Regulating Global Stablecoins:
A Model-Law Strategy

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Digital currencies have the potential to improve the speed and efficiency of the payment system. The principal challenge is retail: to facilitate day-to-day payments among consumers as an alternative to cash, both domestically and across national borders. Two models of digital currencies are becoming viable: central bank digital currencies and nongovernment-issued currencies that are backed by assets having intrinsic value (stablecoins or, when widely used internationally, global stablecoins). Because they are not government issued, global stablecoins present complex and novel cross-border regulatory challenges, including managing the costs of complying with a multitude of national laws and ensuring international legal enforceability. Given the rapid growth of stablecoins, these challenges urgently need legal solutions. Two strategies have been devised for addressing similar challenges: either enact an international treaty or propose a model law for the relevant jurisdictions uniformly to enact as their national law. The Uniform Commercial Code ("UCC") itself exemplifies such a model law, designed to reduce the high costs of coordinating and complying with different commercial laws in U.S.-interstate domestic transactions. This Article analyzes a model-law strategy to regulate global stablecoins, showing it should be more politically realistic than a treaty approach. The Article also designs, critiques, and proposes possible text for such a model law. The model law should be politically feasible for nations to enact because, as the Article shows, its design and proposed text are generally consistent with the principles and recommendations advanced by the world's leading central banks and multinational financial organizations for regulating global stablecoins.

INTRODUCTION

In cooperation with other leading international organizations and standard-setting bodies, the Financial Stability Board ("FSB")—a G20-sponsored "international body that monitors and makes recommendations about the global financial system"[1]—recently stressed the importance of "address[ing] the key challenges often faced by cross-border payments and the frictions [i.e., costs] in existing processes that contribute to these challenges."[2] The United States, other governments, and the private sector are attempting to address

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1.   *See About the FSB,* FIN. STABILITY BD., https://www.fsb.org/about/ (last updated Nov. 16, 2020) [https://perma.cc/J93F-RU4S] ("The FSB promotes international financial stability; it does so by coordinating national financial authorities and international standard-setting bodies as they work toward developing strong regulatory, supervisory and other financial sector policies.").

2.   FIN. STABILITY BD., ENHANCING CROSS-BORDER PAYMENTS 1 (2020), https://www.fsb.org/wp-content/uploads/P131020-1.pdf [https://perma.cc/RF8G-FXB5] [hereinafter FSB CROSS-BORDER PAYMENTS REPORT].

these challenges, especially for "retail" consumer payments,[3] by issuing digital currencies—monetary currencies that are evidenced electronically and not in physically tangible form.[4]

Two types of retail digital currencies are likely to become widely used in the near future. One type, central bank digital currencies ("CBDC"), are sponsored by governmental central banks.[5] The other type, "stablecoins," are nongovernment-issued[6] digital currencies that are backed by—that is, exchangeable for—assets (sometimes called "reference asset[s]")[7] that have intrinsic value, such as government fiat currencies.[8] Typifying the "rapid growth of stablecoins,"[9] Facebook, Uber, Lyft, and Shopify[10] have been working together—although their

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3. This Article adopts the customary definition of a consumer: a natural person who buys goods and services for personal use. *See Consumer*, CAMBRIDGE DICTIONARY, https://dictionary .cambridge.org/us/dictionary/english/consumer (last visited Sept. 18, 2022) [https://perma.cc/35J6-BH9S] (defining a consumer as "a person who buys goods or services for their own use"); *cf. infra* app. § 1.01 (using that definition).

4. *Cf. Statement on Key Regulatory and Supervisory Issues Relevant to Certain Stablecoins*, PRESIDENT'S WORKING GRP. ON FIN. MKTS. 1 (Dec. 23, 2020), https://home.treasury.gov/ system/files/136/PWG-Stablecoin-Statement-12-23-2020-CLEAN.pdf [https://perma.cc/X4QM-2LJG] ("Digital payments . . . have the potential to improve efficiencies, increase competition, lower costs, and foster broader financial inclusion.").

5. BANK OF CAN., EUR. CENT. BANK, BANK OF JAPAN, SVERIGES RIKSBANK, SWISS NAT'L BANK, BANK OF ENG., BD. OF GOVERNORS FED. RSRV. SYS. & BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES: FOUNDATIONAL PRINCIPLES AND CORE FEATURES 2 (2020), https://www.bis.org/publ/othp33.pdf [https://perma.cc/VLM8-WVDT] [hereinafter BIS CBDC Report].

6. Although observers often discuss stablecoins as being privately issued, this Article's reference to their being nongovernment issued encompasses both privately issued stablecoins and stablecoins issued by state-owned enterprises ("SOEs") or nongovernmental organizations ("NGOs").

7. Jess Cheng, *How to Build a Stablecoin: Certainty, Finality, and Stability Through Commercial Law Principles*, 17 BERKELEY BUS. L.J. 320, 322 (2020).

8. FIN. STABILITY BD., REGULATION, SUPERVISION AND OVERSIGHT OF "GLOBAL STABLECOIN" ARRANGEMENTS 9 (2020) [hereinafter FSB STABLECOIN REPORT], https://www.fsb.org/wp-content/uploads/P131020-3.pdf [https://perma.cc/D7L5-YRY6]. Other types of reference assets might include short-term commercial debt, corporate bonds, government-backed bonds, or certificates of deposit. *Cf.* Dave Michaels, Caitlin Ostroff & Elaine Yu, *Cryptocurrency's Surge Leaves Global Watchdogs Trying to Catch Up*, WALL ST. J. (Aug. 23, 2021, 9:53 AM), https://www.wsj.com/articles/cryptocurrencys-surge-leaves-global-watchdogs-trying-to-catch-up-11629720000 [https://perma.cc/4LWE-FVPL] (discussing Tether's attempt to create a stablecoin backed by corporate bonds and certificates of deposit); Adam Hayes, *Stablecoin*, INVESTOPEDIA (Nov. 12, 2021), https://www.investopedia.com/terms/s/stablecoin.asp [https://perma.cc/ELV3-YWQ6] (finding that using fiat currencies as reference assets can provide price stability for stablecoins).

9. PRESIDENT'S WORKING GRP. ON FIN. MKTS., FED. DEPOSIT INS. CORP. & OFF. OF THE COMPTROLLER OF THE CURRENCY, REPORT ON STABLECOINS 3 (2021), https://home.treasury.gov/ system/files/136/StableCoinReport_Nov1_508.pdf [https://perma.cc/2A79-AL95] [hereinafter PRESIDENT'S WORKING GRP.].

10. Josh Constine, *Shopify Joins Facebook's Cryptocurrency Libra Association*, TECHCRUNCH (Feb. 21, 2020, 10:07 AM), https://techcrunch.com/2020/02/21/shopify-libra/ [https://perma.cc/8W7S-A5ZX].

work product has now been sold to a bank that specializes in digital currency solutions[11]—to develop a stablecoin called Diem (formerly called Libra), which will be backed by United States dollars.[12] In a larger sense, stablecoins epitomize the financial system's evolution towards more public-private interdependence and complexity.[13]

The Bank for International Settlements (an international body that acts "as a bank for central banks"),[14] the U.S. Federal Reserve ("the Fed"), and other prominent governmental institutions have observed that it is critical to provide a "[r]obust legal framework" covering retail digital currencies.[15] When used for making cross-border payments, these currencies will generate high costs if multiple, and potentially conflicting, legal frameworks govern their use. This may well occur,

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11.   *See Statement by the Diem CEO Stuart Levey on the Sale of the Diem Group's Assets to Silvergate*, DIEM ASS'N (Jan. 31, 2022), https://www.diem.com/en-us/updates/stuart-levey-statement-diem-asset-sale/ [https://perma.cc/M3TZ-5YN3] (announcing the sale by Diem "*of its intellectual property and other assets related to the running of the Diem Payment Network to Silvergate Capital Corporation*"); *About Us,* SILVERGATE, https://www.silvergate.com/about-us (last visited Sept. 18, 2022) [https://perma.cc/ZHD5-6HS5] (stating that the buyer, Silvergate, "is a Federal Reserve member bank and the leading provider of innovative financial infrastructure solutions and services for the growing digital currency industry").

12.   *See* Libra Ass'n Members*, White Paper v2.0*, LIBRA 2 (Apr. 2020), https://wp.diem.com/en-US/wp-content/uploads/sites/23/2020/04/Libra_WhitePaperV2_April2020.pdf [https://perma.cc/BUC4-YRBS]; *cf. Governance*, DIEM ASS'N, https://developers.diem.com/docs/governance/ (last visited Nov. 5, 2022) [https://perma.cc/3HMJ-Z5MV] ("The Diem Association is a member-based association dedicated to building a blockchain-based payment system that supports financial innovation, inclusion, and integrity."); Julie Muhn, *Libra Association Rebrands as Diem Association*, FINOVATE (Dec. 1, 2020), https://finovate.com/libra-association-rebrands-as-diem-association/ [https://perma.cc/69SH-TUW2]:

> Taking the opportunity to seize a fresh start that comes with a new year, Facebook's Libra Association has rebranded to Diem Association. The group chose the name Diem, which is Latin for 'day' to signal a new day for the association. The rebrand will not change the mission of the organization . . . .

13.   *See, e.g.*, Seth A. Grossman, *The Management and Measurement of Public-Private Partnerships*, 35 PUB. PERFORMANCE & MGMT. REV. 595, 595–96 (2012) (observing that "[i]n the twenty-first century, . . . '[o]rganizations that blend and blur traditional distinctions between public and private purpose, ownership or control are increasingly common,'" and examining the use of "public-private partnerships" to facilitate "business improvement districts"). This evolution towards more public-private interdependence and complexity affects, and possibly might increase, systemic financial instability. *Cf. infra* Part II.D (examining how stablecoins might increase, and analyzing how regulation could help to control, that instability). To some extent, stablecoins also could be viewed as part of the move toward decentralized finance, or "DeFi," of which the goal is to remove or limit government and other intermediary control over money.

14.   *See About BIS - Overview,* BANK FOR INT'L SETTLEMENTS, https://www.bis.org/about/index.htm?m=1 (last visited Sept. 18, 2022) [https://perma.cc/C93J-PKWY] ("Our mission is to support central banks' pursuit of monetary and financial stability through international cooperation, and to act as a bank for central banks.").

15.   BIS CBDC REPORT, *supra* note 5, at 11 (focusing on CBDC, though expressing principles equally applicable to stablecoins); *cf.* Christian Catalini & Jai Massari, *Stablecoins and the Future of Money*, HARV. BUS. REV. (Aug. 10, 2021), https://hbr.org/2021/08/stablecoins-and-the-future-of-money [https://perma.cc/AQ97-C9KD] (arguing that without "robust legal and economic frameworks, there's a real risk stablecoins would be anything but stable").

given that "key jurisdictions are pursuing widely divergent approaches"[16] Requiring compliance with a multitude of laws would be exceptionally expensive, both legally and operationally.[17] Furthermore, the interaction of conflicting legal frameworks would create "uncertainty about the enforceability of contractual obligations."[18]

For a CBDC, those costs should be relatively low. The Fed and other governmental central banks have been working together to try to harmonize national banking regulations to minimize cross-border costs due to conflicting laws. Most notably, the Basel Capital Accords set out international standards for supervision of financial institutions, focusing primarily on capital adequacy.[19] The Basel Committee on Banking Supervision, which creates these standards, now includes forty-five institutions from twenty-eight jurisdictions.[20] In the same way, central banks should be expected to work together to try to harmonize national CBDC regulation to minimize cross-border costs due to conflicting laws. Recently, for example, the Bank for International Settlements proposed that one of CBDC's greatest advantages is its ability to provide "interoperability, consistent standards[,] and [design] coordination" to help avoid problems, such as "high cost, low speed, limited access, and insufficient transparency," that are traditionally associated with cross-border currency transactions.[21]

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16. Michaels et al., *supra* note 8.

17. COMM. ON PAYMENT & MKT. INFRASTRUCTURES, G7 WORKING GROUP ON STABLECOINS: INVESTIGATING THE IMPACT OF GLOBAL STABLECOINS 4 (2019), https://www.bis.org/cpmi/publ/d187.pdf [https://perma.cc/XCC8-QMHY] (attributing the exceptionally high cost of making cross-border payments to several factors, including the need to coordinate and to comply with the laws of multiple jurisdictions); *cf.* Morten Bech & Jenny Hancock, *Innovations in Payments,* BIS Q. REV., Mar. 2020, at 21, 28 (discussing the high costs and inefficiency of cross-border payments); Keith E. Maskus, Tsunehiro Otsuki & John S. Wilson, *The Cost of Compliance with Product Standards for Firms in Developing Countries: An Econometric Study* 3 (World Bank, Policy Research Working Paper No. 3590, 2005), https://openknowledge.worldbank.org/handle/10986/8961 [https://perma.cc/75DX-6S4S] ("At the firm level, complying with differing standards in such major export markets as the European Union (EU), the United States, and Japan can add costs.").

18. COMM. ON PAYMENT & MKT. INFRASTRUCTURES, *supra* note 17, at 4.

19. *History of the Basel Committee*, BANK FOR INT'L SETTLEMENTS, https://www.bis.org/bcbs/history.htm (last visited Aug. 21, 2022) [https://perma.cc/7SVD-T47V].

20. *Id.*

21. BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES FOR CROSS-BORDER PAYMENTS: REPORT TO THE G20, at 2–3 (2021) (citations omitted), https://www.bis.org/publ/othp38.pdf [https://perma.cc/7UE3-7CMQ].

For stablecoins that, inevitably,[22] become widely used internationally ("global stablecoins"),[23] however, those costs are likely to be very high. Being nongovernment issued rather than central bank sponsored, global stablecoins could become subject to numerous laws and supervised by a multiplicity of government agencies, some of which may lack the precedent and tradition of working together domestically, much less internationally.[24] In the United States, for example, international coordination could involve the Fed, the Office of the Comptroller of the Currency ("OCC"),[25] the Securities and Exchange

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22. *Cf. infra* note 197 (observing that the market capitalization of stablecoins being used in the United States already well exceeds $100 billion dollars).

23. *Cf. Crypto-Assets and Global "Stablecoins,"* FIN. STABILITY BD., https://www.fsb.org/work-of-the-fsb/financial-innovation-and-structural-change/crypto-assets-and-global-stablecoins/ (last updated July 13, 2022) [https://perma.cc/4LWW-C8CT] (defining a "global stablecoin" as "a widely adopted stablecoin with a potential reach and use across multiple jurisdictions"). A stablecoin might become widely used not only because of its electronic ease of payment but also because, like the U.S. dollar, it gains acceptance as a world reserve currency that has minimal exchange-rate risk when used to make cross-border payments. *Cf.* James Chen, *Reserve Currency*, INVESTOPEDIA, https://www.investopedia.com/terms/r/reservecurrency.asp (last updated May 27, 2022) [https://perma.cc/4WQE-AA4N] (observing that a world reserve currency may be widely used for payment in international transactions to reduce exchange-rate risk). A sometimes-used acronym for global stablecoins is GSC. *See, e.g.*, FIN. STABILITY BD., REGULATION, SUPERVISION AND OVERSIGHT OF "GLOBAL STABLECOIN" ARRANGEMENTS: FINAL REPORT AND HIGH-LEVEL RECOMMENDATIONS 7 (2020), https://www.fsb.org/wp-content/uploads/P131020-3.pdf [https://perma.cc/PBV5-F8Z6].

24. Even U.S. federal agencies do not always work well together. *See, e.g.*, Yin Wilczek, *Trouble Ahead for SEC, CFTC Rulemaking Under Reform Act as Group Urges Oversight*, BLOOMBERG L.: SEC. REGUL. & L. REP. (Dec. 22, 2010, 1:26 PM), https://www.bloomberglaw.com/document/MI9XWB3H0JK0 [https://perma.cc/QCC7-LKZC]:

> [P]roviding meaningful comment has become even more difficult with the joint rulemaking and agency coordination required under Dodd-Frank. The group also charged that coordination has been "sorely lacking," citing conflicting rules by the SEC, the Federal Deposit Insurance Corporation, and others in the asset-backed securities area, and conflicting rules by the SEC and CFTC with respect to over-the-counter derivatives.

