

Journal

The Capco Institute Journal of Financial Transformation

A new world order

Monetary machinations

Central bank digital currencies
in an era of financial fragmentation:
assessing the potential financial
crime risks

Joshua Tjeransen

Journal

Recipient of the Apex Award for Publication Excellence

Editor

Crawford Spence, King's Business School

Advisory board

Chelsea Mattias, Partner, Capco

Chris Probert, Partner, Capco

Patrick Regan, Partner, Capco

Luciano Sobral, Partner, Capco

Editorial board

Franklin Allen, Professor of Finance and Economics and Executive Director of the Brevan Howard Centre, Imperial College London and Professor Emeritus of Finance and Economics, the Wharton School, University of Pennsylvania

Philippe d'Arvisenet, Advisor and former Group Chief Economist, BNP Paribas

Rudi Bogni, former Chief Executive Officer, UBS Private Banking

Dan Breznitz, Munk Chair of Innovation Studies, University of Toronto

Urs Birchler, Professor Emeritus of Banking, University of Zurich

Lara Cathcart, Associate Professor of Finance, Imperial College Business School

Géry Daeninck, former CEO, Robeco

Jean Dermine, Professor of Banking and Finance, INSEAD

Douglas W. Diamond, Merton H. Miller Distinguished Service Professor of Finance, University of Chicago

Elroy Dimson, Emeritus Professor of Finance, London Business School

Nicholas Economides, Professor of Economics, New York University

Michael Enthoven, Chairman, NL Financial Investments

José Luis Escrivá, President, The Independent Authority for Fiscal Responsibility (AIReF), Spain

George Feiger, Pro-Vice-Chancellor and Executive Dean, Aston Business School

Gregorio de Felice, Head of Research and Chief Economist, Intesa Sanpaolo

Maribel Fernandez, Professor of Computer Science, King's College London

Allen Ferrell, Greenfield Professor of Securities Law, Harvard Law School

Peter Gomber, Full Professor, Chair of e-Finance, Goethe University Frankfurt

Wilfried Hauck, Managing Director, Statera Financial Management GmbH

Pierre Hillion, The de Picciotto Professor of Alternative Investments, INSEAD

Andrei A. Kirilenko, Reader in Finance, Cambridge Judge Business School, University of Cambridge

Katja Langenbucher, Professor of Banking and Corporate Law, House of Finance, Goethe University Frankfurt

Mitchel Lenson, Former Group Chief Information Officer, Deutsche Bank

David T. Llewellyn, Professor Emeritus of Money and Banking, Loughborough University

Eva Lomnicka, Professor of Law, Dickson Poon School of Law, King's College London

Donald A. Marchand, Professor Emeritus of Strategy and Information Management, IMD

Colin Mayer, Peter Moores Professor of Management Studies, Oxford University

Francesca Medda, Professor of Applied Economics and Finance, and Director of UCL Institute of Finance & Technology, University College London

Pierpaolo Montana, Group Chief Risk Officer, Mediobanca

John Taysom, Visiting Professor of Computer Science, UCL

D. Sykes Wilford, W. Frank Hipp Distinguished Chair in Business, The Citadel

Table of contents

Colliding worlds

- | | | | |
|-----|--|-----|---|
| 12. | Compute is global. Power is local. Energy, capital and the structural tensions defining the new global order
Glen T. Ragland, Partner, Capco | 38. | ‘No meal without rice’: industry alignment and infrastructure in Chinese Bitcoin mining
Ruowen Xu, Assistant Professor, Warwick Business School, University of Warwick Alex Preda, Professor, Department of Sociology and Social Policy, Lingnan University |
| 28. | Carbon credits and the energy sector in Brazil: energy transition, implicit carbon pricing, risk management and technological innovation
Livia Savignon, Principal Consultant, Capco | | |

Monetary machinations

- | | | | |
|-----|---|-----|---|
| 50. | Central bank digital currencies in an era of financial fragmentation: assessing the potential financial crime risks
Joshua Tjeransen, PhD Candidate, Kings College London | 70. | Bilateral central bank swap lines and their implications for the global financial order
Ayca Zayim, Associate Professor of Sociology, Mount Holyoke College |
| 60. | The trade imbalance network and currency fluctuations
Ai Jun Hou, Professor of Finance, Stockholm University Lucio Sarno, Professor of Finance, University of Cambridge and CEPR Xiaoxia Ye, Professor of Finance, University of Nottingham | | |

Strategic pivots

- 84. **Multinationals in stormy waters: lessons from central Europe to navigate the populist wave**
Gerhard Schnyder | Professor of International Management & Political Economy, Loughborough University London
- 96. **From global factories to sovereign AI pods: how geopolitics and GenAI rewire software delivery**
Gerhardt J. Scriven, Executive Director, Capco
- 110. **Corporate tax planning: a productivity lever in a low-growth era**
Spyridon Gkikopoulos, Alliance Manchester Business School, University of Manchester
Konstantinos Stathopoulos, Alliance Manchester Business School, University of Manchester
- 122. **When growth isn't enough: how uncertainty reshapes hiring decisions**
Duc Duy Nguyen, Professor in Finance, Durham University | Vathunyoo Sila, Professor and Chair of Finance, University of Edinburgh
- 128. **AI and institutional intelligence in the new global order: re-architecting judgement in financial services**
Mauro Confalone, Executive Director, Capco | Amit Kumal Goyal, Managing Principal, Capco

Private markets

- 144. **Private equity's retail turn: anatomy of a misselling risk**
Ludovic Phalippou, Professor of Financial Economics, University of Oxford, Said business School
- 152. **Venture capital investment and the return of geopolitics**
Alex Preda, Professor of Sociology, Lingnan University | David Xingyi Chen, Research Officer, Lingnan University

2026, Edition 62

Journal

Welcome to the 62nd edition of the Capco Journal of Financial Transformation, the second to be published in partnership with King's College London, a world-renowned leader in education and research.

