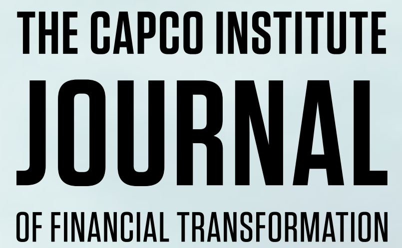

GOVERNANCE OF CORPORATES

Global financial order at a crossroads: Do CBDCs lead to Balkanization or harmonization?

CHENG-YUN (CY) TSANG | PING-KUEI CHEN

BALANCING

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CONTENTS

GOVERNANCE OF TECHNOLOGY

08 **Data and AI governance**
Sarah Gadd, Chief Data Officer, Bank Julius Baer

20 **"Data entrepreneurs of the world, unite!" How business leaders should react to the emergence of data cooperatives**
José Parra-Moyano, Professor of Digital Strategy, IMD

26 **Revolutionizing data governance for AI large language models**
Xavier Labrecque St-Vincent, Associate Partner, Capco
Varenya Prasad, Principal Consultant, Capco

32 **Municipal data engines: Community privacy and homeland security**
Nick Reese, Cofounder and COO, Frontier Foundry Corporation

40 **Human/AI augmentation: The need to develop a new people-centric function to fully benefit from AI**
Maurizio Marcon, Strategy Lead, Analytics and AI Products, Group Data and Intelligence, UniCredit

50 **Building FinTech and innovation ecosystems**
Ross P. Buckley, Australian Research Council Laureate Fellow and Scientia Professor, Faculty of Law and Justice, UNSW Sydney
Douglas W. Arner, Kerry Holdings Professor in Law and Associate Director, HKU-Standard Chartered FinTech Academy, University of Hong Kong
Dirk A. Zetzsche, ADA Chair in Financial Law, University of Luxembourg
Lucien J. van Romburg, Postdoctoral Research Fellow, UNSW Sydney

56 **Use and misuse of interpretability in machine learning**
Brian Clark, Rensselaer Polytechnic Institute
Majeed Simaan, Stevens Institute of Technology
Akhtar Siddique, Office of the Comptroller of the Currency

60 **Implementing data governance: Insights and strategies from the higher education sector**
Patrick Cernea, Director, Data Strategy and Governance, York University, Canada
Margaret Kierylo, Assistant Vice-President, Institutional Planning and Chief Data Officer, York University, Canada

70 **AI, business, and international human rights**
Mark Chinen, Professor, Seattle University School of Law

GOVERNANCE OF SUSTAINABILITY

82 Government incentives accelerating the shift to green energy
Ben Meng, Chairman, Asia Pacific, Franklin Templeton
Anne Simpson, Global Head of Sustainability, Franklin Templeton

92 Governance of sustainable finance
Adam William Chalmers, Senior Lecturer (Associate Professor) in Politics and International Relations, University of Edinburgh
Robyn Klingler-Vidra, Reader (Associate Professor) in Entrepreneurship and Sustainability, King's Business School
David Aikman, Professor of Finance and Director of the Qatar Centre for Global Banking and Finance, King's Business School
Karlygash Kuralbayeva, Senior Lecturer in Economics, School of Social Science and Public Policy, King's College London
Timothy Foreman, Research Scholar, International Institute for Applied Systems Analysis (IIASA)

102 The role of institutional investors in ESG: Diverging trends in U.S. and European corporate governance landscapes
Anne Lafarre, Associate Professor in Corporate Law and Corporate Governance, Tilburg Law School

112 How banks respond to climate transition risk
Brunella Bruno, Tenured Researcher, Finance Department and Baffi, Bocconi University

118 How financial sector leadership shapes sustainable finance as a transformative opportunity: The case of the Swiss Stewardship Code
Aurélia Fäh, Senior Sustainability Expert, Asset Management Association Switzerland (AMAS)

GOVERNANCE OF CORPORATES

126 Cycles in private equity markets
Michel Degosciu, CEO, LPX AG
Karl Schmedders, Professor of Finance, IMD
Maximilian Werner, Associate Director and Research Fellow, IMD

134 Higher capital requirements on banks: Are they worth it?
Josef Schroth, Research Advisor, Financial Stability Department, Bank of Canada

140 From pattern recognition to decision-making frameworks: Mental models as a game-changer for preventing fraud
Lamia Irfan, Applied Research Lead, Innovation Design Labs, Capco

148 Global financial order at a crossroads: Do CBDCs lead to Balkanization or harmonization?
Cheng-Yun (CY) Tsang, Associate Professor and Executive Group Member (Industry Partnership), Centre for Commercial Law and Regulatory Studies (CLARS), Monash University Faculty of Law (Monash Law)
Ping-Kuei Chen, Associate Professor, Department of Diplomacy, National Chengchi University

158 Artificial intelligence in financial services
Charles Kerrigan, Partner, CMS
Antonia Bain, Lawyer, CMS

DEAR READER,

In my new role as CEO of Capco, I am very pleased to welcome you to the latest edition of the Capco Journal, titled **Balancing Innovation and Control**.