The coordination problem expands exponentially when taking into account subnational and foreign jurisdictions. *See, e.g.*, Gina Conheady, *Insight: Is Fintech Ready for a Global Regulatory Sandbox?*, BLOOMBERG L. (Nov. 21, 2018, 10:31 AM), https://news.bloomberglaw.com/banking-law/insight-is-fintech-ready-for-a-global-regulatory-sandbox [https://perma.cc/WB9T-3S74] (observing that the fragmented nature of financial regulation in the United States, not just between agencies, but between the federal and state levels, renders "the road to a fully functioning federal sandbox (let alone a global one) . . . a long one"). To date, the only area where there appears to be cross-border coordination is securities enforcement. *Cf.* Henry Klehm III, Joan E. McKown & Emily A. Posner, *Securities Enforcement Has Crossed the Border: Regulatory Authorities Respond to the Financial Crisis with a Call for Greater International Cooperation, but Where Will That Lead?*, 13 U. PA. J. BUS. L. 927, 928 (2011) (stating that "securities enforcement trends post-financial crisis show that regulatory authorities worldwide have almost universally agreed to coordinate and cooperate with each other as they pursue enforcement actions").

25. A stablecoin issuer holding reserves in a bank would need to comply with OCC regulations. *See OCC Chief Counsel's Interpretation on National Bank and Federal Savings Association Authority to Hold Stablecoin Reserves,* OFF. OF THE COMPTROLLER OF THE CURRENCY 3 (Sept. 21, 2020), https://www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/

Commission ("SEC"),[26] the Commodity Futures Trading Commission ("CFTC"),[27] and the Financial Crimes Enforcement Network ("FinCEN")[28] working together and also with their foreign governmental counterparts.[29] Furthermore, except to the extent it is preempted by federal law, such international coordination could involve individual U.S. states, some of which are beginning to regulate stablecoins.[30]

2020/int1172.pdf [https://perma.cc/DA3G-2PF9] (explaining that banks may engage in cryptocurrency businesses, so long as they comply with the applicable laws); *cf. infra* notes 235–236 and accompanying text (explaining why requiring stablecoin issuers to hold such reserves could help to protect against disintermediation). OCC regulations also could apply to any stablecoins "backed by a single fiat currency and redeemable . . . on a 1:1 basis." SEC FinHub Staff, *SEC FinHub Staff Statement on OCC Interpretation*, U.S. SEC. & EXCH. COMM'N (Sept. 21, 2020), https://www.sec.gov/news/public-statement/sec-finhub-statement-occ-interpretation [https://perma.cc/9T9U-4T36].

26. Federal securities laws would apply to any stablecoin that the SEC deems a "security." Strategic Hub for Innovation & Fin. Tech.*, Framework for "Investment Contract" Analysis of Digital Assets*, SEC. & EXCH. COMM'N 1, https://www.sec.gov/files/dlt-framework.pdf (last visited Aug. 11, 2022) [https://perma.cc/Z9EX-5HRV]. The chairman of the SEC has stated that the agency may have authority over stablecoins because they are backed by securities, "qualify[ing] [them] as investments." Michaels et al., *supra* note 8.

27. The CFTC may have jurisdiction to oversee stablecoins backed by fiat currency, for anti-fraud and anti-manipulation purposes. *See Summary Overview of Stablecoins and the Law Regarding Stablecoins*, COMMODITY FUTURES TRADING COMM'N 13 (2019), https://www.cftc.gov/media/2731/TAC100319_Stablecoins/download [https://perma.cc/U365-JEJN].

28. The issuer of a stablecoin would likely be considered to be engaging in a money-service business and required to register with FinCEN. *See* ANDREW P. SCOTT, CONG. RSCH. SERV., R46486, TELEGRAPHS, STEAMSHIPS, AND VIRTUAL CURRENCY: AN ANALYSIS OF MONEY TRANSMITTER REGULATION 1 (2020), https://fas.org/sgp/crs/misc/R46486.pdf [https://perma.cc/EGG3-6BXV] ("[Money service business] refers to a range of nonbank financial institutions that provide, among other things, money transmission services, prepaid and other payment instruments, currency exchanges, and check cashing.").

29. Stablecoins are cryptocurrencies, meaning they have a token-based digital form that is secured by cryptography, such as blockchain. *See, e.g.*, Harish Natarajan, Solvej Krause & Helen Gradstein, *Distributed Ledger Technology (DLT) and Blockchain* 3 (World Bank Grp., Working Paper No. 122140, 2017), http://documents1.worldbank.org/curated/en/177911513714062215/pdf/122140-WP-PUBLIC-Distributed-Ledger-Technology-and-Blockchain-Fintech-Notes.pdf [https://perma.cc/FD9V-DATD] (discussing cryptocurrency and cryptography); Jake Frankenfield, *Cryptocurrency Explained with Pros and Cons for Investment*, INVESTOPEDIA, https://www.investopedia.com/terms/c/cryptocurrency.asp (last updated May 28, 2022) [https://perma.cc/XRP6-5LDY] (offering a definition of "cryptocurrency"). Global stablecoins may pose additional costs. For example, the validity of a token-based payment is determined by verifying the payor's ownership of the token. *See, e.g.*, Rui Zhang, Rui Xue & Ling Liu, *Security and Privacy on Blockchain*, 52 ACM COMPUTING SURVS., July 2019, at 1, 7 ("A transaction is legitimate if one can prove that the sender has the ownership of the actual [tokens] that are being spent."). That verification itself may be subject to multiple laws and supervisory requirements. *Cf.* Michaels et al., *supra* note 8 (observing that "[c]rypto is a global market, [and] the U.S., Europe[,] and China have taken different approaches to oversight").

30. *See, e.g.*, Press Release, N.Y. State: Dep't of Fin. Servs., DFS Continues to Foster Responsible Growth in New York's Fintech Industry with New Virtual Currency Product Approvals (Sept. 10, 2018), https://www.dfs.ny.gov/reports_and_publications/press_releases/pr1809101 [https://perma.cc/4XRS-X76N]. Treasury Secretary Yellen observes, however, that current state regulation of stablecoins "is inconsistent and fragmented, with some stablecoins

This Article focuses on regulating global stablecoins. Part I analyzes how cross-border commerce could be regulated to reduce compliance costs and better assure enforceability. Part I.A compares two potential regulatory strategies: an international treaty and a uniform model law. Part I.B then explains why a uniform model-law strategy would better complement the regulation of global stablecoins.

Part II of the Article designs, critiques, and proposes possible text for a model law that could be used to regulate global stablecoins. In addition to the aforesaid cross-border commercial goals of reducing compliance costs and assuring enforceability, the design seeks to incorporate the more stablecoin-specific regulatory goals of protecting consumers and privacy as well as safeguarding monetary integrity and financial stability. The Appendix to the Article articulates that model law. Part III of the Article examines the model law's feasibility, with Part III.A examining legal feasibility, Part III.B examining economic feasibility, and Part III.C examining political feasibility.

This Article does not purport independently to assess the value of stablecoins. Rather, it takes their widespread usage as a likely given and performs its analysis on that basis. There is long-standing precedent for grafting a normative analysis onto a positive assumption.[31] Furthermore, this Article does not discuss Bitcoin or other nongovernment-issued digital "currencies" that are *not* backed by reference assets. Those generic cryptocurrencies have unpredictably fluctuating value,[32] which makes it difficult for consumers to use them on a daily basis as an alternative to cash;[33] a successful currency should

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effectively falling outside the regulatory perimeter." Declan Harty & Rey Mashayekhi, *Top D.C. Financial Regulators Release Stablecoin Report and Urge Congress to Pass Legislation*, FORTUNE (Nov. 1, 2021, 5:04 PM) (quoting Secretary Yellen), https://fortune.com/2021/11/01/top-d-c-financial-regulators-release-stablecoin-report-and-urge-congress-to-pass-legislation/ [https://perma.cc/EL4K-LSJR]. Furthermore, state regulation does not always "[require] issuers to protect reserves or maintain liquidity." *See* Timothy G. Massad, *Regulating Stablecoins Isn't Just About Avoiding Systemic Risk*, BROOKINGS (Oct. 5, 2021), https://www.brookings.edu/research/regulating-stablecoins-isnt-just-about-avoiding-systemic-risk/ [https://perma.cc/L6AZ-T2KC].

    31.   *See, e.g.*, Lucian Arye Bebchuk, *A New Approach to Corporate Reorganizations*, 101 HARV. L. REV. 775, 776–77 (1988) (taking the existence of corporate reorganizations in bankruptcy law as a given to put forth a suggestion to improve the reorganization process).

    32.   *See, e.g.*, Cristina Cuervo, Anastasiia Morozova & Nobuyasu Sugimoto, *FinTech Notes: Regulation of Crypto Assets*, INT'L MONETARY FUND 5 fig.4 (Dec. 2019), https://www.imf.org/en/Publications/fintech-notes/Issues/2020/01/09/Regulation-of-Crypto-Assets-48810 [https://perma.cc/KB79-JFPB] (illustrating Bitcoin's radically fluctuating market price).

    33.   *See, e.g.*, Cheng, *supra* note 7, at 321–22 (arguing that Bitcoin-like crypto assets are unreliable payment options because of their severe price volatility).

have a stable value.[34] If anything, regulation should protect consumers against using fluctuating-value cryptocurrencies.[35]

I. REGULATING CROSS-BORDER COMMERCE

A. Comparing a Treaty Strategy and a Uniform Model-Law Strategy

To regulate cross-border commerce, policymakers have devised two strategies which attempt to minimize cross-border regulatory costs and better assure legal enforceability. The traditional strategy is to enact a multilateral convention or treaty (the terms being synonymous), which represents an agreement or compact among nations under which each such nation is bound to adhere to the convention's requirements without requiring further action by its legislative body.[36] A more recent, and arguably more innovative, strategy is to formulate a model law for governments to enact uniformly as domestic law in their jurisdictions.[37] Model laws are thus sometimes called uniform laws.

Treaties are more formal than model laws. Treaties are binding upon contracting states and may only be modified or denounced by a treaty amendment.[38] This binding feature provides parties significant certainty that treaty-bound nations will follow through on their commitments and not renege as political winds shift.[39] But some nations may see that greater certainty as a disadvantage, especially if

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34.   *See id.* (explaining that stablecoins are meant to retain a stable price).

35.   *Cf.* Jay Clayton & Brent McIntosh, Opinion, *Crypto Needs Regulation, but It Doesn't Need New Rules*, WALL ST. J. (June 6, 2021, 2:35 PM), https://www.wsj.com/articles/crypto-needs-regulation-but-it-doesnt-need-new-rules-11623007528?mod=itp_wsj&mod=djemITP_h [https://perma.cc/Y3SM-88XW] ("As cryptocurrencies have become the preferred payment method for hackers and as their prices have cycled through dramatic peaks and valleys, many have questioned the adequacy of the U.S. regulatory system to protect consumers, ensure market integrity and promote innovation.").

36.   *See Convention,* BLACK'S LAW DICTIONARY (11th ed. 2019) (defining "convention" as "[a]n agreement or compact, esp. one among countries; a multilateral treaty"); *see also Frequently Asked Questions – UNCITRAL Texts*, UNITED NATIONS COMM'N ON INT'L TRADE L., http://www.uncitral.org/uncitral/en/uncitral_texts_faq.html (last visited Sept. 18, 2022) [https://perma.cc/9VH5-ZT9Q] [hereinafter *UNCITRAL*] (defining a convention as "an instrument that is binding under international law on States and other entities with treaty-making capacity that choose to become a party to that instrument").

37.   *See UNCITRAL, supra* note 36 (defining "model law").

38.   *See, e.g.*, Georgie Gaja, Peter Hay & Ronald Rotunda, *Instruments for Legal Integration in the European Community*, *in* INTEGRATION THROUGH LAW: EUROPE AND THE AMERICAN FEDERAL EXPERIENCE, 1 METHODS, TOOLS AND INSTITUTIONS: BOOK 2 POLITICAL ORGANS, INTEGRATION TECHNIQUES AND JUDICIAL PROCESS 113, 153 (Mauro Cappelletti, Monica Seccombe & Joseph Weiler eds., 1986) (discussing the preference of European countries for conventions as opposed to model laws).

39.   *See id.* at 153–54.

they are experimenting with new proposals.[40] Moreover, the expectation that a treaty needs widespread consensus can discourage its adoption.[41]

Experimentation requires flexibility. The more relaxed nature of a model-law strategy can provide that flexibility.[42] Model laws may be amended or denounced unilaterally by a nation without violating international law.[43] Furthermore, the less formal process of developing and enacting a model law can promote open communication.[44] As later discussed,[45] adoption of the UNCITRAL[46] Model Law on International Commercial Arbitration, an area of law in which parties struggled for years to realize reform, may have been successful, in part, due to its less formal structure as a model law.[47]

Conventions also can "take months or even years" to enter into force because they do "not become legally binding until a specified number of states complete their national ratification processes and formally agree to be bound by the conditions and obligations of the treaty."[48] That delay makes a convention particularly unsuitable for

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40. *Id.* at 154; *cf.* Steven L. Schwarcz, *Soft Law as Governing Law*, 104 MINN. L. REV. 2471, 2480 (2020) ("By promoting open communication, the less formal process of developing and enacting a model law can sometimes be more productive than a treaty approach.").

41. *Cf.* Brad Setser, *The Political Economy of the SDRM* 5 (Initiative for Pol'y Dialogue, Working Paper, 2008) https://policydialogue.org/files/publications/papers/The_Political_Economy _of_the_SDRM.pdf [https://perma.cc/6W9S-DAM5] (discussing the "profound difficulties [of] building international consensus behind any sweeping change in global financial regulation").

42. *See, e.g.,* John A. E. Pottow, *Procedural Incrementalism: A Model for International Bankruptcy*, 45 VA. J. INT'L L. 936, 984–86 (2005) (discussing possible explanations for the recent success of model laws); *cf.* Schwarcz, *supra* note 40, at 2479 ("The formality of a treaty can also discourage its adoption. Because of the lengthy negotiation process and their binding nature, treaties are not well suited to address an imminent or controversial global crisis.").

43. Gaja et al., *supra* note 38, at 153–54; *cf.* Charles W. Mooney, Jr., *Extraterritorial Impact of Choice-of-Law Rules for Non-United States Debtors Under Revised U.C.C. Article 9 and a New Proposal for International Harmonization, in* CROSS-BORDER SECURITY AND INSOLVENCY 202 (Michael Bridge & Robert Stevens eds., 2001) (arguing that the all-or-nothing nature of a convention is superior to a model law because a model law may be materially distorted by an enacting jurisdiction).

44. *See* Pottow, *supra* note 42, at 984–86 (discussing the informal process of enacting a model law and its benefits).

45. *See infra* notes 52–55 and accompanying text.

46. UNCITRAL means the United Nations Commission on International Trade Law, and is "the core legal body of the United Nations system in the field of international trade law." *About UNCITRAL*, UNITED NATIONS, https://uncitral.un.org/en/about (last visited Sept. 18, 2022) [https://perma.cc/D8WW-M6YM].

47. *See* Jay Lawrence Westbrook, *Creating International Insolvency Law*, 70 AM. BANKR. L.J. 563, 570–71 (1996) (noting that it was structured as a model law because "a treaty would be a greater accomplishment, but much more difficult"); Pottow, *supra* note 42, at 937–39, 984–86 (suggesting that the model law structure is a possible explanation for the sudden and surprising reform in the area of multinational bankruptcy).

48. Pam Slater, *Environmental Law in Third World Countries: Can It Be Enforced by Other Countries?*, 5 ILSA J. INT'L & COMPAR. L. 519, 521 (1999) ("The treaty making process is inadequate

global stablecoins, where the market is rapidly developing and forcing regulators "to move faster to contain the risks."[49] In contrast, a model-law strategy can minimize delay because it becomes effective for each nation as soon as that nation enacts the uniform text.[50]

B. A Model-Law Strategy Should Better Complement the Regulation of Global Stablecoins

For these reasons, a model-law strategy should be more successful than a more formal treaty strategy to engage in the urgent and novel experiment of regulating global stablecoins.[51] The UNCITRAL Model Law on International Commercial Arbitration exemplifies this in an international context.[52] Although globalization and increased international trade spurred the need for uniformity in cross-border dispute resolution,[53] nations did not want to inflexibly bind themselves to a treaty.[54] As a more flexible alternative, "UNCITRAL drafted [that] Model Law . . . to assist states in designing dispute resolution procedures . . . to reduce the costs of dispute settlement[s], foster and maintain a cooperative atmosphere between trading parties, prevent further disputes, and inject certainty into international

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as an effective remedy for the world's accelerating environmental problems because treaties take a very long time to implement."); *cf.* Geneviève Saumier, *The Hague Principles and the Choice of Non-State "Rules of Law" to Govern an International Commercial Contract*, 40 BROOK. J. INT'L L. 1, 7 (2014) (referencing "the sometimes stifling methods of treaty-drafting"). Also, the "national ratification processes" of some nations can make it difficult to approve a treaty. *See* Slater, *supra*, at 521. Under Article II, Section 2, of the U.S. Constitution, for example, a treaty negotiated by the U.S. President does not become effective unless a resolution of ratification is approved by two-thirds of the U.S. Senate. U.S. CONST. art. II, § 2.