This year marks the Journal's 25th anniversary and the beginning of **Capco30**, our strategic vision as we build towards Capco's landmark 30th anniversary.

At the heart of Capco30 is The Expert Advantage: our commitment to be the trusted partner clients turn to when the stakes are highest. We are proud to have built an exceptional business by obsessing about our deep expertise, our strong client relationships, our innovative culture and our reputation for impact.

The Journal has embodied that ambition since its launch in 2001. Over the past quarter century, it has brought together leading academics and industry practitioners – including Nobel laureates, international regulators and board members of major institutions – to examine the forces shaping financial services and the wider global economy. We are equally proud to see Capco experts sharing their perspectives alongside such distinguished contributors.

As Professor Crawford Spence, our editor from King's College, observes in his introduction, this edition might aptly have been titled 'how to survive and thrive in turbulent times'.

After decades of globalization, firms are both refocusing on local market shifts and new forms of cross-border collaboration. Technology is driving integration as trade barriers rise; financial innovation is accelerating amid monetary realignment and volatile geopolitics; and the green transition is redrawing both energy markets and fiscal priorities.

Edition 62 focuses on the **new world order** emerging from these shifts – and how leaders across financial services and energy are rethinking established assumptions, navigating new risks and identifying opportunities for growth.

The coming decade could bring one of the most consequential reconfigurations of global business and economic systems in generations.

This environment reinforces the importance of expertise, judgement and the ability to turn insight into action. At Capco, we help clients connect vision models and strengthening resilience to reimagining customer experiences and the future of work.

We bring together industry depth, technology and data capabilities, and disciplined execution to help clients navigate the moments that matter most with confidence.

The Journal is one expression of that Expert Advantage: convening leading perspectives, challenging established thinking and helping shape the agendas that will define the future of our industries.

I hope you will find the articles in this edition both thought-provoking and valuable for informing your organization's future vision and strategic decisions.

My sincere thanks and appreciation to our contributors, readers and clients.



Annie- Marie Rowland

Annie Rowland, Capco CEO

2026, Edition 62

Editor's note



**KING'S
BUSINESS
SCHOOL**

We could equally have labelled this volume of the Journal of Financial Transformation 'how to survive and thrive in turbulent times', given that each of the articles effectively attempts to tackle this issue in their own unique way. Times are indeed turbulent. Recent months and years have borne witness to increased military conflict, heightened economic shocks and the emergence of new political forces.

These disruptions are often captured in popular discourse by reference to, variously, the decline of the rules based international order, the rise of authoritarianism and the re-emergence of nationalism and protectionism as challenges to globalization. While putting clear conceptual parameters around what is a very unsettled geopolitical period is difficult, there is at the very least little doubt that the world is changing and that a new order is emerging. To paraphrase an old political aphorism: the old is dying and the new is struggling to be born.

This geopolitical reshuffling is the backdrop to the current issue of the Journal. Contributors were asked to think about how financial services and energy might respond to, and indeed themselves help reshape, the new global order that is emerging. What they have presented here can be grouped into four conceptual clusters, each of which makes up a distinct sub-theme in this issue of the journal: colliding worlds; monetary risks; strategic pivots; and private markets.

The first group of articles we refer to here as colliding worlds. The worlds that collide here specifically are

those of finance and energy. Each of these forces us to zoom out from financial transactions and investments and think about the wider environmental and material basis for these. For example, Ragland's fascinating look at the arms race for computing power shows how the rapid expansion of data centers is at odds with the way in which existing energy infrastructure is built. Those who will be successful in rolling out advanced computing power are those who will be able to finance and build out alternative energy infrastructure at the same time.

This has strong parallels with Xu and Preda's article looking at the infrastructure of bitcoin mining, which demonstrates in some detail how supposedly digital assets have heavy materiality in terms of both the physical infrastructure that supports them and the energy consumption that goes into their mining and processing. Finally, Savignon takes the energy transition head on by exploring the mechanics and possibilities of carbon credits in Brazil, a country which is characterised by a dominance of renewables in its energy mix. Showing real heterogeneity in how carbon credits are deployed in different sectors in Brazil, this article concludes by outlining how those who are able to integrate thinking around finance, data and energy will be able benefit from and contribute to the energy transition in the Brazilian market.

Monetary risks refer to the various ways in which currencies are embroiled with risk at both the national and transnational levels. As the fundamental means via which deals are transacted, it is perhaps no surprise that we find money, in its various guises, to

have so many political inflections. Cryptoassets are often heralded as some kind of safe haven ('digital gold') during times of economic and political turmoil and there are many central banks across the globe who are now pursuing digital currency projects of their own. These have significantly lagged the development of private crypto initiatives. One of the reasons for this might be the perceived financial crime risk that is associated with digital currencies in general, something which Tjeransen's article outlines in detail.

Fiat currencies are also deeply imbricated in geopolitical factors. This is the subject of Hou et al's article which draws attention to the ways in which currency risk premia are associated with trade imbalances between nations. Such factors are of increasing importance to, not only forex traders, but any organization engaging in currency hedging. Finally, nowhere is the importance of currency to geopolitics more evident than in Zayim's article looking at how central banks engage in currency swaps with other central banks. Focusing on both China and the US, Zayim shows how each has sought to build up spheres of influence with different counterparties as part of larger attempts to accrue power and minimize geopolitical risk for themselves.