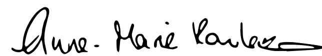
The financial services and energy sectors are poised for another transformative year. At Capco, we recognize that this is a new era where innovation, expertise, adaptability, and speed of execution will be valued as never before.

Success will be determined based on exceptional strategic thinking, and the ability to leverage innovative new technology, including GenAI, while balancing a laser focus on risk and resilience. Leaders across the financial services and energy industries recognize the transformative benefits of strong governance while needing to find the optimal balance between innovation and control.

This edition of the Capco Journal thus examines the critical role of balancing innovation and control in technology, with a particular focus on data, AI, and sustainability, with wider corporate governance considerations. As always, our authors include leading academics, senior financial services executives, and Capco's own subject matter experts.

I hope that you will find the articles in this edition truly thought provoking, and that our contributors' insights prove valuable, as you consider your institution's future approach to managing innovation in a controlled environment.

My thanks and appreciation to our contributors and our readers.



Annie Rowland, **Capco CEO**

GLOBAL FINANCIAL ORDER AT A CROSSROADS: DO CBDCS LEAD TO BALKANIZATION OR HARMONIZATION?

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ABSTRACT

Central bank digital currencies (CBDCs) have gained momentum in the global financial system in recent years. Its impact on global financial regulations cannot be underestimated. Despite various motives for issuing CBDCs, the circulation of different CBDCs in the global financial networks will require central banks to revise the existing rules or formulate new ones. In this process, geopolitics has a significant role. The global financial order may head to Balkanization or harmonization. This paper discusses the counteracting forces that draw regulatory changes in opposite directions. CBDCs may change the order on payment systems, settlement and clearing mechanisms, privacy protection, capital control measures, and AML/CFT measures. Geopolitical concerns on currency sovereignty and competition over fintech innovations can simultaneously encourage cooperation and confrontation. Central banks, financial intermediaries, and the private sector should be ready to cope with significant changes in the global financial order. We argue that technological developments and geofinancial concerns will remain the predominant areas of focus for years to come. They will determine the scope and intensity of geopolitical competition, and then spill over to global finance.

1. INTRODUCTION

According to a 2022 BIS survey, 93% of central banks, representing 94% of global economic output, were engaged in central bank digital currencies (CBDCs) [Kosse and Mattei (2023)]. The Atlantic Council presents a similar picture by tracking CBDC developments in 131 countries. While there are a number of reasons why CBDCs are on the rise, their implications and potential have raised concerns regarding the direction of future global financial order.

For decades, scholars and commentators have observed the evolution of the global financial order from either geopolitical or legal-regulatory perspectives, primarily shaped by the asymmetric power of different economies, reactions to financial crises, and even internationalism driven by various so-called global standards-setters. The implications of technological changes and innovations are, however, often underestimated. This limited dimensional lens of global policy studies in finance needs a profound rethinking. The rise of CBDC reinforces such an argument. It holds the potential to drive the global financial order to unprecedented forms of Balkanization as typically defined by the divide between West and East or North and South. Even if CBDCs lead to greater harmonization, it is nonetheless an unprecedented manifestation driven by the competition between fiat and virtual currencies, a factor ignored in the current exploration of global policy study.

[1] The authors are grateful to the excellent editorial assistance by Gabrielle Liang and Abinayan Thillainadarajah. All responsibility remains with the authors.

This paper, aiming to fill the aforementioned gap, will initially explain factors giving momentum to CBDCs. Secondly, it argues that the current developments have shown signs of a Balkanized global financial order due to the central banks' different development motives, stages of financial market maturity, regulatory attitude toward virtual or cryptocurrencies, and awareness of privacy concerns. It then highlights factors that may strengthen the harmonization of the global financial order, including inclusive CBDC cross-border experiments, common standards setting, and the seeming global consensus over a cashless society and embracement of digitalization.

The third part of the paper presents more balanced thinking by considering the shaping forces of technological change, geopolitical and financial concerns, and a significant shift in understanding the role of "soft power" in influencing the global financial order. This paper will end with policy implications and tentative response strategies.

The rise of CBDCs pose under-researched impacts on the global financial order. We argue that sovereigns explore or develop CBDCs out of various, complicated motives, including, but not limited to, the "fear of missing out", the desire to be included in the global standards-setting process, advancing financial inclusion within their jurisdictions, or responding to the rapidly spreading fanaticism of cryptocurrencies. These motives give rise to a worldwide trend of exploring, testing, and even launching CBDCs in the minimized form of pilots. The designs, architecture, and potential cross-border circulation of CBDCs subject sovereigns to not only perceivable coordination but also anticipated divides or Balkanization.

On the other hand, the deeper sovereigns delve into the unexplored territorial waters of CBDCs, the more they realize the importance of cooperation and collaboration. If CBDCs were to cross borders and facilitate trade or money flows, then a set of bilateral, multilateral, or even universally applicable rules would be necessary. These rules may take the form of retail-wholesale settlements, multicurrency exchanges, concerted trade practices, digital wallet standards, coordinated capital in-and-out flow controls, and even widely agreed data collection and privacy protection safeguards. Yet cross-border cooperation over these issues is no simple task. Sovereigns will inevitably face difficult challenges.