49. *Why Regulators Should Treat Stablecoins Like Banks*, ECONOMIST (Aug. 7, 2021), https://www.economist.com/leaders/2021/08/07/why-regulators-should-treat-stablecoins-like-banks [https://perma.cc/83B9-D8KU].

50. *See* Pottow, *supra* note 42, at 984–86 (discussing the enactment of a model law).

51. *Cf.* Gaja et al., *supra* note 38, at 154 (explaining why a model-law strategy can sometimes be more productive than a more formal treaty strategy).

52. *See supra* notes 47–48 and accompanying text (highlighting the success of the model law structure and the issues with formal treatymaking).

53. *Cf.* William K. Slate II, Seth H. Lieberman, Joseph R. Weiner & Marko Micanovic, *UNCITRAL (United Nations Commission on International Trade Law) Its Workings in International Arbitration and a New Model Conciliation Law*, 6 CARDOZO J. CONFLICT RESOL. 73, 95–96 (2004) (observing that the "increased use of conciliation in dispute settlement practice in various parts of the world" and "the growing interest in and use of international conciliation, particularly in the international trade arena, has not gone without a response").

54. *Cf. UNCITRAL*, *supra* note 36 (discussing the differences between model laws and treaties and finding treaties relatively inflexible).

trade."[55] That UNCITRAL model law is recognized as a "great success."[56]

Likewise, the Uniform Commercial Code ("UCC") in the United States exemplifies the success of a model-law strategy in a subnational context. The UCC was designed to reduce the high cost of coordinating and complying with different commercial laws in U.S.-interstate domestic transactions.[57] It represents "the triumphant product of coordinated efforts to harmonize business law."[58] States originally embraced the flexibility to enact different versions of the UCC—with some states, such as California, enacting slightly different versions[59] and Louisiana enacting a radically different version.[60] Over time, however, all states have come to enact the uniformly consistent model version.[61]

Indeed, the flexibility of states to experiment with different versions of the UCC has been invaluable.[62] The banking lobby, for example, originally blocked the effort to include deposit accounts as collateral under UCC Article 9 (except insofar as those accounts included cash proceeds of other collateral), fearing banks would be adversely affected.[63] California, however, resisted lobbying pressures

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55. Slate et al., *supra* note 53, at 96–97; Jill A. Pietrowski, *Enforcing International Commercial Arbitration Agreements—Post-Mitsubishi Motors Corp. v. Soler Chrysler-Plymouth, Inc.*, 36 AM. U. L. REV. 57, 65–66 (1986) ("Arbitration rules that the United Nations Commission on International Trade Law (UNCITRAL), the American Arbitration Association (AAA), and the International Centre for Settlement of Investment Disputes (ICSID) developed also furnish guidance for arbitral disputes and are designed to reduce time and research costs.").

56. Pieter Sanders, *UNCITRAL's Model Law on International and Commercial Arbitration: Present Situation and Future*, 21 ARB. INT'L 443, 443 (2005).

57. *See Uniform Commercial Code*, UNIF. L. COMM'N, https://www.uniformlaws.org/acts/ucc (last visited Aug. 11, 2022) [https://perma.cc/HST4-UQ8L].

58. G. Marcus Cole, *The Long Convergence: "Smart Contracts" and the "Customization" of Commercial Law*, 92 S. CAL. L. REV. 851, 853 (2019).

59. *See infra* note 64 and accompanying text.

60. *See* Christian Paul Callens, Comment, *Louisiana Civil Law and the Uniform Commercial Code: Interpreting the New Louisiana U.C.C.-Inspired Sales Articles on Price*, 69 TUL. L. REV. 1649, 1652–53 (1995) (observing that the Louisiana legislature refused to enact certain articles of the UCC because they conflicted with Louisiana civil law).

61. *See An Overview of U.C.C. Adoptions*, UNIF. COM. CODE L. LETTER, Apr. 2016, at 1, 1–2.

62. *Cf.* New State Ice Co. v. Liebmann, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting):

  Denial of the right to experiment may be fraught with serious consequences to the nation. It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country;

Steven L. Schwarcz, *Global Decentralization and the Subnational Debt Problem*, 51 DUKE L.J. 1179, 1192 (2002) ("[A] nation might enact all, or only certain, of the model law's provisions; and, if other provisions more effectively address the nation's peculiar subnational debt problems, the nation could graft those provisions onto the model law's text.").

63. *See, e.g.*, Ben Carpenter, *Security Interests in Deposit Accounts and Certificates of Deposit Under Revised UCC Article 9*, 55 CONSUMER FIN. L.Q. REP. 133, 133 (2001) (finding that the UCC

and included a nonuniform provision in its version of the UCC, allowing parties to take deposit accounts as primary collateral.[64] When Article 9 was updated in 2001, that nonuniform California provision had been subjected to decades of experience, demonstrating that allowing parties to take deposit accounts as primary collateral did not adversely affect banks.[65] As a result, the banking lobby dropped its long-standing opposition and supported the taking of deposit accounts as collateral.[66]

More recently, a model-law strategy is being used to attempt to solve the novel and urgent problem of unsustainable sovereign debt. The threat of default can harm countries that find themselves indebted beyond their ability to pay—in recent years, Greece, Argentina, Ukraine, and Venezuela—as well as their citizens and their creditors.[67] An actual default can jeopardize the very stability of the financial system.[68] Nations, however, lack the equivalent of a bankruptcy reorganization law that allows them reasonably to restructure debt that becomes unsustainable. Sovereign debt restructuring has therefore been limited to contractual negotiation, which is undermined by holdout problems in which one or more creditors refuse to agree to a reasonable restructuring plan in order to try to extract more than their fair share of a debt-restructuring settlement.[69]

Both the United Nations and the International Monetary Fund ("IMF") have tried unsuccessfully to address the problem of unsustainable sovereign debt by enacting an international treaty.[70]

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excluded deposit accounts from being original collateral because of "concern over interference with the bank payments system").

64. *Id.* at 133 n.4 ("Under prior law, California, Hawaii, Idaho, Illinois, and Louisiana included deposit accounts within the scope of old Article 9, which is to say that they did not exclude deposit accounts as original collateral from coverage under old Article 9.").

65. *Id.* at 133.

66. *See* U.C.C. § 9-104 (Am. L. Inst. & Unif. L. Comm'n 1977).

67. *Cf.* Sebastian Edwards, *Sovereign Default, Debt Restructuring, and Recovery Rates: Was the Argentinian "Haircut" Excessive?* 1 (Nat'l Bureau of Econ. Rsch., Working Paper No. 20964, 2015), www.nber.org/system/files/working_papers/w20964/w20964.pdf [https:perma.cc/LU95-H8ZT] (listing Russia in 1998, Argentina in 2001, Greece in 2012, and Ukraine, Cameroon, and Uruguay among others).

68. *See, e.g.*, Jay L. Westbrook, *Sovereign Debt and Exclusions from Insolvency Proceedings, in* A Debt Restructuring Mechanism for Sovereigns: Do We Need a Legal Procedure? 251–52 (Christoph G. Paulus ed., 2014).

69. Steven L. Schwarcz, *Sovereign Debt Restructuring: A Model-Law Approach*, 6 J. Globalization & Dev. 343, 344–45 (2015).

70. In 2014, for example, the United Nations General Assembly voted to begin work on a "multilateral legal framework" for sovereign debt restructuring. But both the United States and the European Union opposed the resolution, to some extent paralleling opposition to an earlier IMF proposal for a Sovereign Debt Restructuring Mechanism ("SDRM") convention. *See Proposal for Sovereign Debt Restructuring Framework among 6 Draft Texts Approved by Second Committee*, United Nations (Dec. 5, 2014), http://www.un.org/press/en/2014/gaef3417.doc.htm [https://perma.cc/4Q88-TESQ].

Spurred by a leading think tank[71] and several public-interest NGOs,[72] New York State is now proposing to enact a model law that would allow nations whose debt is governed by that state's law—which comprises the lion's share of outstanding sovereign debt[73]—to restructure their debt through supermajority voting.[74] That would parallel bankruptcy reorganization law's proven solution to the holdout problem.[75]

A model-law strategy can even help to improve the law in jurisdictions that are driving innovation, as illustrated by the relationship between the Model Business Corporation Act ("MBCA") and Delaware corporation law. Corporations in America are primarily regulated by the law of the state in which they are organized, leading to a multiplicity of state-level corporate laws.[76] To increase certainty and implement best practices, the Committee on Corporate Laws of the American Bar Association Business Law Section proposed the MBCA, which now forms the basis of business corporation statutes in thirty-two states and is the inspiration for various provisions in corporation statutes of other states.[77] Although Delaware has often spearheaded American innovation in corporation law,[78] the MBCA has helped to

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71. The Centre for International Governance Innovation ("CIGI") is an "internationally recognized think tank that addresses significant global issues at the intersection of technology and international governance." *See About CIGI*, CTR. FOR INT'L GOVERNANCE INNOVATION, https://www.cigionline.org/about/ (last visited Sept. 18, 2022) [https://perma.cc/A2QA-XP6Z].

72. These include New York Communities for Change and the Open Society Foundations. The Open Society Foundations, for example, "founded by George Soros, are the world's largest private funder of independent groups working for justice, democratic governance, and human rights." *See Who We Are*, OPEN SOC'Y FOUNDS., https://www.opensocietyfoundations.org/who-we-are (last visited Sept. 18, 2022) [https://perma.cc/M5WS-EPVK].

73. *Cf.* PHILIP R. WOOD, CONFLICT OF LAWS AND INTERNATIONAL FINANCE 12 (2007); Brad Setser, *The Political Economy of the SDRM*, *in* OVERCOMING DEVELOPING COUNTRY DEBT CRISES 317, 328 (Barry Herman, José Antonio Ocampo & Shari Spiegel eds., 2010) ("Almost all international bonds are now governed by New York law, English law, and to a lesser extent Japanese law.").

74. *See New York A7562*, TRACK BILL, https://trackbill.com/bill/new-york-assembly-bill-7562-provides-for-restructuring-unsustainable-sovereign-and-subnational-debt/2120359/ (last visited Aug. 11, 2022) [https://perma.cc/KMG3-ZLAY].

75. Schwarcz, *supra* note 69.

76. *Cf.* Ray Garrett, *History, Purpose and Summary of the Model Business Corporation Act*, 6 BUS. LAW. 1, 2 (1950):

> [I]t is impossible to study and compare the statutes of all 48 states and, because of their wide diversity, almost impossible to select a mere few for the purpose. Our Committee believes that by making a carefully planned modern pattern available, a formidable amount of labor and research on the part of local groups everywhere will be avoided.

77. *2016 Revision to Model Business Corporation Act Makes Its Debut*, AM. BAR ASS'N (Dec. 20, 2016), https://www.americanbar.org/groups/business_law/publications/blt/2016/12/10_mbca/ [https://perma.cc/BRB6-7358].

78. Jeffrey M. Gorris, Lawrence A. Hamermesh & Leo E. Strine, Jr., *Delaware Corporate Law and the Model Business Corporation Act: A Study in Symbiosis*, 74 LAW & CONTEMP. PROBS. 107, 112 (2011).

improve Delaware corporation law.[79] For example, when "the MBCA is revised to address a topic covered by Delaware common law, those revisions can provide logical support to Delaware judges who perceive that the existing common-law approach to the topic could use improvement."[80] Even when proposed model-law provisions are not enacted, their public scrutiny and discussion can advance the law.[81]

This Article, therefore, proposes a model-law strategy for regulating global stablecoins.[82] Part II next examines how to design such a model law ("the Model Law") that is generally consistent with the principles and recommendations advanced by the world's leading central banks and multinational financial organizations for regulating global stablecoins. The Appendix to this Article articulates possible text for the Model Law. Because those principles and recommendations have been stated at a very high level, the Model Law's text is necessarily tentative. Nonetheless, it should at least help to foster a dialogue about how to apply those high-level principles and recommendations.

II. DESIGNING A MODEL LAW FOR REGULATING GLOBAL STABLECOINS

The model-law strategy addresses the cross-border commercial goals of reducing compliance costs and assuring enforceability, discussed in the foregoing Part I. Any design of the Model Law should also take into account any more stablecoin-specific regulatory goals. Although stablecoins can bring remarkable benefits, "includ[ing] lower-cost, safe, real-time, and more competitive payments,"[83] they also can pose risks.[84] Controlling these risks requires achieving at least four regulatory goals.

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79. *Id.* at 116.

80. *Id.* at 117.

81. *Cf. id.* at 119 (observing that although an MBCA approach to handling majority voting in the election of directors had limited success in terms of adoption, the success of Delaware's slightly modified approach was at least partially due to public education resulting from MBCA deliberations).

82. Any process of formulating a model law should include input by international standard-setting organizations that provide guidance to regulatory bodies, such as the FSB. *Cf. The Financial Stability Board at 10 Years – Looking Back and Looking Ahead*, FIN. STABILITY BD. 1 (Oct. 3, 2019), https://www.fsb.org/wp-content/uploads/S031019.pdf [https://perma.cc/9LL2-HNRP] (noting that international standard-setting organizations, such as the FSB, have long provided credible analyses to global markets and regulators).

83. Catalini & Massari, *supra* note 15.

84. *See, e.g.*, PRESIDENT'S WORKING GRP., *supra* note 9, at 1 (stating that although "[p]roponents believe stablecoins could become widely used by households and businesses as a means of payment," and that "[i]f well-designed and appropriately regulated, stablecoins could support faster, more efficient, and more inclusive payment options," stablecoins and stablecoin-related activities nonetheless "present a variety of risks").

In a 2020 joint statement on digital payments, the G7's finance ministers and central bank governors suggested that global stablecoins "should be appropriately supervised and regulated to address" consumer protection and privacy.[85] The author's separate normative analysis of stablecoin regulation likewise identifies consumer protection and privacy as important regulatory goals, especially for the retail use of stablecoins.[86] Similarly, the G7 finance ministers and central bank governors suggest that global stablecoins also should be supervised and regulated to address factors that could undermine monetary integrity, including money laundering and terrorist (including proliferation)[87] financing, breaches of cybersecurity, and failures of operational resilience.[88] Additionally, they suggest that global stablecoins should be supervised and regulated to address factors that could undermine "financial stability."[89] The author's separate normative analysis of stablecoin regulation likewise identifies the need to safeguard monetary integrity and financial stability as important regulatory goals.[90]

The Model Law, therefore, is designed to protect consumers and privacy[91] as well as to safeguard monetary integrity and financial stability.[92] Additionally, its design incorporates the following more operational goals: configuring stablecoins to be useful and analyzing

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85. *G7 Finance Ministers and Central Bank Governors' Statement on Digital Payments*, U.S. DEP'T OF THE TREASURY (Oct. 13, 2020) [hereinafter *G7/Central Bank Statement*], https://home.treasury.gov/news/press-releases/sm1152 [https://perma.cc/G5H9-QT37].

86. *See* Steven L. Schwarcz, *Regulating Digital Currencies: Towards an Analytical Framework*, 102 B.U. L. REV. 1037, 1065 (2022).

87. Proliferation financing refers to financing the illegal development or distribution of weapons that threaten national security. *See* FIN. ACTION TASK FORCE, COMBATTING PROLIFERATION FINANCING 11 (2010), https://www.fatf-gafi.org/media/fatf/documents/reports/ Status-report-proliferation-financing.pdf [https://perma.cc/CX8T-KS6B].

88. *G7/Central Bank Statement*, *supra* note 85.

89. *Id.*; *see* PRESIDENT'S WORKING GRP., *supra* note 9, at 1, 3 (discussing the risk of stablecoin activities "to the broader financial system"). Some critics have argued that the very nature of stablecoins invites financial instability. Lee Reiners, formerly with the Federal Reserve Bank of New York, has noted how stablecoins "are effectively treated by users as bank deposits," but the risk of a bank run is greater due to the coins not being "insured by the F.D.I.C." Eric Lipton & Ephrat Livni, *Crypto's Rapid Move into Banking Elicits Alarm in Washington*, N.Y. TIMES, https://www.nytimes.com/2021/09/05/us/politics/cryptocurrency-banking-regulation.html?campaign_id=2&emc=edit_th_20210905&instance_id=39687&nl=todaysheadlin es&regi__id=31966400&segment_id=68166&user_id=00d678ef49ea59edc7006d16f3b4a163 (last updated Nov. 1, 2021) [https://perma.cc/BH4F-KVBJ]. Senator Elizabeth Warren would "ban banks in the United States from holding cash deposits backing up [the] stablecoins . . . ." *Id.* Federal Reserve Chair Jerome Powell observes that "[y]ou wouldn't need stablecoins, you wouldn't need cryptocurrencies if you had a digital U.S. currency." *Id.* Whether or not that is true, the United States still has no viable digital currency.