Our third conceptual 'bucket' looks at how individual organizations respond to geopolitical shifts. In other words, these articles look at the various strategic pivots that organizations make in order to survive and thrive in turbulent times. These strategic pivots can take different forms depending on the geography and industry in question. For example, Schnyder shows how banks in East Central Europe can mitigate risk in response to rising anti-FDI policies in that region. In Scriven's article the author shows how software delivery needs to be reconfigured in order to overcome increasing regulatory divergence and export controls.

In times of geopolitical uncertainty, capital markets can become less efficient in allocating capital and so firms have to focus more on their internal

efficiencies, which is what Gkikopoulos and Stathopoulos illustrate in their article exploring the relationship between firms and banks; such relationships have implications for tax planning and productivity. Political turbulence also impacts hiring strategies, which Nguyen and Sila demonstrate in relation to corporate hiring practices during times of election uncertainty. Finally, Confalone makes a strong case for a strategic pivot towards developing 'enterprise intelligence' in the age of AI, a shift which has governance implications for financial services organizations.

The final sub-theme of the issue reflects an ongoing interest that we have had in private markets. The shift from public to private markets is one of the big secular shifts of modern finance, which was dealt with explicitly in issue 61. In this issue, we build on this with two further articles. One of these, by Phalippou, tackles the shift of private equity towards retail investors, outlining the potential risks in selling private equity products that were designed with institutional investors in mind to a less informed and less powerful constituency. Preda and Chen's article pursues another tack, showing how venture capital funding in Asia and elsewhere has to be cognisant of surrounding government policy imperatives if it is to be successful.

Taken together, these articles argue that financial services are not simply being buffeted by geopolitical change. They are becoming one of the arenas in which that change is negotiated. Through payment systems, liquidity backstops, energy and computing infrastructure, corporate strategy and the evolving boundary between public and private markets, we can see how geopolitical forces manifest themselves and adapt to existing institutional constraints and imperatives.



Professor Crawford Spence
King's College London

Central bank digital currencies in an era of financial fragmentation:

assessing the potential financial crime risks

Author | Joshua Tjeransen | PhD Candidate, King's College London

Abstract

Central bank digital currencies (CBDCs) are an emerging financial innovation. Developed and issued by central banks, their purpose is to act as digital cash, ensuring the uniformity of money amid declining cash usage. Initially designed for domestic use, international applications have been debated and piloted. However, in an era of financial fragmentation and increasing monetary sovereignty, several financial crime risks need to be considered by CBDC developers, policymakers, regulators and financial institutions. Anticipating these risks is crucial if the associated harms are to be minimized and the success of CBDCs is to be ensured.

1. Introduction

Financial fragmentation, which is the disintegration of financial markets or systems into isolated segments, is often caused by differing national regulations and supervisory practices that limit the free flow of capital, liquidity, or services across borders [Catalan et al. (2023)], and is a longstanding issue. Financial fragmentation can arise for various reasons, including geopolitical tensions, changes in international trade, supply chain vulnerabilities, restrictions on capital flows, and regulatory divergence [Alfonso et al. (2024); BIS (2025); Claessens (2019)]. An early example of financial fragmentation would be countries reasserting monetary independence after WWI by abandoning the gold standard in favor of domestic monetary policy. This led to competitive devaluations and capital controls, which fragmented global finance and deepened the Great Depression [Meltzer and Fiedman (2025)].

Other examples include the breakdown of the Bretton Woods system in the early 1970s following the United States' suspension of the dollar's convertibility into gold to safeguard domestic interests [Office of the Historian (n.d.)]. During the Asian Financial Crisis of 1997 and 1998, several East Asian countries reintroduced capital controls and exchange restrictions to protect domestic markets from speculative attacks [Tamirisa (2001)]. This reinforced the regional fragmentation of capital markets that endured for years. Similarly, despite the single market in the European Union (E.U.), the 2008 Global Financial Crisis led member states to ring-fence capital and liquidity within their national borders. Variations in the national implementation of post-crisis regulatory reforms cemented this fragmentation [FSB (2019)].

In recent years, geopolitical tensions have led to increased financial fragmentation, driven by greater monetary sovereignty, the idea of not being beholden to any one system or currency [Gianviti (2008)]. Monetary sovereignty, understood in this context, has been exacerbated following the annexation of Crimea in 2014 and the 2022 invasion of Ukraine and the systematic use of sanctions.

Russia's response has been to develop its own domestic payment system and card network to lessen dependence on Western infrastructure [BBC Monitoring (2024)], and also explore alternative payment mechanisms, including CBDCs. The financial decoupling between the United States and China has followed a similar trajectory in response to tariffs and global power politics, with increased restrictions on foreign investment and the creation of alternative payment systems, including CBDCs, to minimize reliance on the U.S. dollar. This dynamic is evident in the digital asset space, with national approaches to regulating cryptocurrencies varying considerably and contributing to financial crime issues. Conversely, we are seeing very similar issues emerge with the governance of artificial intelligence and how differing interpretations and competing national agendas limit unified approaches and exacerbate problems [Hendrix (2026)].

2. CBDCs and financial crime risks

CBDCs pose a distinct challenge because they are a government-backed initiative. On initial consideration, this may seem like a simple pretext. Yet, if CBDCs do emerge as a cash equivalent, meaning they offer all the benefits while lacking only a few obvious differences, such as tangibility or complete anonymity, we could see mass adoption. When this is contrasted with today's financial sector, which has a checkered past in the

court of public opinion, a new way to hold and spend money that is separate from established channels may resonate with a large share of consumers. Due to the way current payment systems operate, there are obvious air gaps that limit the large scale of criminal activity or general malfeasance. However, CBDCs designed or envisioned to be interoperable and international will create a pool of potentially hundreds of millions of victims. A parallel example could be the use of email as a communication method. It did not take long for a seemingly insignificant means of electronic communication to consume the entire world. Today, email addresses are a necessity with their origin founded in interest rather than need.