2. CBDC DEVELOPMENTS SHOWING SIGNS OF BALKANIZATION

Historian and philosopher, Maria Todorova, developed the theory of Balkanism, a cultural and political reflection of its conceptual counterpart, Edward Said's "Orientalism", and calls for a fundamental discourse about an imputed ambiguity stemming from innocent inaccuracies driven by imperfect geographical knowledge and misunderstanding about the region [Todorova (2009)]. It provides a much more nuanced reality and opposes the widely shared view that "the Balkans have been described as the 'other' of Europe ... [and] its inhabitants do not care to conform to the standards of behavior devised as normative by and for the civilised world." Such a historical, political, and cultural discourse helps us to get a better understanding of the connotations associated with the term "Balkanism". It is not equal to a somewhat biased understanding of "Balkanization", a term that originated after the Balkan Wars of 1912-1913, which "denote[s] a process of national fragmentation of former geographical and political units into new problematic national states with disrupted political relations" [Zemon (2018)]. The term "Balkanization", as this paper also argues, symbolises a more complex portrayal of a disadvantaged group of geopolitical inhabitants (like the Balkans) forced to react to global powers with different ways of shaping ideology and implementing strategies. Researchers, including Paul Scott Mowrer and Michel Foucher, also support this view [Longley (2022)].

In other words, Balkanization is a product of exogenous interacting dynamics between sovereigns and their agents. This understanding is paramount, as a clear recognition of the direction of certain rising global phenomena must consider ongoing external factors.

Balkanization in the global financial system is discussed in various academic literature, and perhaps the most recent and potent "financial Balkanization" account lies in Wong (2022). Wong discusses how the "Russian invasion of Ukraine and the COVID-19 pandemic have fundamentally transformed geopolitics and finance" and defines financial Balkanization as "the decoupling and recoupling of international financial ecosystems that culminates in a series of overlapping at the peripheries but separate at their core capital spheres."

The article argues that the "wider perceptual and normative mistrust and antagonism" among sovereigns will come from trade blocks, geopolitically military confrontations, and even the uncoordinated pursuit of ESG standards and goals.

Despite the aforementioned arguments, financial Balkanization does not necessarily result in one-dimensional positive or negative consequences. For example, Coley (2015) argues that the international controversy surrounding the U.S. effort to regulate cross-border banks in the aftermath of the global financial crisis has, in fact, resulted in the need to embrace Balkanization in global finance to prevent future financial crises arising from the pursuit of single-minded international standards of banking.

Nevertheless, even in the U.S. context, we can see counterarguments that discuss how regulatory fragmentation and the Balkanization of financial markets can harm the competitiveness of the American financial services sector [Bennetts (2014)]. Bennetts argues that regulatory harmonization is necessary to prevent Balkanization and promote a more efficient and competitive financial system.

While recent commentaries present a more complex view of the preceding debate, one thing seems inevitable: today's global finance is shaped by new geopolitics [Setser (2022)].

This paper does not take a specific stand on the plausible effects of financial Balkanization; instead, it aims to identify how a rising exogenous technological development, such as CBDCs, would add additional layers of financial Balkanization. It is fair to say that CBDC is mostly an exogenous factor. This idea did not gain much traction until the then Facebook proposed its ambitious global stablecoin-like Project Libra in late 2018, which "spurred" central banks to explore CBDCs as a counterbalancing act [Duncan (2022)]. Regulators worldwide seemed concerned about the effects of big tech and new forms of payments on monetary sovereignty.

For example, Jiang and Lucero (2022) suggest that the revised version of Project Libra, Project Diem, "sped up China's experiment with e-CNY because of the perceived threat to currency sovereignty." While central bank motivations for exploring or developing CBDCs might vary between advanced and emerging economies, the majority seem to use them with the intention to maintain financial stability, implement monetary policies, enhance efficiencies of payments systems, advance financial inclusion, and ensure payment robustness [Kosse and Mattei (2023), Laboure et al. (2021)]. However, this paper argues that these seemingly endogenous factors are superficial and that the primary motivation, as also suggested by BIS (2022), seems to be the rise and prevalence of cryptos and stablecoins that drive a fundamental rethinking on the part of central banks about their roles, missions, and capabilities.

Interestingly, the BIS works hard to promote harmonization and interoperability between different CBDCs in cross-border flows. The BIS Innovation Hub has launched and implemented numerous projects since multi-CBDC arrangements in 2021 [Auer et al. (2021)], and such efforts continue through Project Ubin, Project Jura, Project Dunbar, Project mBridge, Project Jesper, Project Aber, Project Icebreaker, Project Mariala, Project Sellar and Project Mandela. These projects aim to promote interoperability and settlement between CBDCs in cross-border transactions. Participating jurisdictions and central banks include the: New York Federal Reserve Bank, Bank of England, Hong Kong Monetary Authority, Bank of Thailand, People's Bank of China, Central Bank of the United Arab Emirates, Saudi Arabia Central Bank, Banque de France, Monetary Authority of Singapore (MAS), Swiss National Bank, Reserve Bank of Australia (RBA), Bank of Korea (BOK), Central Bank of Malaysia (BNM), Bank of Israel, Norges Bank, Sveriges Riksbank, and South African Reserve Bank.