90. *See* Schwarcz, *supra* note 86, at 1065.

91. *See infra* Part II.C.

92. *See infra* Part II.D.

whether—and if so, how—they should be recognized as legal tender;[93] controlling stablecoin issuance to assure dependability;[94] and appropriately supervising stablecoins in a manner consistent with achieving the foregoing regulatory and operational goals.[95]

The foregoing regulatory and operational goals should apply both to domestic stablecoins as well as to global stablecoins. This Article therefore begins designing the Model Law by addressing the basics of stablecoin regulation and then adding the cross-border elements.[96] The Model Law thus should be applicable not only to regulating global stablecoins but also—by excluding its cross-border elements—to regulating domestic stablecoin usage. This dual utility provides a benefit because maintaining a legal framework that applies both to domestic and cross-border currency transfers should increase certainty for stablecoin issuers and holders alike.[97]

Furthermore, the Model Law should have dual utility for regulating both retail stablecoin use by consumers and "wholesale" stablecoin use by businesses and financial institutions.[98] This is because its consumer protections[99] apply only to natural persons who buy goods and services for personal use.[100] The remainder of the Model

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93. *See infra* Part II.A.

94. *See infra* Part II.B.

95. *See infra* Part II.E.

96. In principle, that approach parallels the more generalized FSB approach of identifying the activities being performed by stablecoins and the participants involved. *See* FSB STABLECOIN REPORT, *supra* note 8, at 17 (observing that global stablecoin regulation should start by "identify[ing] the activity performed by a stablecoin arrangement and the participants involved, and apply[ing] the relevant existing regulation to that activity or entity according to the '*same business, same risks, same rules*' principle."). For example, Part II.A of this Article examines the activities performed by a stablecoin arrangement and the participants involved: the use of stablecoins as a currency is an activity; the parties involved in stablecoin transactions are participants; a person issuing stablecoins is a participant; and using stablecoins as a medium of exchange and a store of value are activities. Likewise, Part II.B of this Article examines the activities performed by a stablecoin arrangement and the participants involved: a legislating nation is a participant; the Supervisory Agency is a participant; administering stablecoins is an activity; consumers are participants; using stablecoins to pay for goods and services or to extinguish debt are activities; firms are participants; their making a market in stablecoins by trading them is an activity; the Supervisory Agency monitoring firms that issue or trade stablecoins or otherwise engage in any stablecoin-related services or other activities are activities; and requiring those firms to disclose and clearly describe their intended and ongoing actions are activities.

97. *See* COMM. ON PAYMENT & MKT. INFRASTRUCTURES, *supra* note 17, at 4 ("Improving domestic payments infrastructure can remove many of the pain points that users and businesses currently experience [in cross-border transfers]. . . . Many public sector projects are attempting to ease some of these pain points to make international payments as seamless as domestic.").

98. *See Fedwire Funds Service*, FED. RSRV. FIN. SERVS., https://www.frbservices.org/assets/financial-services/wires/funds.pdf (last visited Aug. 15, 2022) [https://perma.cc/8PU5-BWSX] (referencing wholesale digital funds transfers).

99. *See infra* notes 136–140 and accompanying text (discussing those protections).

100. *See infra* app. § 1.01 (defining "consumer") and § 3.02 (giving consumers certain rights).

Law would apply equally to consumers, businesses, and financial institutions.

A. Configuring Stablecoins

At its most basic, a stablecoin starts as a nongovernment-issued cryptocurrency or other digital financial instrument. To be useful as a currency, stablecoins should have at least two of the three primary functions of money: to serve as a medium of exchange (that is, payment) and as a store of value.[101] A currency serves as a medium of exchange in order to facilitate transactions between parties, such as making payments or satisfying debts.[102] A currency serves as a store of value to accumulate wealth and also to enable its holder to credibly commit to compensating others in the future.[103] Stablecoins need not have the third primary function of money—to serve as a unit of account that people can use to state prices and record debts[104]—because a nation's fiat currency normally serves that function. Furthermore, even relatively small imprecisions in valuing the stablecoin could create uncertainty if a stablecoin were used as a unit of account.[105]

To serve its functions efficiently, a stablecoin nonetheless should have a clearly denominated *stable*—or at least, relatively stable—value, assuring the parties that it will retain its value in the future.[106] To these ends, section 1.05 of the Model Law defines a stablecoin as any nongovernment-issued cryptocurrency or other digital financial instrument that is (A) issued for the purpose of circulating as money, making payments, satisfying debts, or storing value; (B) denominated in, or priced by reference to, a reference asset;[107] and (C) issued (i) with

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101. *Cf.* Sarah Allen et al., *Design Choices for Central Bank Digital Currency: Policy and Technical Considerations* 9 (Nat'l Bureau of Econ. Rsch., Working Paper No. 27634, 2020), https://www.nber.org/system/files/working_papers/w27634/w27634.pdf [https://perma.cc/WH8M-HFY8] (discussing the three primary functions of money: as a medium of exchange, a store of value, and a unit of account).

102. Markus K. Brunnermeier, Harold James & Jean-Pierre Landau, *The Digitalization of Money* 7–8 (Bank for Int'l Settlements, Working Paper No. 941, 2021), https://www.bis.org/publ/work941.pdf [https://perma.cc/4DGQ-599U] (adding that currency can serve as such a medium of exchange even when those parties can offer no other goods or services of use to the other as payment).

103. *Id.*

104. *See* Allen et al., *supra* note 101, at 9 (identifying that third primary function of money).

105. *See infra* notes 119–120 and accompanying text (illustrating why there could be relatively small imprecisions in valuing a stablecoin).

106. Brunnermeier et al., *supra* note 102, at 8.

107. Recall that a reference asset is the asset that backs a stablecoin. *See supra* note 8 and accompanying text; *infra* app. § 1.04 (defining a reference asset).

a stated redemption value[108] or (ii) in such a manner that establishes a widespread public expectation that it will have a fixed or relatively stable redemption value.[109] To assure that stable value, holders must be able, on demand, to redeem their stablecoins for the specified reference asset at the specified redemption value.[110] As later discussed,[111] the Model Law also protects that redemption right.[112]

In jurisdictions that limit the medium of legal payment,[113] recognition as legal tender could help support a stablecoin's ability to serve as a medium of exchange and as a store of value.[114] Technically, the concept of legal tender is somewhat vague; for example, although legal tender is recognized as money for the payment of private debts, a

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108. Recall that redemption value means the value of the reference asset for which a stablecoin is stated, or otherwise expected, to be exchangeable. *See supra* note 8 and accompanying text*; infra* app. § 1.03 (so defining it).

109. An algorithmic stablecoin, for example, might create such a widespread public expectation. Algorithmic stablecoin issuers do not offer buyers redemption rights but instead engage in algorithm-based marketmaking to ensure a stable price. *See* Haseeb Qureshi, *A Visual Explanation of Algorithmic Stablecoins*, MEDIUM (Apr. 27, 2021), https://medium.com/dragonfly-research/a-visual-explanation-of-algorithmic-stablecoins-9a0c1f0f51a0 [https://perma.cc/68AM-TDA2]:

> Imagine . . . stablecoin[s], collateralized by ETH. Call them STBL tokens. The protocol is always willing to market make the ETH/STBL pair. This means the protocol will be willing to sell 1 STBL for $1.01 ETH and buy 1 STBL for $0.99 ETH. If STBL is below the peg, it will keep swapping STBLs until its ETH runs out.

110. The FSB surveyed the "functions and activities [of stablecoins] that are most frequently covered" by regulation and principally found that those functions and activities relate to protecting the right of stablecoin holders to redeem such currencies for the reference assets. FSB STABLECOIN REPORT, *supra* note 8, at 17.

111. *See infra* notes 186–187 and accompanying text. The importance of redemption cannot be overstated; a redemption failure could destroy the value of stablecoin. Section 5.02 of this Article's Model Law proposes redemption requirements.

112. *Cf.* FSB STABLECOIN REPORT, *supra* note 8, at 4 (providing the "[h]igh-[l]evel recommendation[ ]" that "[a]uthorities should ensure that [global stablecoin] arrangements provide legal clarity to users on the nature and enforceability of any redemption rights and the process for redemption, where applicable").

113. Some jurisdictions, including the United States, do not limit the medium of legal payment and allow any commercially reasonable and widely accepted medium to be used for payment. *See, e.g.*, Herman Oliphant, *The Theory of Money in the Law of Commercial Instruments*, 29 YALE L.J. 606, 610 (1920) ("The utility of a particular thing as a medium of exchange in a given locality is measured by the degree to which it approaches universal acceptability in exchange in [that] area.").

114. *See, e.g.*, P.M. T. Masela*, Digital Currency Initiatives on the African Continent, in* THE (NEAR) FUTURE OF CENTRAL BANK DIGITAL CURRENCIES 131, 137 (Nicola Bilotta & Fabrizio Botti eds., Lorenzo Kamel series ed., 2021), https://library.oapen.org/handle/20.500.12657/47398 [https://perma.cc/YHJ7-9T4B]:

> The crypto-asset or CBDC should be accepted as legal tender, build trust in its holders and parties that accept it as a means of payment, and be non-exclusive or ubiquitous. This will reassure users, merchants and service providers that they will always be able to exchange it for value with other users, merchants, service providers and participants in the conventional payment system.

person offered legal tender is not obligated to accept it.[115] For that reason, legal tender also is recognized as money that the government must accept for the payment of taxes.[116]

This Article adopts the broad concept of legal tender: currency that is legally recognized as money for payment of private debts and public taxes.[117] Section 3.06 of the Model Law proposes an option for a nation enacting the Model Law (hereinafter, a "legislating nation") to choose to make stablecoins meeting the requirements of Article III thereof, including having the currency of that nation as their reference assets, legal tender. That section also has an option for a legislating nation that has declared other national currencies to be legal tender to amend the Model Law to similarly include as legal tender (otherwise qualifying) stablecoins that have those other national currencies as their reference assets.[118]

Politically, a nation might be reluctant to accept, for payment of taxes, even stablecoins that have its national currency as the reference asset—unless, perhaps, the stablecoins are at least 100% collateralized or reserved by that currency.[119] That reluctance might also go beyond politics and reflect relatively small, but potentially real, economic imprecisions in valuing the stablecoin. For example, the market value of a nominal value $1 stablecoin backed by a less-than-100% managed

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115. In the United States, if a person refuses to accept legal tender as payment of a debt, that debt remains unpaid. *See Is It Legal for a Business in the United States to Refuse Cash as a Form of Payment?*, FED. RSRV., https://www.federalreserve.gov/faqs/currency_12772.htm (last updated July 21, 2020) [https://perma.cc/BVJ3-SEV7] ("Private businesses are free to develop their own policies on whether to accept cash unless there is a state law that says otherwise."). This vagueness provides flexibility for parties to agree on the kind of payment they are willing to accept "according to cost, needed technology, or risk." Massimo Cirasino, *CBDC in the Broad Context of National Payments System Development*, *in* THE (NEAR) FUTURE OF CENTRAL BANK DIGITAL CURRENCIES, *supra* note 114, at 41, 50. In some European countries, however, legal tender "cannot be refused when presented to discharge a monetary obligation." Franco Passacantando, *The Digital Euro: Challenges and Opportunities*, *in* THE (NEAR) FUTURE OF CENTRAL BANK DIGITAL CURRENCIES, *supra* note 114, at 113–14.

116. *Cf.* David G.W. Birch, *Digital Cash as Legal Tender?*, FORBES (Jan. 4, 2021, 8:15 AM), https://www.forbes.com/sites/davidbirch/2021/01/04/digital-cash-as-legal-tender/?sh=57a985cf49a1 [https://perma.cc/5YGV-37KM] ("[A]s far as I am concerned what is or isn't accepted for the payment of taxes is a much better measure of what is or isn't a currency than outdated concepts of legal tender!").

117. *Cf. infra* app. § 1.02 (defining legal tender as meaning "stablecoins that are legally valid to offer and to be accepted in payment of all debts, public charges, taxes, and dues"). That definition is inspired by 31 U.S.C. § 5103, which specifies which "coins and currency" are "legal tender for all debts, public charges, taxes, and dues."

118. *See infra* note 303.

119. *Cf. infra* notes 196–198 and accompanying text (discussing the risks associated with holding one hundred percent of reserves for a stablecoin).

reserve of dollars might well be worth less than $1.[120] Any such reluctant nation could amend section 1.02 of the Model Law to exclude "taxes" from the definition of legal tender.[121] Similarly, a nation—such as a nation that does not limit the medium of legal payment[122]—could simply choose not to recognize stablecoins as legal tender by omitting sections 1.02 and 3.06 of the Model Law.[123]

B. Issuing Stablecoins

The Model Law contemplates that each legislating nation will designate an agency with supervisory oversight over stablecoins as its "Supervisory Agency" to administer that law, as enacted.[124] To ensure dependability, stablecoin issuers should be limited to persons that demonstrate integrity, reliability, and stability. Section 2.01 of the Model Law thus limits stablecoin issuance to deposit-taking, government-insured banks[125] and other issuers approved by the Supervisory Agency. The Supervisory Agency may condition its approval, including by subjecting those other issuers to the types of regulation and supervisory authority that would apply to bank issuers.[126] Allowing nonbanks to become stablecoin issuers provides additional commercial flexibility for experimentation and innovation.[127]

On a retail level, consumers will use stablecoins to pay for goods and services or to extinguish debt.[128] Those activities will necessitate

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120. *Cf. supra* notes 104–105 and accompanying text (observing that even relatively small imprecisions in valuing a stablecoin could create uncertainty if the stablecoin were used as a unit of account).

121. *See infra* note 301.

122. *Cf.* Oliphant, *supra* note 113, at 610 (observing that the United States allows any commercially reasonable and widely accepted medium to be used for payment).

123. *Infra* note 302.

124. *Infra* app. § 1.06.

125. *Cf.* Stablecoin Classification and Regulation Act of 2020, H.R. 8827, 116th Cong. § 3(a)(2) (2020) (proposed legislation which would require any stablecoin that is convertible into U.S. dollars to be issued only by an insured depository institution that is a member of the Federal Reserve System); PRESIDENT'S WORKING GRP., *supra* note 9, at 2 (recommending for Congress to "require stablecoin issuers to be insured depository institutions").

126. *Cf.* Gary B. Gorton & Jeffery Y. Zhang, *Taming Wildcat Stablecoins*, 90 U. CHI. L. REV. (forthcoming 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3888752 [https://perma.cc/5YGV-37KM] (arguing that "issuing stablecoins through insured banks or requiring them to be backed one-for-one either by central bank reserves or Treasuries would essentially transform stablecoins into a national currency").

127. *See supra* notes 10–12 and accompanying text (referencing the efforts of Facebook, Uber, Lyft, and Shopify to try to develop the Diem stablecoin).

128. *See supra* note 102 and accompanying text. Stablecoins also could have commercial applications, of course. For example, firms could use them for payroll and invoicing, enabling direct and prompt payments to employees and counterparty firms. Sam Wouters, *How Can Businesses Use Stablecoins*, BLOCKDATA, https://www.blockdata.tech/blog/general/how-can-businesses-use-stablecoins (last updated Aug. 27, 2021) [https://perma.cc/A86T-GSN4]. This Article's analysis

consumer protections, later discussed.[129] Some firms, however, might see potential gain in making a market in stablecoins by trading them— that is, by buying, selling, or otherwise exchanging stablecoins in currency-exchange or other commercial markets, for the purpose of making a profit.[130] To assure the same level of dependability associated with stablecoin issuance, this Article proposes, essentially, that only persons authorized to issue stablecoins should also have the right to trade them.[131]

In deciding whether to approve such a trading right, the Supervisory Agency should give credence to applications by parties currently allowed to trade fiat currencies. In principle at least, trading stablecoins backed by fiat currencies should be similar to trading those underlying currencies.[132] That similarity also might motivate the Supervisory Agency to consider delegating some authority over stablecoin trading to the supervisory bodies currently regulating currency trading. These supervisory bodies have experience creating standards for currency traders, "includ[ing] being registered and licensed with the regulatory body, undergoing regular audits, [and] communicating certain changes of service to their clients."[133] These standards help to "protect[ ] individual investors and ensur[e] fair operations to safeguard client[ ] interests" from "financial irregularities, scams, exorbitant charges, hidden fees, and high-risk exposure offered through high-leverage levels or other bad practices."[134]

Finally, to enable the Supervisory Agency to properly monitor firms that issue or trade stablecoins or otherwise engage in any stablecoin-related services or other activities, those firms should disclose and clearly describe their intended and ongoing actions. To that end, section 2.03 of the Model Law requires those firms to notify the

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applies to all uses of stablecoins, whether retail or commercial (or otherwise wholesale). *See supra* note 98 and accompanying text.