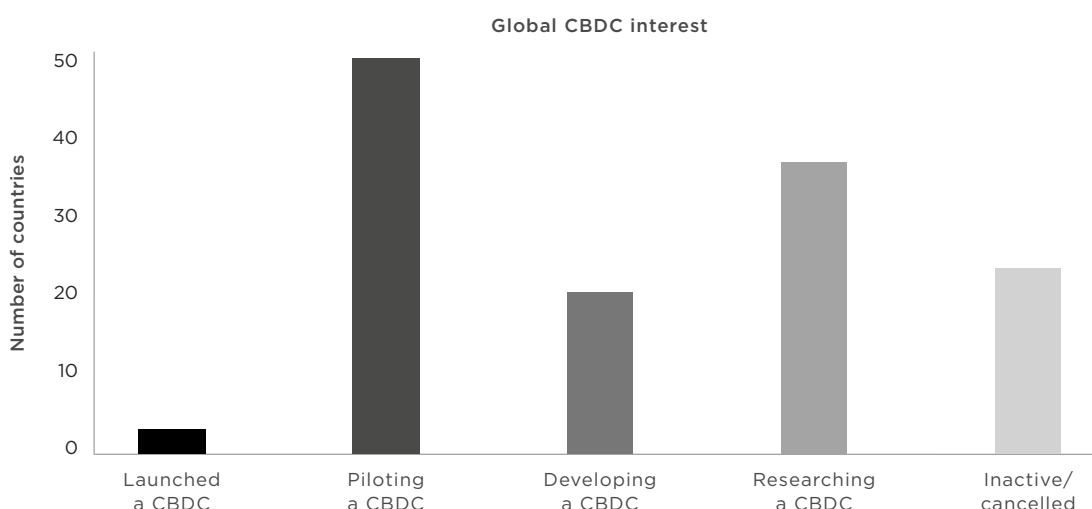
Financial fragmentation could also shape CBDC adoption as models compete for customers, offer perks such as cash back or interest, the latter of which is now a reality in China [Chhangani (2026)]. In turn, we may, and in many ways already are, see countries respond in kind. The E.U. and the U.K. are pursuing their own CBDCs, which may be heavily promoted to avoid having to ban or restrict a foreign CBDC. The requirement to offer an alternative as a method of amelioration is a lesson likely learned from the backlash of banning TikTok and restricting Huawei 5G [Friis and Lysne (2021); Gray (2021)]. Nonetheless, if CBDCs are introduced via a walled-garden approach, we may see fewer issues, as the pool of potential victims is smaller. Yet, the circumvention of sanctions is considered a primary reason for CBDC projects in Russia and China [Prokopenko (2024)], suggesting that internationalization will be a core tenet for future use. This argument ties in with China's development of its CBDC in 2014 in the aftermath of the Crimea invasion and the ensuing raft of financial sanctions levied on Russia.

The 2008 Global Financial Crisis illustrates how financial fragmentation can amplify financial crime risks. In the U.S., light-touch regulation and limited oversight of mortgage lenders and investment banks enabled the unchecked growth of subprime lending, including ‘no income, no job, no assets’ loans, which were supported by inflated property appraisals. Unlike more stringent supervisory frameworks elsewhere, the fragmented and permissive U.S. regulatory landscape allowed high-risk loans, often containing fabricated borrower information, to be packaged into mortgage-backed securities and collateralized debt obligations that were misrepresented to investors [Financial Crisis Inquiry Commission (2011)]. The absence of coordinated oversight enabled regulatory arbitrage, allowing the trade of extremely high-risk financial products. Although a lack of stringent regulation contributed, the situation was exacerbated by financial crimes that exploited it, including mortgage, securities, and accounting fraud.

Cryptocurrencies also show how financial fragmentation can amplify exposure to financial crime. Without harmonized standards, inconsistent and light-touch regulation has led to fraudulent initial coin offerings, market manipulation tactics such as pump-and-dump scams, and exchange fraud. Crypto assets have also been widely used for money laundering, storing illicit proceeds, and evading sanctions [Europol (2025)]. Regulatory divergence has caused some jurisdictions to adopt permissive frameworks, while others impose partial restrictions or total bans. This patchwork approach fosters regulatory mismatch, allowing offenders to move funds through the least restrictive or capable jurisdictions.

Despite increased global enforcement and understanding, the rapid pace of innovation and regulatory disparity continue to be exploited. Building on the rise of cryptocurrencies, nations continue to recognize the strategic importance of digital assets for economic sovereignty and technological progress. Though nationalist agendas bolster financial fragmentation and

Figure 1: Differing national interests in CBDCs and the respective stages¹



¹ Information source – <https://www.atlanticcouncil.org/cbdctracker/>

undermine the efficiency and stability that a coordinated approach to digital assets could offer [Bilotta and Passos (2025)].