Despite the pace and number of these cross-border CBDC projects, their participation remains limited. This could be due to their experimental nature or perhaps some other unknown geopolitical concerns. Asian central banks dominate these projects, with the Monetary Authority of Singapore (MAS), Hong Kong Monetary Authority and the Central Bank of Malaysia (BNM) being the most frequent and active participants. In Europe, it is the Swiss National Bank that leads the way.

Interestingly, despite most commentators agreeing that China leads the world in piloting and potentially launching large-scale e-CNY, its central bank only participated in the mBridge project.

It is important to highlight that the U.S., the U.K., and Japan, the world's three most powerful financial centers, had very little participation in these efforts. It could be argued that they are simply taking a more cautious approach and experiment domestically before they are ready to transcend borders. But if that is indeed the case, then why were they so eager to create standards as early as 2020 to set out common foundational principles and core features of a CBDC? And, why was China not included in this very important standards-setting effort?

What might complicate the issue further is that there are already four monetary jurisdictions that have officially launched CBDCs, including the Bahamas, Jamaica, the Eastern Caribbean Economic and Currency Union, and Nigeria. The majority of them are located in Central America and the Caribbean area. Why did the cross-border experiments idea never occur to them? A simple explanation could be that these local initiatives are not successful and scalable, and, hence, it is too early to worry about cross-border flows. Having said that, the Caribbean Community have been working hard to integrate monetary systems and markets in the region, and when the CBDC opportunity does arrive, there is nothing to hold them back from pushing further cross-border efforts to reach integration and harmonization.

It is fair to say that the answers to the aforementioned questions remain speculative for the time being, but the genuine reasons behind these developments are never made public and global politics scholars like one of the present authors would find it difficult not to suspect that geopolitical concerns have a role to play.

The developments of the past three years have shown that CBDC initiatives are likely to be decentralized [Wang and Gao (2021)], and that currency blocs might emerge [Zhang (2020)]. It may become a fragmented CBDC bloc world, resulting in financial Balkanization.

We further argue that if such Balkanization becomes a reality, it is likely because of the following four main reasons.

First, different countries have different reasons for developing CBDCs, which could hamper harmonization efforts. For instance, motives like competing for monetary hegemony, getting rid of the "dollarization" problem, and enforcing stricter capital controls will result in sovereigns preferring to develop their own block or network, exclusive of participation from their potential competitors.

Second, not every state is at the same level of financial market maturity. Following harmonized actions and so-called "universal" standards might jeopardize a state's financial institutions' soundness and competitiveness, and, in the worst-case scenario, hamper the state's financial stability. For example, after Japan was forced by the U.S. and the U.K. to follow the Basel Accord of 1988, it experienced banking turmoil, which some attributed to the Basel Accord. Despite some arguable empirical evidence refuting that accusation [Montgomery (2005)], the widely subscribed belief remains.

> *"...the rise of CBDCs has shown signs of Balkanization. The only question is whether this will be counterbalanced by other factors leading to harmonization."*

Third, sovereigns are still figuring out the interacting dynamics between cryptocurrencies and fiat currencies, and may still want to harness the potential benefits of the former. Cryptocurrencies' decentralized nature, programmability, and the power to transcend economic turmoil and forced prohibition of capital outflows during wars are making policymakers rethink their stance on crypto assets, like stablecoins. This is particularly because a war plan is no longer a remote concern, given the current geopolitical instability across the globe.

Lastly, CBDCs make it easier for central banks to fine-tune monetary policy, as they have access to granular data about countrywide transactions should they want. However, such a data collecting and analyzing practice would subject central banks to significant privacy invasion concerns [Tsang et al. (2023)]. Notably, the common understanding is that central banks almost have no interest in invading citizens' privacy, though it is difficult to suggest that their governments have zero interest in that undertaking. For believers of surveillance capitalism [Zuboff (2017)], privacy concerns arising from CBDCs are inevitable, if not natural. Some legal constructs aimed at safeguarding citizens from privacy invasion, such as the famous General Data Protection Rules (GDPR) in the European Union, have generated "Brussel effects" and many commentators argue the extraterritorial outreaches of domestic laws would introduce regulatory fragmentations or unintended negative consequences [Gstrein and Zwitter (2021), Senz and Charlesworth (2001)]. Whether such phenomena will manifest in CBDC circulation remains to be seen, but it is foreseeable that more significant fragmented attitudes toward this issue will emerge.

CBDCs, as of the writing of this paper, remain largely experimental and not alive. It is too soon to predict whether their wider launch would necessarily subject the global financial order to a new round of fragmentation or Balkanization.

Nonetheless, the ways these projects are being developed and the concerns already raised have sowed the seeds of potential disagreements, if not confrontations. One does not need to wait until the full-fledged bloom of CBDCs to witness a Balkanized financial order. In fact, even in experimental and explorative stages, the rise of CBDCs has shown signs of Balkanization. The only question is whether this will be counterbalanced by other factors leading to harmonization.