129. *See infra* notes 136–140 and accompanying text.

130. *See* Tim Parker, *The Basics of Currency Trading*, INVESTOPEDIA, https://www.investopedia.com/financial-edge/0412/the-basics-of-currency-trading.aspx (last updated May 30, 2022) [https://perma.cc/7UAH-EK8Q]; *infra* app. § 1.07 (defining trading).

131. *See infra* app. § 2.02.

132. For example, a firm may trade stablecoins backed by U.S. dollars for stablecoins backed by euros and "bet[ ] that the value of one currency will increase relative to another." Matt Lee, *How Do You Make Money Trading Currencies?*, INVESTOPEDIA, https://www.investopedia.com/ask/answers/06/makingmoneytradingcurrency.asp (last updated June 28, 2021) [https://perma.cc/L4LG-Q2BJ].

133. *How is Forex Regulated?*, FOREX, https://www.forex.com/en/education/education-themes/trading-concepts/how-is-forex-regulated/ (last visited Sept. 18, 2022) [https://perma.cc/8QKM-ME6N].

134. Shobhit Seth, *U.S. Regulations for Forex Brokers*, INVESTOPEDIA, https://www.investopedia.com/articles/forex/011515/us-regulations-forex-brokers.asp (last updated July 15, 2022) [https://perma.cc/9KBA-SH93].

Supervisory Agency of their intent at least six months in advance thereof, describing those intended services and other activities. It also requires those firms to provide ongoing analysis to the Supervisory Agency of any potential systemic impacts or monetary policy implications of engaging in such services and other activities.

Regarding potential systemic impacts or monetary policy implications, the most immediate question will be the adequacy of the stablecoin's redemption rights and obligations. For that reason, section 2.03 of the Model Law requires each potential stablecoin issuer to specify: the reference asset that underlies, or that will underlie, the stablecoins; the means by which stablecoin holders have, or will have, the right to redeem their stablecoins for the reference asset; and any other means by which such person intends to ensure the stablecoins' stable value.[135]

C. Protecting Consumers and Privacy

Consumer protection will be critical for the retail use of stablecoins.[136] The U.S. Electronic Fund Transfer Act ("EFTA")[137] provides valuable precedent for identifying these protections, which include the right to redress erroneous or unauthorized transactions for which the consumer is not at fault and a limitation of liability for such transactions;[138] clear disclosure to consumers of their rights (and protection from being forced to waive their rights);[139] and protection from being charged excessive fees.[140] Section 3.02 of the Model Law provides similar protections to stablecoin holders who are consumers.

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135. For an algorithmic stablecoin, holders would not exercise redemption rights in the traditional sense, but rather would simply sell the coin on the secondary market. *See* Qureshi, *supra* note 109 ("FEI, Celo, and Terra do not allow redemptions. Instead, they market make their own currency in the open market (that is, they are willing to buy or sell across a spread)."). Issuers that do offer explicit redemption rights might require advance notice, and holders may be required to submit a redemption request and pay a fee. *See* Gorton & Zhang, *supra* note 126, at 15–16 tbl.3.

136. *Cf.* Katherine Foster Sofie Blakstad, Sangita Gazi & Martijin Bos, *Technical Paper 1.2: Digital Currencies and CBDC Impacts on Least Developed Countries (LDCs)*, UN DEV. PROGRAMME & UN CAP. DEV. FUND 21 (June 16, 2021), https://www.undp.org/publications/towards-inclusive-sdg-aligned-governance-global-fintech-platforms-bigfintechs [https://perma.cc/79VQ-QMAD] (indicating that consumer protection will be especially critical if stablecoins issued by big tech companies dominate local currencies without being subject to ordinary regulatory restrictions).

137. 15 U.S.C. § 1693.

138. *See* 15 U.S.C. § 1693g (limiting consumer liability to $50 if the consumer's bank is properly notified of the erroneous or unauthorized transaction; otherwise, consumer liability is limited to $500).

139. *See* 15 U.S.C. § 1693c(a)(5)-(7) (listing consumer rights guaranteed by the Act).

140. *See* 15 U.S.C. § 1693o-2(a)(2) (limiting transaction fees to that which is "reasonable and proportional to the cost incurred by the issuer").

Protecting privacy will be important not only for consumers but also for wholesale stablecoin users. Because stablecoins are token-based, and thus do not require third-party intermediaries such as banks, they intrinsically should have strong privacy protections.[141] If the stablecoin issuer is a powerful social network or other type of data-information or data-sharing firm, however, privacy concerns might arise.[142] Those types of firms are historically poor at maintaining consumer privacy.[143] Indeed, they often profit from user data by "misus[ing], shar[ing], or sell[ing]" that data.[144] Regulation should at least require issuers to be transparent about how they protect stablecoin users' privacy.[145] Furthermore, any information about stablecoin users should be kept confidential; there is a long-established interest, for example, in protecting financial records from government access.[146] Section 3.03 of the Model Law protects these privacy rights.

D. Protecting Monetary Integrity and Financial Stability

Section 1 next addresses protecting monetary integrity, and Section 2 addresses protecting financial stability. There is, nonetheless, some potential overlap insofar as the factors that could undermine

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141. *See, e.g.*, Raphael Auer & Rainer Böhme, *The Technology of Retail Central Bank Digital Currency*, BANK FOR INT'L SETTLEMENTS Q. REV., Mar. 2020, at 85, 94 ("A token-based system . . . would offer good privacy by default."). In theory, a token-based currency transaction can occur anonymously. *Cf.* Zhang et al., *supra* note 29, at 7 (noting that token-based recordkeeping can preserve a high degree of privacy).

142. *See FTC Imposes $5 Billion Penalty and Sweeping New Privacy Restrictions on Facebook*, FED. TRADE COMM'N (July 24, 2019), https://www.ftc.gov/news-events/press-releases/2019/07/ftc-imposes-5-billion-penalty-sweeping-new-privacy-restrictions [https://perma.cc/N3N7-CS4M] (reporting that Facebook agreed to pay a penalty of $5 billion to settle charges that it "violated a 2012 FTC order by deceiving users about their ability to control the privacy of their personal information"); Spencer Bokat-Lindell, Opinion, *Can We Trust Facebook to Run a Bank?*, N.Y. TIMES (Oct. 24, 2019), https://www.nytimes.com/2019/10/24/opinion/facebook-libra-zuckerberg.html [https://perma.cc/AXR2-W59R] (discussing privacy concerns over Libra).

143. *See* Taylor Telford, *Why Governments Around the World are Afraid of Libra, Facebook's Cryptocurrency*, WASH. POST (July 12, 2019, 1:11 PM), https://www.washingtonpost.com/business/2019/07/12/why-governments-around-world-are-afraid-libra-facebooks-cryptocurrency/ [https://perma.cc/C6VD-U25E].

144. *See* Karla Valdés Posada, *Diem, Facebook's New Cryptocurrency. Does it Keep Data Private?*, MIRANDA PARTNERS (Jan. 21, 2021, 3:08 PM), https://miranda-partners.com/diem-facebooks-new-cryptocurrency-does-it-keep-data-private/ [https://perma.cc/K2R3-VYM2].

145. *Cf.* Natasha Lomas, *Libra, Facebook's Global Digital Currency Plan, Is Fuzzy on Privacy, Watchdogs Warn*, TECHCRUNCH (Aug. 5, 2019, 1:47), https://techcrunch.com/2019/08/05/libra-facebooks-global-digital-currency-plan-is-fuzzy-on-privacy-watchdogs-warn/ [https://perma.cc/NVZ8-DF4T] (noting the lack of detailed information on Libra's privacy protections and describing the concerns of international privacy watchdogs).

146. Congress enacted the Right to Financial Privacy Act of 1978, for example, to prevent banks and other financial institutions from disclosing a person's financial information to the government unless the records are disclosed pursuant to a subpoena or search warrant. *See* 12 U.S.C. §§ 3401-3422.

monetary integrity also could undermine financial stability if they cause consumers to lose confidence in a widely used global stablecoin.[147]

1. Stablecoins and Monetary Integrity

As mentioned above, the stablecoin-related factors that could undermine monetary integrity include money laundering and terrorist financing, breaches of cybersecurity, and failures of operational resilience.[148] Money laundering and terrorist financing already threaten the integrity of domestic payments.[149] The added complications of cross-border global stablecoin payments would increase the threat.[150]

To address that threat and control transaction costs, the Model Law follows the recommendations of the Financial Action Task Force ("FATF"), an intergovernmental body established by the G7 nations.[151] Originally having the goal of regulating money laundering, the FATF's mission expanded in 2001 to counter terrorist financing.[152] Today, the FATF sets worldwide standards for, and promotes effective implementation of, "legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system."[153]

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147. *See, e.g.*, COMM. ON PAYMENT & MKT INFRASTRUCTURES, *supra* note 17, at 12–16; FIN. STABILITY BD., DECENTRALISED FINANCIAL TECHNOLOGIES: REPORT OF FINANCIAL STABILITY, REGULATORY AND GOVERNANCE IMPLICATIONS 6–7 (2019), https://www.fsb.org/wp-content/uploads/P060619.pdf [https://perma.cc/U6LX-JYRK] (discussing operational risks to financial stability); *cf.* Schwarcz, *supra* note 86, at 1076 (observing that "[i]f [a global stablecoin is] widely used for payments, 'any operational disruption in the [global stablecoin] arrangement might have significant impacts on economic activity and financial system functioning,'" in which case "[h]olders relying on the stablecoin to make regular payments would face 'significant operational disruptions,' which 'could quickly affect real economic activity, e.g. by blocking remittances and other payments.'" (quoting FSB STABLECOIN REPORT, *supra* note 8, at 13)).

148. *See supra* note 85 and accompanying text.

149. U.S. DEP'T OF THE TREASURY, 2015 NATIONAL MONEY LAUNDERING RISK ASSESSMENT 6 (2015), https://home.treasury.gov/system/files/246/National-Money-Laundering-Risk-Assessment-06-12-2015.pdf [https://perma.cc/UK6E-QKSK]; DEP'T OF THE TREASURY, 2015 NATIONAL TERRORIST FINANCING RISK ASSESSMENT 4 (2015), https://home.treasury.gov/system/files/246/National-Terrorist-Financing-Risk-Assessment-06-12-2015.pdf [https://perma.cc/UUB6-WMLM].

150. COMM. ON PAYMENT & MKT INFRASTRUCTURES, *supra* note 17, at 4.

151. *History of the FATF*, FIN. ACTION TASK FORCE, https://www.fatf-gafi.org/about/historyofthefatf/ (last visited Sept. 19, 2022) [https://perma.cc/8ZLB-RZYG].

152. *Id.*

153. *What Do We Do*, FIN. ACTION TASK FORCE, https://www.fatf-gafi.org/about/whatwedo/ (last visited Sept. 19, 2022) [https://perma.cc/KF9L-3EEM]; *see also International Standards on Combating Money Laundering and the Financing of Terrorism & Proliferation*, FIN. ACTION TASK FORCE 7 (Mar. 2022) www.fatf-gafi.org/recommendations.html [https://perma.cc/2ZEU-HVH7] [hereinafter *FATF Recommendations*].

For example, the FATF recommends that governments worldwide impose know-your-customer ("KYC") and anti–money laundering ("AML") obligations on banks and other financial intermediaries.[154] It also recommends that governments criminalize money laundering and terrorist financing, that they enable law enforcement to seize laundered assets, and that they employ sanctions against countries that finance terrorism.[155] Furthermore, it recommends that governments require financial institutions to conduct due diligence on their clients and maintain customer records.[156]

With the rise of various cryptocurrencies, the FATF has expanded its recommendations to include virtual assets.[157] Prior "to the launch" of stablecoins, for example, it recommends that "countries should ensure that virtual asset service providers [defined as "VASP"s] are regulated for [anti-money-laundering and countering-financing-of-terrorism] purposes, and licensed or registered and subject to effective systems for monitoring and ensuring compliance" with FATF recommendations.[158] VASPs would include businesses that conduct stablecoin exchange, transfer, safekeeping, or issuance services on behalf of their clients.[159]

To the extent VASPs actually conduct the stablecoin exchange, transfer, safekeeping, and issuance services, they could be identified and regulated to ensure AML/CFT compliance. The FATF therefore encourages that governments require VASPs (or financial institutions)

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154. *Anti-Money Laundering and Terrorist Financing Measures and Financial Inclusion*, FIN. ACTION TASK FORCE 6 (2013), https://www.fatf-gafi.org/media/fatf/documents/reports/AML_CFT_Measures_and_Financial_Inclusion_2013.pdf [https://perma.cc/D557-LE3V]; *FATF Recommendations*, *supra* note 153, at 10–15. I have separately observed that the use of retail digital currencies might require certain changes to the FATF's recommendation that financial institutions should conduct KYC due diligence. Schwarcz, *supra* note 86, at 1060. The high transaction costs due to the sheer volume of stablecoin transactions would make it impractical to require every retail transaction to be scrutinized. To reduce these costs, KYC laws could place a floor on the value of transfers that would trigger the need to conduct customer due diligence. *Id.* Financial institutions nonetheless should maintain records to identify a series of small transactions conducted in a short amount of time to try to evade the law. *See* Aislinn Keely, *FinCEN Proposes New KYC Rules for Crypto Wallets*, THE BLOCK (Dec. 18, 2020, 5:06 PM), https://www.theblock.co/linked/88511/fincen-proposes-new-kyc-for-crypto-wallets [https://perma.cc/Z7X2-F53V].

155. *FATF Recommendation*s, *supra* note 153, at 12–13.

156. *Id.* at 14.

157. *Id.* at 17.

158. *Id.*

159. *Id.* at 76; *see also Money Laundering Risks from "Stablecoins" and Other Emerging Assets*, FIN. ACTION TASK FORCE (Oct. 18, 2019), http://www.fatf-gafi.org/publications/fatfgeneral/documents/statement-virtual-assets-global-stablecoins.html [https://perma.cc/BT4A-6ZA8] (FATF statement clarifying that "global 'stablecoins' and their service providers would be subject to the FATF standards").

to conduct those services.[160] But if stablecoin exchanges and transfers evolve to include large numbers of anonymous users—such as in peer-to-peer exchanges that do not involve VASPs—they could avoid regulation, thereby posing a more intractable threat to monetary integrity.[161] In theory at least, that threat should be no greater than is posed by today's large numbers of cash transactions.[162]

Breaches of stablecoin cybersecurity and failures of operational resilience could also undermine monetary integrity.[163] Cybersecurity involves several risks. In the context of stablecoins, one such risk would be counterfeiting, which would encompass double spending and making transfers involving an unverified account. These forms of "counterfeiting" also could be classified as fraud. Double spending is an inherent risk with cryptocurrencies; in contrast to physical currency, no physical limitation prevents a person from spending the same unit of virtual currency twice.[164]

The double spending risk could be minimized by a centralized clearinghouse that logs all stablecoin transfers and could flag fraudulent ones immediately.[165] That risk also may be able to be controlled by using blockchain technology. Although the details of blockchain technology are beyond this Article's scope, that technology refers to a single, decentralized public ledger that could operate to verify transactions and prevent double spending.[166] A stablecoin issuer

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160. *See* FIN. ACTION TASK FORCE, FATF REPORT TO THE G20 FINANCE MINISTERS AND CENTRAL BANK GOVERNORS ON SO-CALLED STABLECOINS 7 (2020), https://www.fatf-gafi.org/media/fatf/documents/recommendations/Virtual-Assets-FATF-Report-G20-So-Called-Stablecoins.pdf [https://perma.cc/3D7R-MK9X] ("The revised FATF Standards mitigate the risk posed by anonymity by placing AML/CFT obligations on entities that carry out certain financial activities involving virtual assets (e.g. VASPs or financial institutions).").

161. *Id.* at 7–8 ("If unmediated peer-to-peer transactions become easier and more secure, this could prompt a shift away from the use of VASPs. This could increase the number and value of payments not subject to AML/CFT controls and could present a material ML/TF vulnerability if mass-adopted.").

162. *Cf. id.* (observing that like cash transactions that fall out of the scope of the FATF standards, there is a risk that some peer-to-peer stablecoin transactions that occur with no financial intermediary would avoid regulations).

163. *See G7/Central Bank Statement*, *supra* note 85 and accompanying text.

164. *See, e.g.,* Kevin V. Tu & Michael W. Meredith, *Rethinking Virtual Currency Regulation in the Bitcoin Age*, 90 WASH. L. REV. 271, 280 (2015):

> Physical currencies have a manifest "built-in" solution to this double spending problem: if a consumer exchanges a physical dollar for an apple (or any other good or service) then, absent illegal activity such as counterfeiting, they are no longer in possession of the dollar and, therefore, cannot spend that dollar again to buy a [sic] another apple from another vendor. Virtual currencies, which have no physical manifestation, however, cannot rely on this sort of built-in solution.