This divergence is already evident, with several countries adopting contrasting strategies, such as implementing comprehensive digital asset regulations, advancing national CBDC projects, or opting for fewer or more lenient rules. The United States has chosen to promote a U.S.\$-backed stablecoin while banning the creation of a domestic CBDC [The White House (2025)], primarily citing privacy concerns and the need to safeguard national sovereignty. China prohibited cryptocurrency use in 2021 [BBC (2021)], citing concerns over illegal activity, financial stability, and financial security. Concurrently, China launched its own CBDC, the e-CNY, which has undergone successful pilot programs and international testing with other central banks [Bai et al. (2025); PBC (2021)]. The E.U. has adopted a mixed approach, introducing stringent regulation of crypto assets and developing an E.U.-wide CBDC project, both aimed at modernizing a layered and fragmented payment system and strengthening the E.U.'s strategic and financial independence [ESMA (2025); ECB (2023)].

Although nationalistic approaches and limited multilateral policies contribute to financial fragmentation, ultimately hampering growth and economic security, these issues often take a backseat to the illicit exploitation of misalignment, specifically financial crime. Scholarship has extensively examined various aspects of this problem: the misalignment of regulation and the gaps exploited by financial criminals [Levi and Reuter (2006)], the role that improved and targeted regulation can play in reducing financial crime [Ferwerda (2008)], and the rate at which financial crime evolves in the absence of

preventative measures [Leuprecht et al. (2023)]. Existing research argues that siloed approaches and differing risk appetites across jurisdictions facilitate financial crime [Button et al. (2025); Longa (2025)], and in an increasingly globalized financial world, this dynamic continues to evolve, generating new challenges.

3. Transcendence

CBDCs present a novel way to engage with and use money. Driven by changing social dynamics, CBDCs have become a key part of an era marked by declining cash usage and growing financial digitalization. Originally designed for domestic use, the concepts behind CBDCs have expanded to include interoperability with other CBDCs or international exchange [BIS (2024); VISA (2025)]. Although this development is positive, the internationalization and greater interoperability of CBDCs introduce various financial crime risks, especially when financial fragmentation is taken into account. This section will examine how anonymity, offline functionality, instantaneous settlement, and holding limits may be affected by financial fragmentation, underscored by monetary sovereignty, and outline the potential risks.

3.1 Anonymity

Like cash, CBDCs aim to provide users with the ability to transact anonymously. However, many designs incorporate due diligence checks (verification of identity) to prevent issues such as money laundering. This contrasts with cash, which requires no such checks and allows users to interact completely anonymously. The reasons for introducing due diligence vary, but the digital nature of CBDCs, existing anti-financial crime norms, and the fact that CBDCs will be interoperable and potentially exchangeable are key considerations. The level of anonymity offered by CBDCs varies, however. The Bahamas Sand

“ *Despite increased global enforcement and understanding, the rapid pace of innovation and regulatory disparity continue to be exploited.* ”

Dollar, the first CBDC to become operational, provides an initial tier with no due diligence requirements. However, it imposes a monthly transaction limit of U.S.\$1,500 [Central Bank of the Bahamas (2019)]. As CBDCs evolve and their use becomes more widespread, challenging cash and electronic money, debates about anonymity are likely to intensify. Concerns about data privacy and the desire for an anonymous CBDC have already garnered interest, with many opposing additional perceived oversight [ACLU (2022); Chapple (2025)].

If CBDCs become interoperable internationally as envisioned, then differing levels of anonymity may present financial crime risks. If some CBDCs opt for a completely anonymous model with high transaction limits, we might see a similar pattern to that of cryptocurrencies, where users transfer funds to jurisdictions with minimal regulation, checks, or oversight to conceal illicitly obtained funds. Moreover, if a cash-out function is available, financial criminals could employ an anonymous CBDC as a conduit for money laundering or terrorist financing.

Traditionally, transferring funds overseas has been impeded by due diligence requirements, lengthy correspondent banking relationships, and high costs. This is why criminals continue to exploit secrecy jurisdictions, cryptocurrencies, or cash smuggling. A related example, which clearly highlights the issue, is the use of prepaid cards

in the E.U. before 2018, when the E.U.'s 5th Anti-Money Laundering Directive was introduced. Prior to that, anonymous prepaid cards were widely utilized for illicit financial activities, prompting the E.U. to lower the customer due diligence threshold from €250 to €150 when uploading funds, with a cap of €50 for online transactions [Chapple (2025); Königreich (2019)]. If CBDCs become interoperable, financial crime may increase as criminals exploit those that emulate cash or offer similar levels of anonymity. Furthermore, weak regulation or challenges in investigative procedures, owing to anonymity, may aggravate these issues.

3.2 Offline functionality

CBDCs, like cash, will need to enable transactions when there is no internet connection. To achieve this, value can be stored locally on a device (such as a phone, smart card, or hardware wallet) and transferred directly between the payer and the payee via cryptographically signed messages. Both devices update their balances instantly, and reconciliation occurs when they reconnect to the central ledger. While this design supports resilience during network outages and promotes financial inclusion for those without constant connectivity, it also carries significant risks of financial crime.

Offline payments may enable transactions to occur without real-time monitoring or identity verification. This creates opportunities for money laundering and terrorist financing, especially if high-value offline transactions are permitted or if interoperability allows value to move across borders undetected. In areas with inconsistent internet and mobile coverage, criminals have exploited vulnerabilities during network outages by engaging in double spending or false reversals. Such dynamics show how offline-

enabled payment instruments, while supporting inclusion and resilience, can replicate cash-like vulnerabilities in the digital realm. In a fragmented international environment, different approaches to offline functionality could magnify these risks, allowing criminals to route funds through jurisdictions with more permissive offline models, as they do today with cryptocurrencies.

3.3 Instantaneous settlement

A core element of CBDC design is the ability to process payments instantly, with transactions cleared and settled immediately, as with cash. This improves efficiency and reduces counterparty risk by removing the delays found in current payment systems. However, this rapid processing also raises the potential for financial crimes. The lack of settlement delay narrows the timeframe for detecting and blocking suspicious activity, effectively removing a key layer of friction that currently helps identify and prevent such issues.