3. CBDC AS A CATALYST TO HARMONIZATION OF THE GLOBAL FINANCIAL ORDER

As much as CBDCs may increase the risk of regulatory Balkanization, several factors may drive central banks to harmonize CBDC-related regulations. These regulations range from the technical standardization of the CBDC system to the interoperability between CBDCs. As states try to meet the challenges of currency sovereignty brought about by cryptocurrencies, their shared motive may result in macro behavior that coordinates divergent interests [Schelling (2006)]. Such coordination may require a leading state or a non-state third party. But harmonization may also start from a small group of states and gradually shape a global order as more jurisdictions follow voluntarily.

The primary impetus for regulatory harmonization is facilitating cross-border transactions. CBDCs can have various designs and can be built upon a variety of security and privacy standards based on the preferences of their home governments. If a CBDC is meant to circulate solely within one's national borders, then the central bank can simply tailor it to meet the requirements of its domestic financial markets. However, cross-border transactions involve various CBDC systems. Each currency may have its regulatory requirements. Consequently, central banks may need to balance their domestic regulatory requirements with the need to link to other CBDCs. This encourages central banks to seek a shared, commonly recognized, and coordinated, global regulatory framework.

When it comes to cross-border circulation, central banks need to establish and maintain a safe, accurate, and efficient settlement mechanism that sustains a large volume of transactions. Cross-border transactions will necessitate the regulatory requirements for CBDC security, combating counterfeit currency, and interlinking payment systems between CBDCs [Bindseil and Pantelopoulos (2022)]. On the technical side, allowing retail transactions requires an interoperable platform, compatible ID verification protocol, and equivalent privacy protection measures. Privacy standards are more salient since different jurisdictions can have large gaps in terms of privacy requirements.

Many central banks recognize the importance of cross-border transactions. Some have conducted studies on cross-border CBDCs and completed several joint projects aimed at facilitating safe, efficient, and low-cost cross-border CBDC transactions. These projects have also tested the applicability of the new technologies used in cryptocurrencies, such as the "distributed ledger technology" (DLT). Project Jura, for instance, tested the transfer of wholesale CBDCs between the euro and Swiss franc using a single DLT platform [Project Jura (2021)]. Saudi Arabia and UAE also conducted Project Aber to investigate the management of cross-border ledger systems [(Saudi Central Bank and Central Bank of the U.A.E. (2020)].

Nevertheless, many multilateral projects have focused on the retail market due to the high volume of transactions and the requirement for system interoperability. Australia, Malaysia, Singapore, and South Africa explored the multi-CBDC settlement in Project Dunbar [Project Dunbar (2022)]. Similarly, Project Inthanon-LionRock, initiated by Hong Kong and Thailand, created a prototype platform to support multi-CBDC cross-border transactions. Phase three of that project was named Project mBridge, which aims to build a common infrastructure that settles cross-border payment with fast, secure, and low-cost settlement [Project mBridge (2022)]. The latest, Project Sela, conducted by the BIS, Hong Kong and Israel, explored a potential solution to accessibility and security risk [Project Sela (2023)].

The creation of a joint payment system, or CBDC platform, will affect regulations on CBDC settlement, ID verification systems, interbank network operation, and cyber security. In the meantime, cross-border CBDCs would result in central banks facing challenges in cyber security, settlement risk, and connections between domestic and overseas banking systems. These challenges press central banks to seek solutions. The aforementioned projects aim to solve these issues by improving interoperability. The pursuit of interoperability then stimulates regulatory harmonization.

To be sure, the various projects may suggest that some jurisdictions wish to establish a new infrastructure that inevitably competes with the existing one. This may mark the beginning of Balkanization. However, the evidence so far suggests that there is some optimism since these projects, with limited participants, do not intend to create exclusive CBDC networks. These projects favor the participating jurisdictions, but would not introduce drawbacks for non-participants. For

instance, the infrastructure being tested in mBridge aims to build a platform that applies the latest technology and may be accessible to other CBDCs. The project is open to other jurisdictions, and more jurisdictions participated in the next phase. These efforts contribute to the accessibility and security of a cross-border payment system. The mBridge Project may well become the prototype of a global CBDC infrastructure.

The issue of combating financial crime is the second driving force for regulatory harmonization. This is a top-down approach initiated by states with a clear concern about AML/CFT (anti-money laundering and combating the financing of terrorism). This would most likely have an impact on the transparency of banking supervision in global finance. CBDCs, like existing currencies, may be used in illicit activities or terrorist financing. CBDCs also have a similar propensity to cryptocurrencies, which makes tracing transactions difficult. CBDC transactions can be encrypted, are anonymous, and can be quickly made across borders. Depending on the various designs of the CBDC system, the KYC (know your customer) process of CBDC may be weak and, therefore, could potentially become a loophole in global AML/CFT efforts. AML/CFT is a problem of national security. Even countries with no, or very limited, criminal activities or terrorist threats would face pressure from other countries to build robust AML/CFT measures. This is why AML/CFT is a key concern when issuing retail CBDCs. All jurisdictions that have already issued retail CBDCs have KYC measures, or certain restrictions on commercial banks, to enforce AML/CFT [Kakebayashi et al. (2023)].