165. *Id.*

166. Rebecca M. Bratspies, *Cryptocurrency and the Myth of the Trustless Transaction*, 25 MICH. TECH. L. REV. 1, 22 (2018). In a blockchain, transaction data are recorded chronologically into "blocks," and when a block is filled, it is "chained" to the previous block. Adam Hayes,

could also employ a centralized blockchain, stored on its own network of computers,[167] to maintain a private ledger that could be used to flag and prevent instances of double spending. The Model Law requires governmental study of these alternative ways to control the double spending risk.[168]

Stablecoin-related cybersecurity also involves the risk of making transfers involving unverified accounts.[169] As with double spending, the unverified accounts risk could be minimized by using a centralized clearinghouse that logs all stablecoin transfers.[170] Similarly, blockchain technology could reduce that risk by improving account verification by using digital IDs stored on a blockchain and attached to every stablecoin transaction.[171] The Model Law also requires governmental study of these alternative ways to control the unverified accounts' risk.[172]

Yet another cybersecurity risk is that the "protective cryptology underlying stablecoins may fail or be compromised," enabling cyberattacks.[173] Cyberattacks can heavily affect the financial sector.[174] For example, "PolyNetwork briefly lost $600 million of its customers' assets to hackers, much of which was returned only after the site's founders begged the thieves to relent."[175] Even more dramatically, the

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Blockchain Explained, INVESTOPEDIA, https://www.investopedia.com/terms/b/blockchain.asp (last updated June 24, 2022) [https://perma.cc/8LZM-UU27]. Altering data in a blockchain requires control of at least 51% of computers comprising its network. *Id.* A decentralized blockchain, stored through a network of users' computers, would therefore provide a public transaction ledger that no individual would likely be able to alter. *Id.*; *cf.* Steven Norton, *CIO Explainer: What is Blockchain?*, WALL ST. J. (Feb. 2, 2016, 12:49 AM), https://www.wsj.com/articles/BL-CIOB-8993 [https://perma.cc/A942-3SEN] (explaining blockchain by observing that transaction data are added to a record after users verify the transaction by checking that the data match the blockchain's history; and that each verified transaction receives its own unique digital "signature," which allows parties to monitor the state and integrity of the transaction).

167. *Cf.* Hayes, *supra* note 166 (discussing the U.S. federal system as centralized).

168. *See infra* app. § 3.04.

169. *See G7/Central Bank Statement*, *supra* note 85 and accompanying text.

170. *See* Tu & Meredith, *supra* note 164 and accompanying text.

171. ORI JACOBOVITZ, BLOCKCHAIN FOR IDENTITY MANAGEMENT 2 (2016), https://www.cs.bgu.ac.il/~frankel/TechnicalReports/2016/16-02.pdf [https://perma.cc/C6NN-APG2].

172. *See infra* app. § 3.04.

173. Schwarcz, *supra* note 86, at 1067.

174. *See, e.g.*, Danny Brando, Antonis Kotidis, Anna Kovner, Michael Lee & Stacey L. Schreft, *Implications of Cyber Risk for Financial Stability*, BD. OF GOVERNORS OF THE FED. RSRV. SYS.: FEDS NOTES (May 12, 2022), https://www.federalreserve.gov/econres/notes/feds-notes/implications-of-cyber-risk-for-financial-stability-20220512.html [https://perma.cc/TT66-QLNC] ("Cyber events, especially cyberattacks, are among the top risks cited in financial stability surveys in the United States and globally."); Anton N. Didenko, *Cybersecurity Regulation in the Financial Sector: Prospects of Legal Harmonization in the European Union and Beyond*, 25 UNIF. L. REV. 125, 129 (2020).

175. Lipton & Livni, *supra* note 89.

2021 ransomware-based[176] cyberattack on Colonial Pipeline disrupted the fuel supply to millions of Americans along the East Coast.[177] Although the Model Law contemplates governmental study of stablecoin cybersecurity,[178] it does not require an independent study of cyberattacks. Governments worldwide are already trying to devise effective protection against cyberattacks.[179] In the United States, for example, President Biden signed an executive order, shortly after the Colonial Pipeline attack, to begin improving cybersecurity in the private sector.[180]

Finally, failures of operational resilience could also undermine monetary integrity by disrupting a payment system that relies on stablecoins.[181] Regulation could help to protect against this threat of disruption by requiring the stablecoin infrastructure to include secure hardware technology as well as further security mechanisms in addition to cryptographic protections.[182] Regulation also could require stablecoin issuers to back up their cryptology through separate networks. The most likely failure might occur, for example, if certain validator nodes are compromised or stop operating.[183] Regulators might

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176. Ransomware is a form of malware that maliciously encrypts files on a device, to be decrypted in exchange for ransom. *Ransomware Guidance and Resources*, CYBERSECURITY & INFRASTRUCTURE SEC. AGENCY, https://www.cisa.gov/ransomware (last visited Aug. 18, 2022) [https://perma.cc/E4PG-LAKU]. There were almost 400 ransomware attacks on critical infrastructure in 2020. Meryl Kornfield & Hannah Knowles, *Ransomware Attacks Could Reach 'Pandemic' Proportions. What to Know After the Pipeline Hack.*, WASH. POST (May 12, 2021, 7:17 PM), https://www.washingtonpost.com/business/2021/05/12/ransomware-attack/ [https://perma.cc/F2LX-K77H].

177. *See, e.g.*, Marisa Peñaloza, *Ransomware Attack Shuts down a Top U.S. Gasoline Pipeline,* NPR (May 9, 2021, 11:07 AM), https://www.npr.org/2021/05/08/995040240/cybersecurity-attack-shuts-down-a-top-u-s-gasoline-pipeline [https://perma.cc/JC36-E39G].

178. *Infra* app. § 3.04(B).

179. *See, e.g.*, Didenko, *supra* note 174, at 127 ("New laws and regulatory instruments focusing exclusively on cyber-resilience have been adopted in a number of jurisdictions, including Hong Kong, Russia, the USA, and Singapore.").

180. *FACT SHEET: President Signs Executive Order Charting New Course to Improve the Nation's Cybersecurity and Protect Federal Government Networks*, THE WHITE HOUSE: BRIEFING ROOM (May 12, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/12/fact-sheet-president-signs-executive-order-charting-new-course-to-improve-the-nations-cybersecurity-and-protect-federal-government-networks/ [https://perma.cc/B3WL-GXUL]. Among other things, the executive order removed barriers to information sharing on data breaches and cyberattacks between the government and private sector, improved the federal government's cybersecurity standards, heightened security standards for software sold to the government, and established a Cybersecurity Safety Review Board. *Id.*

181. *See G7/Central Bank Statement*, *supra* note 85 and accompanying text; *cf.* PRESIDENT'S WORKING GRP., *supra* note 9, at 13 (observing that operational risks can include transaction processing errors that delay or otherwise "disrupt the ability of users to make payments").

182. *See* Allen et al., *supra* note 101, at 54–61.

183. *Addressing the Regulatory, Supervisory, and Oversight Challenges Raised by "Global Stablecoin" Arrangements*, FIN. STABILITY BD. 13 (Apr. 14, 2020), https://www.fsb.org/wp-content/uploads/P140420-1.pdf [https://perma.cc/4HJQ-NNFV]. In the event of validator failure,

be able to protect against that risk by requiring the stablecoin issuer to maintain, as a disaster recovery failsafe, a backup validation plan to help assure recoverability of computerized files after a data-loss event. The Model Law requires governmental study of these alternative ways to prevent failures of operational resilience.[184]

2. Stablecoins and Financial Stability

Although the factors discussed above could impair monetary integrity, they also could undermine financial stability if they cause consumers to lose confidence in a widely used global stablecoin.[185] The primary reason that consumers could lose that confidence would be the issuer's inability to redeem the stablecoin for its underlying reference asset.[186] That inability would resemble a classic bank run if, for example, the issuer is unable to obtain sufficient reference assets to satisfy correlated demands by stablecoin holders.[187]

Consumers also could lose confidence in a widely used global stablecoin if they merely question the issuer's ability to satisfy its redemption obligations.[188] That loss of confidence could reduce the stablecoin's value. If the stablecoin is widely used as a common store of value—which might be especially likely to occur in emerging markets and developing economies[189]—even a moderate variation in its value might cause significant fluctuations in holders' wealth.[190] If that fluctuation is sizeable enough to affect spending decisions and economic activity,[191] it could impair the real economy.

One way to assure the issuer's ability to satisfy its redemption obligations would be to make stablecoins the equivalent of insured

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transaction processing could be delayed with "large volumes of transactions [that] might amplify users' loss of confidence, and trigger further redemption requests." *Id*.

184. *See infra* app. § 3.04(A).

185. *See supra* note 147 and accompanying text.

186. Schwarcz, *supra* note 86, at 1067; *cf*. FSB STABLECOIN REPORT, *supra* note 8, at 1 (expressing concern that a widely adopted global stablecoin "could become systemically important in and across one or many jurisdictions, including as a means of making payments").

187. *See* Schwarcz, *supra* note 86, at 1063 (explaining that a failure to satisfy redemption rights would "expose the issuer and stablecoin holder[s] to default risk, similar to the liquidity 'run' risk of a bank run . . . ."). In a bank run, the bank's depositors panic, converging on the bank to quickly withdraw their monies. Because banks keep only a small fraction of their deposits on hand as cash reserves, a bank may have insufficient cash to pay all withdrawal demands, causing it to default and ultimately fail. R. W. HAFER, THE FEDERAL RESERVE SYSTEM: AN ENCYCLOPEDIA 25, 145 (2005) (observing that a bank's cash reserves are often less than 5% of its deposits).

188. *Cf. infra* notes 227–229 and accompanying text (discussing other adverse confidence effects).

189. Allen et al., *supra* note 101, at 12–13.

190. *See id*. at 13.

191. *See id*.

deposits, which this Article later discusses in the context of analyzing public-private partnerships.[192] The other ways to protect against redemption risk may be second best. For example, a stablecoin issuer could collateralize or otherwise maintain reserves against its redemption obligation,[193] or it could hedge the risk with derivatives or other guarantees.[194] Section 3.01(C) of the Model Law allows stablecoin issuers to use any or a combination of these redemption protections, subject to rebuttal by the Supervisory Agency.

Other than by making stablecoins the equivalent of insured deposits, these redemption protections could be expensive and difficult to implement. Collateralizing the redemption obligation would be "expensive and inefficient because all of the value that is backing the cryptocurrency needs to be liquid."[195] Maintaining reserves against the redemption obligation also could be costly. Some recommend, for example, that stablecoin issuers "should hold 100% reserves in high quality, liquid assets—like U.S. treasuries or cash at the Federal Reserve—against their [redemption] liabilities, plus an additional capital cushion against operational losses, asset price declines, or a run."[196] However, holding 100% reserves for Tether, a U.S. dollar-backed stablecoin,[197] required $19 billion cash and short-term securities.[198] Apparently to reduce this cost, Tether put "a significant

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192. *See infra* notes 242–247 and accompanying text.

193. *Cf.* Mario Bellia & Sebastian Schich, What Makes Private Stablecoins Stable? (Oct. 26, 2020) (unpublished manuscript), https://ssrn.com/abstract=3718954 [https://perma.cc/N76M-AHM4]) (arguing that nongovernment issued stablecoins can have stable value by being collateralized by fiat currency).

194. Facebook's Libra Dollars, now Diem, are expected to be backed by a managed reserve of U.S. dollars, its reference asset. *See* Libra Ass'n Members, *supra* note 12, at 12 (noting that the Libra reserve will consist of eighty percent short-term, low-credit risk government securities and twenty percent cash). Libra also claims that the Libra reserve "will be further endowed with a capital buffer." *Id.* at 12–13.

195. Craig Calcaterra, Wulf A. Kaal & Vadhindran Rao, *Stable Cryptocurrencies: First Order Principles*, 3 STAN. J. BLOCKCHAIN L. & POL'Y 62, 64 (2020), https://stanford-jblp.pubpub.org/pub/stable-cryptocurencies-principles/release/1 [https://perma.cc/GTM5-2KRG].

196. Catalini & Massari, *supra* note 15.

197. Although the "market capitalization" of Tether and other currently used stablecoins (e.g., Pax Dollars, Gemini Dollars) "exceeded $127 billion as of October 2021," those stablecoins are not yet being regularly used as a digital currency. FIN. STABILITY OVERSIGHT COUNCIL, 2021 ANNUAL REPORT § 3.6.2.1, at 123 (2021), https://home.treasury.gov/system/files/261/FSOC2021AnnualReport.pdf [https://perma.cc/2DKS-8WHD] [hereinafter FSOC ANNUAL REPORT]. Rather, as of December 17, 2021, they "are predominantly used in the United States [only] to facilitate trading, lending, and borrowing of other digital assets." *Id.*

198. Sam Bourgi, *Tether's Market Cap Is Growing at a Near-Record Pace*, COINTELEGRAPH (Nov. 27, 2020), https://cointelegraph.com/news/tether-s-market-cap-is-growing-at-a-near-record-pace [https://perma.cc/XQT5-FB3F]. This Article later proposes a public-private partnership to help protect against the risk that a widely used global stablecoin undermines the ability of a government to use its currency to affect monetary, and thus economic, policy, as well as to help

portion of its reserves . . . in unsecured corporate debt known as commercial paper," which is "riskier and harder to quickly convert into cash, especially during financial turmoil."[199] As a result, Tether was barely able to weather a recent redemption run.[200]

Fed Vice Chair for Supervision Randal Quarles also has expressed several concerns about holding reserves against the redemption obligation: that stablecoin issuers may hold their reserves in various currencies, creating exchange risk; that (especially for managed reserves) their claims to the reserve assets may be fractional; and that the reserve assets may not be "the most liquid possible."[201] Whether it would be feasible to hedge the redemption risk with derivatives or other guarantees would depend on market factors; in another context, for example, the derivatives market was not deep enough to provide a sufficient hedge for an affordable price.[202]

Section 4.02 of the Model Law adds supervisory provisions to protect financial stability. Among other things, it requires the Supervisory Agency to monitor, supervise, and regulate against any potential systemic impacts or monetary policy implications regarding stablecoins or any persons issuing or trading stablecoins or otherwise engaging in any stablecoin-related services or other activities.[203] Also, any other government regulation intended to protect financial stability

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protect against adverse confidence effects and should also help to protect against the redemption risk. *See infra* notes 245–248 and accompanying text.

199. David Yaffe-Bellany, *The Coin That Could Wreck Crypto*, N.Y. TIMES (June 17, 2022), https://www.nytimes.com/2022/06/17/technology/tether-stablecoin-cryptocurrency.html [https://perma.cc/RLE8-VVQN]. Tether now says that its reserves also include precious metals and digital tokens. Vicky Ge Huang, *More Hedge Funds Are Betting Against Tether as Crypto Melts Down*, WALL ST. J. (June 27, 2022, 5:30 AM), www.wsj.com/articles/more-hedge-funds-are-betting-against-tether-as-crypto-melts-down-11656322200 [https://perma.cc/UG7L-B4AP].

200. Yaffe-Bellany, *supra* note 199 (reporting that in May 2022, as "cryptocurrencies plummeted, a flood of investors asked to exchange their Tethers for dollars, forcing the company to pay out about an eighth of its reserves . . . over the course of a week and a half." Although Tether ultimately "met the demand," Treasury Secretary Janet Yellen and a "top U.S. banking official called for new rules governing Tether and its competitors, saying the TerraUSD crash highlighted the risks of loosely regulated stablecoins").

201. Randal K. Quarles, Vice Chair for Supervision, Fed. Rsrv. Bd., Remarks at the 113th Annual Utah Bankers Association Convention: Parachute Pants and Central Bank Money 8 (June 28, 2021), https://www.federalreserve.gov/newsevents/speech/files/quarles20210628a.pdf [https://perma.cc/9DCW-VKMN].