The 2016 Bangladesh central bank heist underscores the risks tied to nearly instant settlement. North Korean hackers exploited the SWIFT real-time messaging system to initiate fraudulent transfers from the bank's account at the Federal Reserve Bank of New York. Although multiple attempts were thwarted, approximately U.S.\$81 million was successfully transferred to accounts in the Philippines and laundered through casinos before authorities could act [Hammer (2018)].

While this is nowhere near the speed of CBDC settlements, the example demonstrates how quickly illicit funds can disappear in a 'real-time' system. In a fragmented global environment, varying abilities to monitor and respond to real-time CBDC flows could lead to uneven enforcement, allowing offenders to exploit jurisdictions with limited capacity.

3.4 Holding limits

Many CBDC designs include holding limits to protect financial stability by preventing banking disintermediation. These limits also aim to reduce the appeal of CBDCs for illicit activities by restricting the amounts that can be accumulated or transferred. However, these restrictions could create new crime risks. High holding limits might encourage misuse by organized crime groups or lead to a new group of victims – those who choose to hold larger CBDC balances. Conversely, low limits may attract more users since lost or stolen balances are minimal. Still, this could lead criminals to focus more on CBDC users overall if widespread adoption occurs. Additionally, if there are significant jurisdictional differences in holding limits, illicit actors might move funds to more accommodating systems. Nonetheless, if designed and governed effectively, CBDCs could limit illicit financial activity as described above. Yet it is important to remember that, with all financial innovation, a retrospective approach to financial crime is the established approach. Anticipation of financial crime risks does not feature in the design stage, an issue seen across a whole host of financial innovations, from checks to credit cards. Hence, the current regulatory and supervisory paradigm focuses on post facto fixes to final crime issues.

4. Conclusion: policy recommendations and practical implications

CBDCs represent an innovative and vital form of exchange, supporting shifts towards a more cashless society, reducing dependence on commercial bank money, and enabling governments to assist citizens during crises. They also enable cash functionality, combined with improved interoperability and safety features. However, like many financial innovations before

them, CBDCs enter a landscape where financial crime seeks to exploit any and all loopholes. Additionally, if CBDCs are used internationally as anticipated, they will encounter diverse risk appetites, regulations, and public perceptions.

As noted above, the fundamental features that set CBDCs apart could also be their undoing. To ensure the success of CBDCs, policymakers must consider how financial crime could exploit design elements that initially attract users. Therefore, issues such as the misuse of anonymity, offline functionality, instant settlement, and holding limits should be central to all decisions on the internationalization and interoperability of CBDCs. Furthermore, continued assessment of the financial crime risks associated with CBDCs is essential. As we stand on the brink of a new digital financial era, we must avoid the obvious financial crime risks that could impact the vast majority. We missed this opportunity when introducing coins that were clipped, checks that were forged, or cash that was counterfeited.

In practical terms, CBDCs will pose immediate challenges that, if left unaddressed, could exacerbate the concerns mentioned above. The main issue is how existing anti-financial crime measures interact with CBDCs. Many financial institutions implement these measures dynamically, following a risk-based approach. This is important because it reflects the evolving nature of financial crime, allowing resources to be allocated where necessary. However, current approaches also consider the due diligence conducted by other financial institutions and entities involved in the transaction process. Given that CBDCs are likely to become interoperable with existing payment methods, they will introduce a new layer of risk and opacity, despite many

governments advocating strict due diligence. Consequently, the unique aspects of CBDCs, as mentioned above, will require financial institutions to update or review their existing policies to assess how the potential financial crime risks linked to CBDCs might intensify existing threats. This broader issue has been observed before with the emergence of ‘new payment methods’ (NPMs). In a 2010 FATF report, the influence of NPMs and financial crime is discussed, noting that since 2006, the amount of funds moving through NPMs, such as prepaid cards and mobile payments, has increased, as has the related financial crimes [FATF (2010)]. However, the report concludes by stating that policymakers should aim to strike a balance between practical and comprehensive anti-financial crime measures and deterring NPM usage, out of concern that restricting NPMs could push users towards unregulated services or providers [FATF (2010)], which conflicts with the current association of NPMs and crime [Deloitte (n.d.)].

Thus, not only will policymakers need to consider the unintended consequences of CBDCs by anticipating how their uniqueness may create new opportunities for financial crime, but financial institutions will also need to evaluate how their anti-financial crime procedures must be updated and adapted. Translating the above into clear implications for practitioners, the author sets out the following assertions:

Financial fragmentation materially increases CBDC-related financial crime risk when CBDCs are interoperable or internationally accessible. As CBDCs move beyond domestic use, divergent regulatory standards, enforcement capacities, and risk tolerances will create exploitable asymmetries. Criminals will route value through CBDC systems that are more permissive.

CBDC design choices are not financially crime-neutral and must be treated as regulatory decisions, not purely technical ones. Core features such as anonymity tiers, offline functionality, instantaneous settlement, and holding limits directly shape financial crime risk exposure. Treating these features as engineering choices rather than as policy instruments risks embedding systemic vulnerabilities that cannot be fully mitigated ex post through supervision or enforcement.

CBDCs will externalize new compliance and operational risks onto financial institutions, even where central banks retain core control. Despite CBDCs being public money, financial institutions and/or payment providers will remain responsible for customer due diligence, transaction monitoring, and risk assessments at access points and interoperability layers. Existing risk-based AML/CFT frameworks will require recalibration, as reliance on upstream controls conducted by other intermediaries becomes less reliable in CBDC-enabled payment chains.