The global AML/CFT regime is administered by the Financial Action Task Force (FATF). It is a rigorous regime with strong coercive force. Unlike the typical soft law-based financial regulations, FATF has clear mandates and institutions to combat money laundering and terrorist financing. Its regional agents conduct periodic reviews on states and blacklist those that fail to comply with the AML/CFT measures. In recent years, the development of CBDCs has also caught the attention of the FATF. Given it is not clear how central banks will design CBDCs, the FATF gave advice in its 2020 report, which is quite similar to the requirements for fiat currencies [FATF (2020)].

Following the FATF's study, the global AML/CFT requirements for CBDC are likely to focus on the interoperability of different CBDC systems and the ability to trace money flows through financial intermediaries. This will affect the design choices of ID verification, privacy protection, and bridging mechanisms between CBDCs. Regulatory convergence is not FATF's main concern, but a successful AML/CFT regime will depend on global regulations that apply to every jurisdiction. For example, the AML/CFT may require ID verification (KYC process) on cross-border transactions. It may also require commercial banks and central banks to keep transaction records. Central banks would find their hands tied when it comes to the transaction verification process, record keeping, and record sharing.

More importantly, major economies, such as the U.S. and the U.K., are likely to support the AML/CFT regime. It is in their interests to avoid CBDCs following the same path as cryptocurrencies. They also have an interest in regulating smaller economies that may host and relay illicit activities. The FATF will continue to impose the top-down AML/CFT regime on states.

The support from major states is crucial to regulatory harmonization. In addition to AML/CFT concerns, great powers also have an interest in a stable global financial system. The global financial order is largely coordinated in various intergovernmental organizations. This includes the G7, G20, BIS, IMF, and the World Bank. The regular meetings between financial ministers and central bank governors are the main source of global financial governance, where a small number of states make important decisions on financial regulations and discuss potential threats to financial stability. It is commonly recognized that the global financial order is in the hands of a few economies. States such as the U.S., the U.K., and Japan enjoy strong advantages in shaping the global financial order. Their recommendations and guidelines are specifically important to push harmonization. The U.S., in particular, has a powerful influence on the global financial network [Farrell and Newman (2019)].

As more CBDCs circulate in the global markets, the increased cyber security risk and high monetary mobility will have an impact on financial stability. The instant settlement can change the existing settlement mechanism, its competition with cryptocurrencies and stablecoins could lead to regulatory changes, and its circulation across the globe brings about national security and user privacy issues. Major economies will likely take initiatives to minimize the risks caused by CBDCs. The formation of harmonized regulations takes place in multilateral intergovernmental forums that have already started in recent years. G7 issued a set of CBDC design principles in 2021. This demonstrated the concerns of major economies regarding the development of CBDCs. The BIS Innovation Hub delivered a report to the G20 financial ministers' 2023 meeting. G20 leaders also discussed CBDCs' impact on the global economy at their summit. Similarly, IMF published an overview of its approach to CBDC capacity development [IMF

(2023)]. These examples suggest that major states are aware of the impact of CBDCs.

One can expect further measures, recommendations, or guidelines in the years to come. Although it is not clear which problems major economies would prioritize, harmonization could occur on the global settlement and payment infrastructure. Another agenda would be banking supervision requirements, which may lead to a reexamination of the Basel Accord. Regulatory harmonization most likely begins by global standard setting bodies and the AML/CFT regime, where major economies hold decision making power. This means regulatory Balkanization will raise challenges outside these standard setting bodies.

4. A NEW PERSPECTIVE: THROUGH THE LENS OF TECHNOLOGICAL CHANGE AND GEOFINANICAL CONCERNS

It is fair to say that the current discussions have predominantly been focused on how the global financial order has been shaped and whether there is any appetite for regional fragmentations. For example, while some scholars take a harmonized global financial order as an ideal goal and argue that regional financial arrangements might pose threats to global financial governance [Henning (2017)], others question whether the economic strength of emerging powers, such as the BRICS countries, will increase the "financial multipolarity" of the current global financial order centered on the U.S. and other G7 economies [Huotari and Hanemann (2014)].

Most of the aforementioned lenses of observation have a strong focus on international politics and fall under our understanding of traditional global governance scholarship. However, CBDCs present a far more complex picture, demonstrating how geopolitics, domestic financial markets, pressure to compete with foreign counterparts, and the swift change in technology interact with one another. Among these various factors, current literature tends to underappreciate two critical ones: technology and geofinancial concerns. Lloyd and Dixon (2022) argue that a unipolar world is "dangerous to the peaceful stability of the world order and fails to appreciate the dynamic, interleaved layering across economic, trade, monetary, security, and politico-cultural functionality." They argue that a multipolar order is needed. They further argue that "the nature and pace of technological development – driven in many cases, but not all, by the private sector – is changing the face of globalization" and highlighted that trade in nonmaterial goods is subject to rapid technological innovation via distributed ledger technology. "This digitization of trade in goods and services involves the implementation of widespread programmable (automated) contracts. This development could be further stimulated by the future launching of CBDCs for such cross-border payment transactions."