202. *See* Steven L. Schwarcz, *Enron and the Use and Abuse of Special Purpose Entities in Corporate Structures*, 70 U. CIN. L. REV. 1309, 1310 (2002) ("Where the value of Enron's investment and Enron's stock price simultaneously fell, the SPE would lack sufficient assets to perform its hedge."). Failing to find an affordable hedge in the derivatives market, Enron hedged the value of its "merchant assets" through structured finance, which through an unexpected confluence of falls in market value led to its default. Enron created "independent" SPVs, capitalized with Enron publicly traded stock, to guarantee (i.e., hedge) the value of its merchant assets; but Enron did not anticipate a concurrent collapse of both the merchant-asset values and its stock value. *See id.*

203. *See supra* note 147 and accompanying text.

would supplement section 4.02's protections. In the United States, for example, the Financial Stability Oversight Council ("FSOC") is tasked with overseeing financial stability by coordinating with various other agencies and addressing systemic risk.[204] Among its responsibilities, the FSOC "designate[s] certain nonbank entities as systemically important financial institutions (SIFIs), subjecting these SIFIs to enhanced prudential oversight by the Federal Reserve."[205] Section 4.02 would permit the FSOC to designate a stablecoin issuer as a SIFI, thereby subjecting it to enhanced prudential oversight by the Federal Reserve in addition to any monitoring, supervision, and regulation imposed on that issuer by the Supervisory Agency.[206]

To additionally protect financial stability, central banks could provide emergency short-term liquidity to stablecoin issuers to help ensure the timely performance of their redemption obligations and to mitigate the adverse confidence effects of a "run," in which many stablecoin holders attempt to exercise redemption rights in a short period of time.[207] This would somewhat parallel the short-term liquidity funding often provided by central banks to deposit-taking banks,[208] to "provide liquidity at moments of need" and "maintain their targeted

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204. George W. Madison, Michael E. Borden & David A. Miller, *FSOC Designation Treasury Report: A Fundamental Shift*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Feb. 4, 2018), https://corpgov.law.harvard.edu/2018/02/04/fsoc-designation-treasury-report-a-fundamental-shift/ [https://perma.cc/C6FZ-764D]; *see also About FSOC*, U.S. DEP'T OF THE TREASURY, https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/fsoc/about-fsoc (last visited Aug. 18, 2022) [https://perma.cc/2R9C-8RUG] (describing the FSOC's function and how it helps maintain the United States' financial stability).

205. Madison et al., *supra* note 204.

206. *Cf.* Andrew Ackerman & Anna Maria Andriotis, *Biden Administration Seeks to Regulate Stablecoin Issuers as Banks*, WALL ST. J. (Oct. 1, 2021), www.wsj.com/articles/biden-administration-seeks-to-regulate-stablecoin-issuers-as-banks-11633103156 [https://perma.cc/53BB-H2HP] (reporting that the U.S. Treasury is discussing whether the FSOC should "designate stablecoin activities as systemically important," which "could ultimately lead to the Federal Reserve writing more-stringent risk-management standards for" stablecoin issuers). In its recent annual report, the FSOC recommended that U.S. regulators adopt a "comprehensive regulatory framework" for stablecoins and other digital assets. FSOC ANNUAL REPORT *supra* note 197 at 173–74.

207. *Cf. supra* note 187 and accompanying text (discussing how that run resembles a bank run); *infra* note 229 and accompanying text (discussing central bank liquidity to protect against adverse confidence effects).

208. Primary liquidity advances made by the Fed have ninety-day maturities, see, for example, *The Primary & Secondary Lending Programs*, FED. RSRV., https:// www.frbdiscountwindow.org/ Pages/General-Information/Primary-and-Secondary-Lending-Programs.aspx (last visited Aug. 19, 2022) [https://perma.cc/QF3V-67ZK].

reserve requirements"[209] as well as to discourage bank runs.[210] That funding reflects the traditional role of central banks "in supporting the liquidity and stability of the banking system and the effective implementation of monetary policy."[211] It "helps depository institutions manage their liquidity risks efficiently and avoid actions that have negative consequences for their customers, such as withdrawing credit during times of market stress."[212]

In order to access central bank liquidity funding, central banks typically require borrowers to provide adequate collateral. This requirement reflects the widespread view that central banks should support solvent but temporarily illiquid banks, thereby taking no credit risk (and thus not imposing a cost on taxpayers).[213] The collateral ensures repayment in the event the borrower is not merely illiquid but also turns out to be insolvent. It also should reduce the risk of moral hazard.[214] Section 2.04 of the Model Law creates a similar short-term secured liquidity facility for stablecoin issuers. It requires that all collateral must be acceptable to the Supervisory Agency and the central bank.[215]

209. Julia Kagan, *Lending Facility*, INVESTOPEDIA, https://www.investopedia.com/terms/l/lending-facility.asp (last updated Dec. 31, 2020) [https://perma.cc/BX25-577Y]. The Federal Reserve, for example, may extend credit to banks under certain emergency circumstances. 12 U.S.C. § 343(3)(A).

210. *See* Chris B. Murphy, *Definition of Liquidity Coverage Ratio*, INVESTOPEDIA, https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (last updated June 20, 2022) [https://perma.cc/E9A2-6T8V] ("The liquidity coverage ratio (LCR) refers to the proportion of highly liquid assets held by financial institutions, to ensure their ongoing ability to meet short-term obligations.").

211. *The Discount Window*, FED. RSRV., https://www.frbdiscountwindow.org/pages/general-information/the%20discount%20window#introduction (last updated Dec. 14, 2021) [https://perma.cc/7KFB-WJ6F].

212. *Id.* (observing that "[p]roviding liquidity in this way is one of the original purposes of the Federal Reserve System and other central banks around the world").

213. *Cf.* Joao A.C. Santos & Stavros Peristiani, *Why Do Central Banks Have Discount Windows?*, FED. RSRV. BANK OF N.Y. (Mar. 30, 2011), https://libertystreeteconomics.newyorkfed.org/2011/03/why-do-central-banks-have-discount-windows/ [https://perma.cc/5BJJ-2AQW] (observing that the dictum "that central banks should lend only to illiquid but solvent banks, has been challenged" because of a debate over whether "central bankers are . . . better equipped to distinguish illiquid but solvent banks than are private investors," but noting that the Fed "should lend freely but at a high rate . . . to any borrower with good collateral").

214. *Cf.* David Rowell & Luke B. Connelly, *A History of the Term "Moral Hazard,"* 79 J. RISK & INS. 1051 (2012) (discussing moral hazard in the context of whether to issue government stablecoin insurance); Jakob Vestergaard & Daniela Gabor, *Should Central Bank Liquidity Provision Be a Vehicle for Fiscal Discipline?*, INST. FOR NEW ECON. THINKING (Dec. 8, 2021), https://www.ineteconomics.org/perspectives/blog/should-central-bank-liquidity-provision-be-a-vehicle-for-fiscal-discipline [https://perma.cc/P82P-STWM] (discussing the moral hazard risk of extending central bank liquidity).

215. *Cf. Pledging Collateral*, FED. RSRV., https:// www.frbdiscountwindow.org/rightnavpages/pledging-collateral (last modified Dec. 14, 2021) [https://perma.cc/YL7E-DRBL] (requiring Fed discount-window advances to "be secured by collateral acceptable to the Reserve

The Model Law also allows the Supervisory Agency to protect financial stability by imposing capital requirements or ring-fencing measures on persons that issue or trade stablecoins or otherwise engage in any stablecoin-related services or other activities.[216] Capital requirements effectively require firms to maintain certain levels of equity that are designed to buffer them against a financial crisis by absorbing losses.[217] The Basel Committee on Banking Supervision[218] appears to be considering a similar approach to regulate cryptocurrency issuers.[219] Ring-fencing requirements are designed primarily to protect firms against becoming subject to liabilities.[220] In the context of a public utility, for example, it could mean operating the utility as a "bankruptcy-remote" subsidiary of its holding company[221] and mandating that all transactions between the utility and its affiliates occur at arm's length,[222] thereby insulating the utility from the adverse effects of bankruptcy or risky investments of the parent company. In the context of banking, ring-fencing means limiting a bank's ability to engage in risky behavior.[223] In a stablecoin context, ring-fencing might include similar requirements. It might also focus on lowering the risk of cyberattacks by separating, for example, stablecoin issuers from affiliates or parent companies engaging in other activities, thereby

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Bank," including government securities, collateralized mortgage obligations, asset-backed securities, corporate bonds, etc.).

216. *Infra* app. § 4.02. As mentioned, these requirements would not limit other prudential requirements that governments impose on systemically important persons involved with those services or activities. *See supra* notes 205–206 and accompanying text; *see also infra* app. § 4.02(C).

217. Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L. REV. 193, 210 (2008) ("[C]apital adequacy requires banks to hold minimum levels of capital, a requirement intended to limit excessive risk taking and buffer against financial crisis."); *What Is the Difference Between a Bank's Liquidity and Its Capital?*, BD. OF GOVERNORS OF FED. RSRV. SYS. https://www.federalreserve.gov/faqs/cat_21427.htm#:~:text=Liquidity%20is%20a%20measure%20of,banks%20have%20to%20absorb%20losses (last modified Dec. 31, 2019) [https://perma.cc/4CXA-DC5J] ("Capital is the difference between all of a firm's assets and its liabilities. Capital acts as a financial cushion to absorb losses.").

218. *See supra* note 20 and accompanying text (describing that Committee).

219. *See* Huw Jones & Tom Wilson, *Bank Regulators Plot Toughest Capital Rule for Bitcoin*, REUTERS (June 10, 2021, 3:09 PM), https://www.reuters.com/business/bank-regulators-plan-conservative-capital-rule-bitcoin-2021-06-10/ [https://perma.cc/AY5B-C6XL] (describing the Basel Committee's proposed approach to capital requirements for cryptocurrency, which specified that stablecoins would be treated similarly to deposits).

220. Steven L. Schwarcz, *Ring-Fencing*, 87 S. CAL. L. REV. 69, 81–82 (2013) ("[R]ing-fencing has at least four uses: to protect a firm from becoming subject to liabilities and other risks associated with bankruptcy; to help ensure that a firm is able to operate on a standalone basis even if its affiliated firms fail; to protect a firm from being taken advantage of by affiliated firms, thereby preserving the firm's business and assets; and to limit a firm from engaging in risky activities.").

221. *Id.* at 76.

222. *Id.* at 77.

223. *Id.* at 78.

narrowing the breadth of data available to cyberattackers.[224] Ring-fencing also could help to protect redemption rights. For example, creating a bankruptcy-remote legal entity for funds related to stablecoin issuance could protect those funds and, therefore, holders' redemption rights from the issuer's creditors.[225]

Stablecoins also could threaten financial stability in more subtle, though still significant, ways. For example, the failure or even financial distress of a financial institution that "acts as reseller/market-maker of" a widely used stablecoin could undermine confidence in the value of that stablecoin or its operational continuity.[226] The loss in value of a stablecoin also "might expose the financial institutions [holding large amounts of that stablecoin] to adverse confidence effects."[227] A similar adverse confidence effect, caused by the collapse in value of mortgage-backed securities, triggered Lehman Brothers' failure, which in turn precipitated the 2008 global financial crisis.[228] Regulation could help to protect against adverse confidence effects by authorizing systemically important stablecoin issuers to gain access to central bank liquidity, much as central banks provide liquidity to domestic banks

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224. As stablecoin issuers become more competitive, that aspect of ring-fencing may become less important. In a competitive market, if cyberattacks drive up the cost of services for one stablecoin issuer, other issuers with stronger security measures, and thus lower costs, could serve as substitutes. *Cf. id.* at 109 (arguing that it is less certain for ring-fencing to be beneficial in banking than in public utilities because the banking market is more competitive, and therefore banks could substitute for others that become unable to provide services due to risky behavior).

225. *Cf.* Dan Awrey & Kristin van Zwieten, *The Shadow Payment System*, 43 J. CORP. L. 775, 815 (2018) (describing how ring-fencing could protect customer funds for companies offering electronic payment systems); Catalini & Massari, *supra* note 15 (suggesting that it might be prudent to "isolate reserve assets from their other assets, so that in insolvency or bankruptcy [of the stablecoin issuer], coin holders can be prioritized over other creditors"). But creating a bankruptcy-remote legal entity for funds related to stablecoin issuance might limit the ability of stablecoin issuers to use proceeds from securities issuances to fund lending activities, thereby inadvertently increasing disintermediation. *See infra* notes 231–233 and accompanying text; Awrey & van Zwieten, *supra*, at 816 ("[T]he ring-fencing of customer funds envisioned by structural separation necessarily limits the ability of institutions to engage in other socially useful forms of financial intermediation.").

226. FSB STABLECOIN REPORT, *supra* note 8, at 13.

227. *Id.*

228. Steven L. Schwarcz, *Central Clearing of Financial Contracts: Theory and Regulatory Implications*, 167 U. PA. L. REV. 1327, 1340–41 (2019) (discussing how the fear of counterparty risk led to Lehman's failure). Lehman's bankruptcy triggered the financial crisis, causing "securities markets to panic," which "accelerated the death spiral, causing financial firms holding mortgage-backed securities to appear, if not be, more financially risky; requiring highly leveraged firms to engage in fire-sales of assets (thereby exacerbating the fall in prices); and shutting off credit markets, which impacted the real economy." Steven L. Schwarcz, *Controlling Financial Chaos: The Power and Limits of Law*, 2012 WIS. L. REV. 815, 817; *cf.* Viral Acharya, Thomas Philippon, Matthew Richardson & Nouriel Roubini, *The Financial Crisis of 2007-2009: Causes and Remedies*, 18 FIN. MKTS. INSTS. & INSTRUMENTS 89, 93 (2009) (stating that Lehman's bankruptcy "led to the near collapse of the financial system").

within their reserve system.[229] As discussed,[230] section 2.04 of the Model Law authorizes this access to liquidity.

The widespread use of stablecoins additionally could threaten financial stability by significantly reducing bank deposits—thereby causing commercial banks to rely on more expensive sources of funding, in turn increasing the cost of business loans.[231] This so-called "disintermediation"[232] is especially likely to occur in countries whose fiat currencies are less stable than accessible stablecoins.[233] Regulators could help to protect against disintermediation by limiting stablecoin issuance to banks and classifying monies received from stablecoin purchasers as "deposits."[234] Limiting issuance to banks, which section 2.01(a) of the Model Law contemplates, would help maintain the relationship between customers and banks and, more importantly, dissuade the transfer of capital from bank accounts to nonbank

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229. *See* Tobias Adrian & Tommaso Mancini-Griffoli, *The Rise of Digital Money*, INT'L MONETARY FUND 14–15 (July 15, 2009), https://www.imf.org/-/media/Files/Publications/FTN063/2019/English/FTNEA2019001.ashx [https://perma.cc/FAM5-ZHWK].

230. *See supra* notes 207–215 and accompanying text.

231. Alexander Kriwoluzky & Chi Hyun Kim, *Public or Private? The Future of Money*, EUR. PARLIAMENT 15 (Dec. 2019), https://www.europarl.europa.eu/cmsdata/207653/13.%20PE%20642.356%20DIW%20final%20publication-original.pdf [https://perma.cc/2E27-4GRZ].

232. *See, e.g.*, Nitin Gaur, *Blockchain – A Platform for Disintermediation*, INFOCAST, https://infocastinc.com/market-insights/technology/blockchain-a-platform-for-disintermediation/#:~:text=Disintermediation%20is%20defined%20as%20reduction,rather%20than%20through%20a%20bank (last visited Oct. 24, 2022) [https://perma.cc/D7PB-M2B2] (defining "disintermediation" as "reduction in the use of intermediaries between producers and consumers, for example by investing directly in the securities market rather than through a bank").

233. *Id.* Stablecoin-motivated disintermediation could cause a secondary externality if a stablecoin issuer is required to invest in safe assets to collateralize its redemption obligation. That could increase the demand for—and thus the price of—those safe assets, which the country's banks might be required to hold. Katrin Assenmacher, *Monetary Policy Implications of Digital Currencies*, SOCIÉTÉ UNIVERSITAIRE EUROPÉENNE DE RECHERCHES FINANCIÈRE 5 (May 2020), https://www.suerf.org/docx/f_ec9b954aefd15bc4fffe92f5683d1dd2_13537_suerf.pdf [https://perma.cc/DL8Z-8B4T]. That in turn would increase bank costs, thereby potentially increasing interest rates. Fabio Panetta, Member of the Exec. Bd. of the Eur. Cent. Bank, Speech at Il Salone dei Pagamenti: The Two Sides of the (Stable)coin (Nov. 2020), https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp201104~7908460f0d.en.html [https://perma.cc/B37W-ZNBT]. Increased interest rates would increase the cost of capital, which could reduce economic activity. ECB Crypto-Assets Task Force, *Stablecoins: Implications for Monetary Policy, Financial Stability, Market Infrastructure and Payments, and Banking Supervision in the Euro Area*, EUR. CENT. BANK 20 (Sept. 2020), https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op247~fe3df92991.en.pdf [https://perma.cc/72B8-EGRP].