Failure to integrate anticipatory financial crime risk assessment into CBDC development threatens long-term adoption and legitimacy. Historical experience demonstrates that retrofitting controls after widespread misuse damages trust and imposes higher economic and reputational costs. If CBDC-related financial crime incidents emerge at scale, public confidence may erode rapidly, undermining policy objectives related to financial inclusion, monetary sovereignty, and payment system resilience.

References

- Afonso, A., J. Alves, and S. Monteiro, 2024. "Sovereign risk dynamics in the EU: The time varying relevance of fiscal and external (im)balances," *Journal of International Financial Markets, Institutions and Money*, 94, 102026, <https://doi.org/10.1016/j.intfin.2024.102026>
- American Civil Liberties Union, 2022. "Anonymity is not negotiable when it comes to digital cash," https://www.aclu.org/sites/default/files/field_document/cbdcs_fed_reserve_-_money_and_payments_comment_letter.pdf
- Bai, H., L.W. Cong, M. Luo, and P. Xie, 2025. "Adoption of central bank digital currencies: Initial evidence from China," *Journal of Corporate Finance*, 91, 102735, <https://doi.org/10.1016/j.jcorpfin.2025.102735>
- BBC, 2021. "China declares all crypto-currency transactions illegal," *BBC News*, September 24, <https://www.bbc.com/news/technology-58678907>
- BBC Monitoring, 2024. "Briefing: Russia puts on brave face as allies snub its Mir payment system," <https://monitoring.bbc.co.uk/product/b000ljc2>
- Bilotta, N. and N. Passos, 2025. "Digital asset regulatory fragmentation undermines global financial interconnectedness," *Florence School of Banking and Finance*, July 21, <https://fbf.eui.eu/digitalasset-regulatory-fragmentationundermines-global-financialinterconnectedness/>
- BIS, 2025. "Sustaining stability amid uncertainty and fragmentation," *Bank of International Settlements*, <https://www.bis.org/publ/arpdf/ar2025e1.pdf>
- Button, M., B. Hock, J.B. Suh, and C.S. Koh, 2025. "Policing cross-border fraud 'above and below the surface': Mapping actions and developing a more effective global response," *Crime, Law and Social Change*, 83(1), 5, <https://doi.org/10.1007/s10611-024-10186-2>
- Catalan, M., F. Natalucci, Q. Mahvash, and T. Tsuruga, 2023. "Geopolitics and Fragmentation Emerge as Serious Financial Stability Threats," *International Monetary Fund*, <https://www.imf.org/en/blogs/articles/2023/04/05/geopolitics-and-fragmentation-emerge-as-serious-financial-stability-threats>
- Central Bank of the Bahamas, 2019. "Project Sand Dollar," <https://www.centralbankbahamas.com/viewPDF/documents/2019-12-25-02-18-11-Project-Sanddollar.pdf>
- Chapple, M., 2025. "Your data privacy is slipping away - here's why, and what you can do about it," *The Conversation*, <https://doi.org/10.64628/AAI.pw5rqc3h6>
- Chhangani, A., 2026. "What to watch as China prepares its digital yuan for prime time," *Atlantic Council*, <https://www.atlanticcouncil.org/blogs/econographics/what-to-watch-as-china-prepares-its-digital-yuan-for-prime-time/>
- Claessens, S., 2019. "Fragmentation in global financial markets: Good or bad for financial stability?" *BIS Working Papers* 815, <https://www.bis.org/publ/work815.pdf>
- Deloitte, n.d. "Payments Digitisation and Financial Crime Risk - Banking or Technology?" *Deloitte Australia*, retrieved September 25, 2025 from <https://www.deloitte.com/au/en/services/consulting-financial/blogs/payments-digitisation-financial-crime-risk.html>
- ESMA, 2025. "Markets in Crypto-Assets Regulation (MiCA)," <https://www.esma.europa.eu/esmasactivities/digital-finance-and-innovation/markets-crypto-assets-regulation-mica>
- European Central Bank, 2023. "Digital euro," https://www.ecb.europa.eu/euro/digital_euro/html/index.en.html
- Europol, 2025. "Internet Organised Crime Threat Assessment (IOCTA) - Strategic, policy and tactical updates on the fight against cybercrime," <https://www.europol.europa.eu/publications-events/mainreports/iocta-report>
- FATF, 2010. "Money Laundering Using New Payment Methods," *Financial Action Task Force*, <https://www.fatf-gafi.org/content/dam/fatf-gafi/reports/ML%20Using%20New%20Payment%20Methods.pdf>
- Ferwerda, J., 2008. "The Economics of Crime and Money Laundering: Does Anti-Money Laundering Policy Reduce Crime?", *Review of Law & Economics*, 5(2), 903-929, <https://doi.org/10.2202/1555-5879.1421>
- Financial Crisis Inquiry Commission, 2011. "The Financial Crisis Inquiry Report," https://fcicstatic.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf
- Financial Stability Board, 2019. "FSB Report on Market Fragmentation," <https://www.fsb.org/uploads/P040619-2.pdf>
- Friis, K. and O. Lysne, 2021. "Huawei, 5G and Security: Technological Limitations and Political Responses," *Development and Change*, 52(5), 1174-1195, <https://doi.org/10.1111/dech.12680>
- Gianviti, F., 2008. "Current Legal Aspects of Monetary Sovereignty," in *Current Developments in Monetary and Financial Law* 4, *International Monetary Fund*, <https://www.elibrary.imf.org/display/book/9781589065079/ch001.xml>
- Gray, J.E., 2021. "The geopolitics of 'platforms': The TikTok challenge," *Internet Policy Review*, 10(2), <https://doi.org/10.14763/2021.2.1557>
- Hammer, J., 2018. "The Billion-Dollar Bank Job," *The New York Times*, May 3, <https://www.nytimes.com/interactive/2018/05/03/magazine/money-issue-bangladesh-billion-dollar-bank-heist.html>