We would in fact go further and argue that the rise of CBDCs presents a perfect combination of the two. Turner (1943) suggested that the power of technology will result in the progress of transportation, communication, global military confrontation, or power imbalance. This line of literature analyzes how innovative weapons hold the potential to change military dynamics among states. More recent studies do not necessarily share that perspective. For example, Collins (1981) argued that "[m]odern technologies of long-distance warfare, along with modern transportation and communication, do not result in any major change in the underlying principles of geopolitics." Despite differing views, one can hardly argue that the invention of nuclear weapons did not change how geopolitics is understood. Nuclear weapons not only concluded the Second World War, they also helped create a new form of great power competition, as well as gave rise to a set of governance structures regulating atomic energy and fissile materials. The great powers then drafted the Nuclear Non-Proliferation Treaty to consolidate their geopolitical interests, restraining other countries from challenging their position by developing nuclear weapons.

Nonetheless, in the area of global finance, how technological evolution changes interacting dynamics among countries remains a largely unexplored territory. We have, of course, seen the phenomenon of fintech positioning some countries as the leaders in functioning as global financial centers, such as the U.K. and Singapore. However, the competition among fintech centers is not significant enough to change the global financial order, unless it redirects capital flows in a drastic way. Unlike a purely innovative technological invention or application, CBDCs are deeply intertwined with global monetary territory and circulation. CBDCs also hold the potential to redirect global capital flows when they become prevalent.

The rise of CBDCs is particularly distinct in the following aspects, with mixed technological and geofinancial implications.

First, if CBDCs circulate significantly across borders, then the spillover effects must be addressed [Tsang and Chen (2022)]. One way is to instill controls of the CBDC wallets. This would require some technological design, such as specialized chips and other software safeguards. Semiconductor chips used for storing CBDCs and recording their transfer might raise national security concerns for some countries [Miller (2022)]. For instance, given the strained U.S.-China relations in recent

years, one can hardly imagine U.S. CBDCs being stored in a Huawei-designed chip and mobile phone. Such concerns would drive major economies that issue CBDCs to compete for chip technology and the standards-setting powers for technical specifications, further catalyzing change in the global order in the process. The role of technological standards in geopolitics cannot be underestimated. One vivid example is China's emergence as a major player in developing technical standards, including 5G, AI, IoT, etc., which "reintroduce[s] an element of geopolitics into what are too often considered as benign, technical processes" [Seaman (2020)].

Second, cross-border CBDCs require the countries involved to reach a consensus on clearing and settlement arrangements and enhance interoperability, be it in a retail or wholesale context. This consensus formation process would likely force the world's policymakers to rethink the need to overhaul the current correspondent banking system and even the SWIFT network. SWIFT has long been a network enabling global money transfers and serves certain policy aims. For instance, the exclusion of certain Russian banks from SWIFT ended up denying Russia access to international capital markets, which presented a major challenge to Russia's financial markets. The threat of CBDCs to SWIFT was not a remote concern in May 2021. SWIFT, in conjunction with Accenture, published a report that set out practical requirements for the adoption of digital currencies and highlighted how SWIFT can continue and extend its current role to cross-border CBDC payments [Swift and Accenture (2021)]. A potential challenge to SWIFT would surely introduce geofinancial battles among major economies. In fact, some commentators highlighted that China is exploring ways for its e-CNY to bypass SWIFT in the execution, clearing, and settlements of transactions [van der Linden and Łasak (2023)]. China also joined the mCBDC Bridge Project to explore a multicurrency cross-border payment system for wholesale activity, probably with the agenda of bringing other Asian countries on board [Sewall and Luo (2022)].

Third, CBDCs have the potential to evade sanctions [Demertzis and Lipsky (2023), Kar and Priyadarshini (2022)]. A cross-border CBDC or even a global CBDC might significantly hinder sanctioning bodies' powers as they will need to bring sanctions targeting other collaborating central banks or multinational institutions, which will cast doubts on the sanction's legitimacy when it brings negative externalities to not necessarily relevant countries or entities. Indeed, today's global financial system remains pretty much dominated by U.S. dollar primacy. However, the kind of sanctions on Russia and its ripple effects can always generate distrust toward such a dollar primacy. As Singh (2022) reminds unequivocally, "Dollar primacy is nothing more than a network. All networks have tipping points, often psychological ones that are impossible to identify in advance." After the U.S. blocked Iran and Russia from the SWIFT network, many states, including China, raised concerns that the U.S. may cut them off from the global financial network, devastating their economies by denying them access to global financial services and markets. CBDCs become a viable alternative that does not rely on the existing network. However, sanction busting will not go unnoticed. The U.S. may find ways to secure its choke point position in global finance. The challenge and the corresponding response to the sanction regime intensify the geopolitical competition over CBDCs.

