director, Digital Economy, CIGI

Michael King

Associate Professor; Lansdowne Chair in Finance, Gustavson School of Business, University of Victoria

Timothy Lane

Former Deputy Governor, Bank of Canada; Senior Fellow, CIGI

Jason Mac Donell

Vice President, Marketing & Business Development, AffinitiQuest

Tommaso Mancini-Griffoli

Division Chief, Payments, Currencies, and Infrastructure Division, International Monetary Fund

Michael Marin

Dean, Faculty of Law, UNB

Hon. Frank McKenna

Deputy Chair, Wholesale Banking, TD Bank Group; Benefactor, McKenna Institute, UNB

Patricia Meredith

Senior Fellow, CIGI

Jessica Oliver

Head, Government and Regulatory Relations, WealtheSimple

Argyri Panezi

Canada Research Chair in Digital Information Law and Policy, Faculty of Law, UNB

Maria Panezi

Associate Professor, Faculty of Law, UNB

Baltazar Rodriguez

Acting Centre Head, Toronto Innovation Centre

Paul Samson

President, CIGI

Teresa Scassa

Canada Research Chair in Information Law and Policy; Full Professor, Common Law Section, Faculty of Law, University of Ottawa; Senior Fellow, CIGI

Riri Shen

Assistant Deputy Minister, Central Agencies Portfolio, Department of Justice Canada

Barbara Stymiest

Corporate Director, George Weston, PC Bank and Resolution Re Limited

Giles Sutherland

Head, Business Development, Commercial & Public Sector, Interac Corp.

Samantha Tom

Head, Legal and Compliance, Borrowell

Alexander Vronces

Executive Director, Fintechs Canada

Lori Weir

CEO and Co-founder, Four Eyes Financial

Tolga Yalkin

Assistant Superintendent, Regulatory Response Sector, OSFI

Works Cited

- Fay, Robert. 2022. "Rogers Outage Revealed Urgent Need for Better Regulatory Cooperation." Opinion, Centre for International Governance Innovation, July 21. www.cigionline.org/articles/rogers-outage-revealed-urgent-need-for-better-regulatory-cooperation/.
- Fay, Robert, David Dodge, Serge Dupont, Mark Jewett and John Murray. 2021. *Canada and the Digitalization of Money: Key Takeaways from a Virtual Workshop of International and Canadian Experts*. Waterloo, ON: CIGI. www.cigionline.org/publications/canada-and-the-digitalization-of-money-key-takeaways-from-a-virtual-workshop-of-international-and-canadian-experts/.
- Fay, Robert, David Dodge, Serge Dupont, Mark Jewett, John Murray and Keldon Bester. 2022. *Deciding on a Digital Dollar: The Necessary Steps for Canada*. Waterloo, ON: CIGI. www.cigionline.org/publications/deciding-on-a-digital-dollar-the-necessary-steps-for-canada/.
- Fay, Robert, Keldon Bester, David Dodge, Serge Dupont, Mark Jewett, John Murray and Laurie Wright. 2023. *Digitalization of Payments and Currency*. Waterloo, ON: CIGI. www.cigionline.org/publications/digitalization-of-payments-and-currency/.
- Staff of the International Monetary Fund. 2024. "G-20 Note on Financial Platforms: What Are They and What Are Their Macro-Financial Implications?" October. www.imf.org/-/media/Files/Research/imf-and-g20/2024/g20-report-2024-financial-platforms-macrofinancial-implications-imf-oct2024-final-board-publish.ashx.
- Task Force for the Payments System Review. 2011. *Policy Papers: An Overview*. December. Ottawa, ON: Government of Canada. https://publications.gc.ca/collections/collection_2012/fin/F2-214-2-2012-eng.pdf.



67 Erb Street West
Waterloo, ON, Canada N2L 6C2
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