Hendrix, J., 2026. "The Policy Implications of Grok's 'Mass Digital Undressing Spree'," The Tech Policy Press, podcast, <https://player.captivate.fm/episode/d7d950cb-5a8c-4948-985f-78f74f62cdf8>

Königreich, V., 2019. "The EU's Fifth Anti-Money Laundering Directive: A regulatory compliance perspective," <https://www.nortonrosefulbright.com/en-gb/knowledge/publications/8f84c163/the-eus-fifthanti-money-laundering-directive-aregulatory-compliance-perspective>

Leuprecht, C., C. Jenkins, and R. Hamilton, 2023. "Virtual money laundering: Policy implications of the proliferation in the illicit use of cryptocurrency," *Journal of Financial Crime*, 30(4), 1036-1054, <https://doi.org/10.1108/JFC-07-2022-0161>

Levi, M. and P. Reuter, 2006. "Money Laundering," *Crime and Justice*, 34(1), 289-375, <https://doi.org/10.1086/501508>

Longa, F.E.A., 2025. "Cryptocurrency and Money Laundering," *American Journal of Industrial and Business Management*, 15(02), 362-371, <https://doi.org/10.4236/ajibm.2025.152017>

Meltzer, A. and M. Fiedman, 2025. "Britannica Money," <https://www.britannica.com/money/money>

Office of the Historian, n.d. "Milestones in the History of U.S. Foreign Relations, 1969-1976," <https://history.state.gov/milestones/1969-1976/nixon-shock>

People's Bank of China, 2021. "Digital Currency Institute of PBC Joins m-CBDC Bridge Project," <http://www.pbc.gov.cn/en/3688110/3688172/4157443/4196114/index.html>

Prokopenko, A., 2024. "Can the Digital Ruble Shield Russia From Western Sanctions?," <https://carnegieendowment.org/research/2024/10/russia-digitalruble-development?lang=en>

Tamirisa, N., 2001. "V Capital Controls in Response to the Asian Crisis," in *Malaysia: From Crisis to Recovery*, International Monetary Fund, <https://doi.org/10.5089/9781589060470.084>

The White House, 2025. "Strengthening American Leadership in Digital Financial Technology," <https://www.whitehouse.gov/presidential-actions/2025/01/strengthening-american-leadershipin-digital-financial-technology/>

© 2026 The Capital Markets Company (UK) Limited. All rights reserved.
This document was produced for information purposes only and is for the exclusive use of the recipient.
This publication has been prepared for general guidance purposes, and is indicative and subject to change. It does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (whether express or implied) is given as to the accuracy or completeness of the information contained in this publication and The Capital Markets Company (UK) Limited and its affiliated companies globally (including, without limitation, parent companies and subsidiaries) (collectively "Capco") does not, to the extent permissible by law, assume any liability or duty of care for any consequences of the acts or omissions of those relying on information contained in this publication, or for any decision taken based upon it. The views and opinions expressed in the articles published in this Journal are those of the respective authors and do not necessarily reflect the views of the Capco, the editor or any affiliated institutions.

About Capco

Capco, a Wipro company, is a global technology and management consultancy shaping change in the financial services and energy industries. For almost 30 years, we have been trusted to help our clients adapt, transform and create long-term value across capital markets, banking, payments, insurance, wealth and asset management, and the energy and utilities sectors. Our deep industry expertise, partnership mindset and award-winning Be Yourself At Work culture are amplified by our strengths in advisory, technology, data and AI innovation. We support our clients to establish clear priorities, connect vision to value and deliver measurable impact when the stakes are highest.

Expert-led, AI-infused, impact-focused – we do not just respond to change, we help shape it. To learn more, visit www.capco.com or follow us on LinkedIn, Instagram, Facebook and YouTube.

Worldwide offices

APAC

Bengaluru – Electronic City
Bengaluru – Sarjapur Road
Bangkok
Chennai
Gurugram
Hong Kong
Hyderabad
Kuala Lumpur
Mumbai
Pune
Singapore

MIDDLE EAST

Dubai

EUROPE

Berlin
Bratislava
Brussels
Edinburgh
Frankfurt
Geneva
Glasgow
London
Milan
Paris
Vienna
Warsaw
Zurich

NORTH AMERICA

Charlotte
Chicago
Dallas
Houston
Montreal
New York
Orlando
Toronto

SOUTH AMERICA

São Paulo
Rio de Janeiro

About King's Business School

King's Business School is a triple-accredited business school in the heart of London. It ranks amongst the top 10 business schools for research in the UK, based on the Research Excellence Framework 2021, and is consistently ranked in the top ten in the UK for business by the Times and Sunday Times Good University Guide, the Complete University Guide and the Times Higher Global University rankings.

The School advances world-leading education and research across four knowledge frontiers: (1) developing a modern workplace, (2) creating sustainable and socially responsible business, (3) Improving health and public services organisation and (4) strengthening economic and financial systems.

It is the ninth faculty of King's College London, leveraging interdisciplinary potential across the College. It drives pioneering thinking and engages the limitless energies of the city's businesses, policymakers, entrepreneurs and change-makers. King's Business School puts its commitment to drive positive change at the heart of its life-changing research and "London as a classroom" experiential education.