Finally, CBDCs hold the potential for the Global South to deviate from the U.S. dollar hegemony. China's e-CNY and its efforts in working closely with other countries via mBridge Project might well provide a model for the Global South [Tharappel (2023)]. Under the current global financial system, dominated by U.S. dollar primacy and Washington consensus, Global South countries are encouraged to liberalize their trade and investments with the rest of the world largely by introducing foreign investments. Yet, market reform does not necessarily guarantee development. After decades of globalization, many Global South countries suffered from trade deficits, staggered economic development, and currency devaluation. Some had to engage in dollarization to sustain their economies. However, with CBDCs, these countries can potentially control spending in more effective ways, such as programming their currencies to follow their national development priorities [Tharappel (2023)]. Such a potential challenge to the primacy of the U.S. dollar is not purely imaginary. Singh (2022) is concerned CBDCs may either "enhance or erode the potency of US economic statecraft." As the world is facing more intense geopolitical conflicts and the threats of nuclear-armed powers, resorting to military solutions might no longer be sufficient or adequate. Frequent uses of economic persuasions will become common. However, the rise of CBDCs might undermine the potential power of this long-lasting economic craft led by the U.S. Such a dynamic would call for a new global financial order.

Having analyzed the four distinct ways in which CBDCs might shape the existing financial order, we present new perspectives on observing the traditional geopolitics in international relations and global studies. We argue that a mixed consideration of technological evolution and geofinancial change is missing and urgently needed in the current discussion. CBDCs remind us of the gap and provide a perfect, though still remote, example of how the global financial order will play out in the years to come.

5. CONCLUSION: WHAT NEW GLOBAL FINANCIAL ORDER MIGHT EMERGE?

The rise of CBDCs is driven by technological developments as well as geofinancial concerns. Cross-border CBDCs have brought the global financial order to a crossroads where one path directs us to Balkanization, and the other leads the world to further harmonization. It might also well be the case that these two phenomena are taking place at the same time, shaping global financial order in an untraditional way. As a result, states are likely to compete over CBDC regulations and technological standards. Such competition may well bring about significant changes to the existing order, empowering those that monopolize the technology and governance structure and develop a robust CBDC infrastructure.

This paper identifies four main reasons favoring the Balkanization path, including the fact that CBDCs were motivated by various rationales, that states are at different stages of financial market development, that the interacting dynamics between fiat and cryptocurrencies remain unsettled by many sovereigns, and that some states might utilize CBDCs to fine-tune their monetary policy or even enable new forms of surveillance capitalism. To present a balanced view, we also highlighted that harmonization could be driven by factors such as central banks' emphasis on the importance of smooth cross-border transactions, the enforcement of AML/CFT rules, and the desire to achieve a more stable financial system.

Looking beyond traditional geopolitical factors and a global policy lens, we argue that a new perspective of observing how the global financial order might be shaped by CBDCs is needed. We argue that technological evolution and geofinancial implications added additional complexity to the current global financial order and hold the potential to reshape the order in four distinct ways: calling for a need to address spillover effects, regrouping states in the name of achieving interoperability, assisting in evading sanctions and running afoul of traditional western power of non-military actions, and enhancing the power of the Global South in competing with the monetary hegemony led by the U.S. and the Global North.

Similar to the way semiconductors and AI intervene in international politics, states are likely to take CBDCs and relevant technologies as an advantage in great power competition. The great powers will take measures to secure their advantages in CBDC development. The problem is not simply about issuing a retail or wholesale CBDC. What matters is the system a CBDC operates on and the global financial network that supports cross-border transactions. In light of new geofinancial changes, central banks will take on more responsibilities that are not their forte. Geopolitical concerns are present in every decision related to CBDCs. Intervention from the executive branch is expected to become more frequent. It is quite different from the mode of cooperation between central bank governors and financial regulators. They will meet more challenges based on political assessments rather than economic ones. As they try to modify or build a global financial order, their engagement will be shaped by both competition and coordination. The order they attempt to create, either Balkanized or harmonized, may be more volatile than it used to be. Regulatory guidelines will change more frequently as new technology continues to emerge.

What it means to the private sector is the occurrence of more uncertainty about global regulatory standards. This is particularly true if they operate across different jurisdictions. Geopolitical competition places hurdles in the way of business opportunities, and geofinance competition affects their access to foreign markets and capital. They may also face more stringent and complex banking supervision. Capital control measures will likely tighten as well. On the other hand, the private sector is a beneficiary of CBDCs. Cross-border transactions will be more efficient and reliable. More business opportunities will be available, which may present new business models.

This paper argues that CBDC is much more than an alternative means of exchanging commodities and services or a tool to advance financial inclusiveness. Developing CBDCs is hardly a domestic matter, especially for major economies in the world. Once a major economy launches a CBDC and circulates it globally, it will soon have an implication on global financial governance. It, therefore, needs more caution and planning. This might explain why developed economies are relatively cautious about launching CBDCs and why the four jurisdictions that have launched them are all developing countries. Even China's e-CNY is still in the pilot testing phase; nevertheless, it is expected that if China eventually lunches e-CNY officially, or even just at a larger scale, then other major economies will have to respond and follow suit in the near future. Their CBDCs will be a catalyst for the next global financial order. Whether the world will head to a Balkanized or harmonized order largely depends on the competition between states in global standards-setting bodies. Central banks, financial intermediaries, and private sector players should all get ready for the upcoming turmoil in the global financial order.

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