234. *Cf.* Stablecoin Classification and Regulation Act of 2020, H.R. 8827, 116th Cong. §§ 3(a)(5), 3(aa)(2)(D)(i), 52(a)(1) (2020) (proposing similar changes by adding "stablecoins issued by such bank or savings association" to the definition of the term "deposit" in the Federal Deposit Insurance Act (12 U.S.C. § 1813) and amending § 1811 of that Act to limit stablecoin issuance to "insured depository institution[s] that [are] [ ] member[s] of the Federal Reserve System").

stablecoin issuers, thus preserving banks' supply of lendable funds.[235] Further, by classifying monies received from selling stablecoins as "deposits," regulators could utilize reserve requirements to influence interest rates, similar to how some central banks already have the ability to change reserve requirements to influence the supply of funds for lending.[236] Alternatively, if disintermediation occurs, regulators could take steps to alleviate its effects, such as by encouraging the emergence of other platforms to support low-cost business lending. "Unbundled" FinTech firms that specialize in lending—without engaging in other banking-related activities—are likely to gain market share from traditional banks because of lower overhead costs and technological advantages.[237] Nonbank lending alternatives raise issues

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235. *Cf.* Tomasso Mancini-Griffoli, Maria Soledad Martinez Peria, Itai Agur, Anil Ari, John Kiff, Adina Popescu & Celine Rochon, *IMF Staff Discussion Note*: *Casting Light on Central Bank Digital Currency*, INT'L MONETARY FUND 24 (Nov. 2018), https://www.imf.org/-/media/Files/Publications/SDN/2018/SDN1808.ashx [https://perma.cc/6HEP-85BP] (suggesting that regulators could address disintermediation related to CBDCs by allowing banks to offer wallets for consumers to store their cryptocurrency).

236. For example, the U.S. Federal Reserve determines the percentage of the amounts on deposit that banks must hold as reserves to reduce the risk that a bank could fail to meet the demands of a run. Will Kenton, *Reserve Ratios Definition*, INVESTOPEDIA, https://www.investopedia.com/terms/r/reserveratio.asp (last updated Jan. 17, 2022) [https://perma.cc/DW36-U6AE]. Such reserve requirements recognize that deposits are loans by customers (aka depositors) to their bank, creating, effectively, short-term liabilities of the bank to repay those loans on demand. *See id*. The logic of classifying monies received from selling stablecoins as deposits is that the stablecoin redemption requirements similarly create, effectively, short-term liabilities of the bank to redeem those stablecoins on demand. *See* Charles W. Calomiris, *Chartering the FinTech Future*, 42 CATO J. 1, 20 (2021) (arguing that stablecoin-issuing banks could protect against this redemption risk by maintaining lines of credit covering any shortfall—adjusted by the amount of expected future fees—in the amount of cash on hand); *see also* Gorton & Zhang, *supra* note 126, at 11 (arguing that many stablecoins are deposits because redemption rights effectively make holders creditors of the issuer). By increasing or decreasing the reserve requirements—whether those requirements apply to ordinary deposits or to stablecoin-sale proceeds that are classified as deposits—the Federal Reserve could contract or expand the supply of funds that banks have available to lend. Kenton, *supra*.

237. *See* Calomiris, *supra* note 236, at 390 ("Unbundled FinTech enterprises that can customize loan portfolios to meet the specific preferences of loan funders, that can take advantage of state-of-the-art information processing when screening and monitoring borrowers, and that can avoid the physical costs of maintaining branch networks, will increasingly win the competitive struggle to serve customers.").

generally associated with "shadow banking,"[238] which are beyond this Article's scope.[239]

Finally, because central banks exercise monetary policy to help preserve financial stability,[240] a widely used stablecoin could at least indirectly affect that stability by reducing the amount of currency over which a government could exercise that policy.[241] This would be especially likely to occur in countries whose fiat currencies are less stable than accessible stablecoins.[242] Governments could begin to address that problem by conditioning stablecoin use in their jurisdictions on the stablecoin issuer allowing the government to control the issuance of new stablecoins or otherwise controlling stablecoin usage.[243] Section 2.05 of the Model Law gives the Supervisory Agency that authority.

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238. *See* Saule T. Omarova, *Dealing with Disruption: Emerging Approaches to Fintech Regulation*, 61 WASH. U. J.L. & POL'Y 25, 47–48 (2020) (observing that regulation should attempt to balance the costs and benefits to FinTech firms in order to attract competition, and arguing that "a 'successful' fintech chartering strategy—or a strategy that would attract a large number of applicants—may require significant loosening of the applicable regulatory and supervisory conditions"); Steven L. Schwarcz, *Regulating Shadow Banking*, 31 REV. BANKING & FIN. L. 619 (2012) (defining shadow banking and discussing its associated regulatory issues). The shadow banking market was estimated at $50.2 billion globally in 2020 and is expected to grow to $72.5 billion by 2027. *Global Shadow Banking Industry (2020 to 2027)—Key Market Trends and Drivers—ResearchAndMarkets.com*, BUSINESSWIRE (Feb. 16, 2021, 8:21 AM), https://www.businesswire.com/news/home/20210216005747/en/Global-Shadow-Banking-Industry-2020-to-2027—-Key-Market-Trends-and-Drivers—-ResearchAndMarkets.com [https://perma.cc/6Z76-P9WJ].

239. These issues go beyond regulation and include the ability of FinTech firms to gain informational advantages over traditional banks. Professor Brunnermeier suggests, for example, that if big tech companies, such as Amazon and Alibaba, are allowed to issue stablecoins, they can glean even more consumer data and then use that data to their competitive advantage. Brunnermeier et al., *supra* note 102, at 13–14. Banks, for example, may be forced to purchase that data in order to assess borrowers' creditworthiness. *Id.* at 16.

240. *See, e.g.*, Alan S. Blinder, *How Central Should the Central Bank Be?*, 48 J. ECON. LITERATURE 123, 124 (2010) (discussing how central banks conduct monetary policy to preserve financial stability); *cf.* Scott A. Wolla, *A New Frontier: Monetary Policy with Ample Reserves*, PAGE ONE ECON. 1–2 (May 2019) https://files.stlouisfed.org/files/htdocs/publications/page1-econ/2019/05/03/a-new-frontier-monetary-policy-with-ample-reserves_SE.pdf [https://perma.cc/A9MA-PSBF] (discussing how the Federal Reserve affects monetary policy by conducting open market operations to manage the money supply); John W. Bagby, David Reitter & Philip Chwistek, *An Emerging Political Economy of the Blockchain: Enhancing Regulatory Opportunities*, 88 UMKC L. REV. 419, 441 (2019) (discussing the monetary policy goals of controlling inflation and maintaining stability and public trust in the economy).

241. COMM. ON PAYMENT & MKT. INFRASTRUCTURES, *supra* note 17, at 15. For example, the Fed's ability to control domestic monetary policy could be impaired if a widely used stablecoin tied to the euro became dominant in U.S. domestic transactions. *See id.*

242. Foster et al., *supra* note 136, at 15.

243. The international supervisory agency discussed in *infra* notes 252–260 and accompanying text might be helpful in minimizing possible collective action problems among nations regarding cross-border stablecoin issuance and usage. *Cf.* Wolfgang Munchau, *Europe Needs to Solve Its Collective Action Problem*, FIN. TIMES (Oct. 27, 2019), https://www.ft.com/content/0d5126aa-f72a-

The Supervisory Agency could exercise that authority in a way that is mutually beneficial to the government and the private sector. Section 2.05(B) of the Model Law contemplates the possible creation, for example, of a public-private partnership that delegates control over the issuance of new stablecoins and stablecoin usage to the government.[244] In return, the government might consider guaranteeing the issuer's ability to redeem its stablecoins, greatly reducing the issuer's cost of collateralizing or otherwise insuring its redemption obligation by effectively making the stablecoins insured deposits.[245] In the U.S. domestic context, for example, the FDIC might consider issuing stablecoin insurance,[246] much like traditional deposit insurance, for a fee.[247] There are numerous precedents for public-private risk-sharing in order to facilitate socially important projects.[248] Nonetheless, in order to balance innovation with financial stability, the Supervisory Agency should exercise its authority under section 2.05(B) in close cooperation

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11e9-9ef3-eca8fc8f2d65 [https://perma.cc/ZP7B-EQYC] (discussing collective action problems when one country acts in self-interest to the detriment of others relying on it).

244. *Cf.* Victoria Guida, *Treasury, Fed Fear 'Stablecoins' Could Disrupt Financial System*, POLITICO (Sept. 20, 2021), https://www.politico.com/news/2021/09/20/stablecoin-cryptocurrency-regulation-513209 [https://perma.cc/XHF3-KSRB] (observing that the Fed is considering an approach in which stablecoin issuers would "be given accounts where they can deposit reserves directly at the Fed," which could "give the Fed more regulatory control over these stablecoins").

245. *Cf.* Bellia & Schich, *supra* note 193 and accompanying text (exempting stablecoins that are insured deposits from collateral requirements). Governments could affect monetary policy, such as policies that promote market stability, indirectly by setting general requirements that private stablecoin issuers must meet.

246. In considering whether to issue stablecoin insurance, a deposit-insuring government agency should consider, among other factors (including politics), whether the benefits of doing so would be likely to outweigh the potential downsides, which like any other insurance could include moral hazard—the "loss-increasing behavior that arises under insurance." Rowell & Connelly, *supra* note 214, at 1051. Moral Hazard can arise, for example, when an insured party engages in risky behavior or fails to take precautions because it knows that any loss will be covered by the insurance. *See id.*

247. *Cf.* Joanna Ossinger, *Rise of Crypto Market's Quiet Giants Has Big Market Implications*, BLOOMBERG (Mar. 19, 2021, 9:40 AM), https://www.bloomberg.com/news/articles/2021-03-19/rise-of-crypto-market-s-quiet-giants-has-big-market-implications [https://perma.cc/GW8G-D3XS] ("Holders could be vulnerable to losses, since stablecoins aren't considered deposits—meaning they may not be required to be insured by the kind of deposit guarantee like the U.S. Federal Deposit Insurance Corp. provides . . . .").

248. In the United States, for instance, the CARES Act's Main Street Lending Program contemplates private-sector lending, on otherwise commercially reasonable terms, to eligible small and medium-sized business enterprises ("SMEs") that would be viable but for the COVID-19 pandemic. Coronavirus Aid, Relief, and Economic Security Act, 15 U.S.C. §§ 9041-42. The private-sector lender and the government share loan losses *pari passu*, according to their relevant percentages. *Main Street Lending Program: For-Profit Businesses Frequently Asked Questions*, FED. RSRV. BANK OF BOS. 13, 15–17 (2020), https://www.federalreserve.gov/monetarypolicy/mainstreetlending.htm#term-sheet [https://perma.cc/Z4SN-6FH4]. Similarly, the Price-Anderson Act represents government risk-sharing in order to facilitate nuclear energy development. *See, e.g.*, Michael G. Faure & Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, 33 WM. & MARY ENV'T L. & POL'Y REV. 220, 220–21 (2008).

with stablecoin issuers and, as it deems appropriate, any other relevant private-sector market participants.

E. Supervising Stablecoins

Next, this Article will consider who should supervise (and administer) stablecoins and how the G7 finance ministers and central bank governors suggest that global stablecoins "should be appropriately supervised and regulated to address" the challenges and risks discussed.[249]

Currently, there is something akin to anarchy. Many stablecoin ventures "are operated through a loose network of entities and dispersed ownership and control structures" where "there is no [central governmental] entity responsible for the governance of the [stablecoin] arrangement."[250] The situation becomes even worse for stablecoins used internationally, potentially requiring ad hoc agreements, such as memorandums of understanding, to "help support cooperation and coordination."[251]

This Article proposes centralized supervision, both at national and international levels. To that end, section 4.01 of the Model Law gives the Supervisory Agency general regulatory authority over the matters covered by the Law. Section 4.01 also requires the Supervisory Agency to work with the legislating nation's central bank to promulgate rules and regulations and otherwise carry out the provisions of the Model Law. Section 4.03 of the Model Law contemplates that these rules and regulations would be issued within a year after the Model Law becomes effective as national law of the legislating nation and that additional rules and regulations would be issued from time to time thereafter as appropriate.

Although the Model Law contemplates that the Supervisory Agency will be an agency of the legislating nation,[252] ideally there also should be a centralized international supervisory agency because stablecoins can threaten international monetary and financial stability.[253] This reflects the internalization principle: that regulatory responsibilities should generally be assigned to the unit of government that can best internalize, or at least is best positioned to analyze how

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249. *G7/Central Bank Statement*, *supra* note 85.

250. FSB Stablecoin Report, *supra* note 8, at 25.

251. *Id.*

252. Even on a national level, the identity of the Supervisory Agency could influence its institutional priorities. If, for example, the Supervisory Agency is an existing agency that traditionally is responsible for monetary policy, it might give less emphasis to consumer protection.

253. *See supra* Part II.D.

to internalize, the full costs of the underlying regulated activity.[254] A multigovernmental organization could best internalize—or at least, should be best positioned to analyze how to internalize—the risks that the cross-border use of stablecoins could pose to international monetary and financial stability.[255]

Although political considerations likely will influence the makeup and agenda of any international supervisory agency, such an agency might be modeled, for example, on the FATF, the intergovernmental body that produces best-practice recommendations and international standards for combating money laundering, terrorist financing, and other related threats to the integrity of the international financial system.[256] By focusing on setting best practices and standards for global stablecoins, an intergovernmental body could set international supervisory goals while recognizing, and respecting the sovereign authority of, the national supervisory agencies.

Besides analyzing how best to internalize the risks that the cross-border use of stablecoins could pose to international monetary and financial stability,[257] the international supervisory agency should have another role: to coordinate cross-border regulation with the supervisory agencies of the legislating nations. This role would further respond to the FSB's goal of "supervis[ing] and oversee[ing] stablecoin arrangements holistically, rather than in a piecemeal fashion based on individual functions and activities."[258] To that end, individual supervisory agencies of the legislating nations could function as what the FSB calls "lead overseer[s]," whose "objective . . . [should be] to gain sufficient knowledge of the [stablecoin's] operations . . . as a whole so as to monitor and assess risks and vulnerabilities."[259] The international supervisory agency then could share that knowledge, and coordinate monitoring and risk-assessment, among all of the supervisory agencies

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254. *Cf.* Daniel Schwarcz & Steven L. Schwarcz, *Regulating Systemic Risk in Insurance*, 81 U. CHI. L. REV. 1569, 1628–30 (2014) (discussing the internalization principle in the context of regulating systemic risk from insurance activities). "The rationale for this principle is that government entities will have optimal incentives to take into account the full costs and benefits of their regulatory decisions only if the impacts of those decisions are felt entirely within their jurisdictions." *Id.* at 1628. National regulation of activities that produce negative externalities internationally "will generally lead to underregulation of those activities." *See id.* (making the same proposition regarding state-level regulation of activities producing negative externalities nationally).

255. *See id.*

256. *See supra* notes 151–153 and accompanying text; *cf. Who We Are*, FIN. ACTION TASK FORCE, https://www.fatf-gafi.org/about/whoweare/ [https://perma.cc/K5Q5-C5ZL] (explaining the FATF's standards-setting aims).

257. *See supra* notes 253–254 and accompanying text.

258. FSB STABLECOIN REPORT, *supra* note 8, at 24.

259. *Id.*

involved with the stablecoin.[260] That role would become especially important if several stablecoins become widely used in multiple jurisdictions. Section 4.04 of the Model Law addresses this type of cross-border cooperative role.

Supervisory authority implicitly must carry enforcement powers, otherwise the supervised entities may fail to comply.[261] The Model Law authorizes the Supervisory Agency to penalize parties for noncompliance.[262] Such noncompliance would include a determination by the Supervisory Agency, at any time, that a stablecoin issuer lacks the ability—required by section 3.01 of the Model Law[263]—to redeem all outstanding stablecoins, upon demand, for their reference assets at the relevant redemption value.[264]

The penalties for noncompliance not only include revocation of rights granted under the Model Law[265] but also, in egregious cases,[266] the revocation of a person's banking or other government-conferred charters.[267] Furthermore, the penalties for noncompliance include a floating monetary penalty based on the violator's ability to pay.[268] There is precedent for this type of monetary penalty,[269] which is designed to

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260. *Cf. id.* (suggesting a similar procedure).

261. *See, e.g.*, *Effective Supervision and Enforcement by AML/CFT Supervisors of the Financial Sector and Law Enforcement*, FIN. ACTION TASK FORCE 35 (Oct. 2015), https://www.fatf-gafi.org/media/fatf/documents/reports/RBA-Effective-supervision-and-enforcement.pdf [https://perma.cc/F4KN-MNUY] (finding that prohibiting activity is an insufficient to deter the activity; proper regulation relies on effective enforcement).

262. *See infra* app. § 5.01 of the Model Law (giving the Supervisory Agency discretion to penalize any person for violating the provisions of the Model Law or of any rules or regulations promulgated thereunder).

263. Section 3.01 provides that "(i) any person issuing stablecoins shall be obligated to redeem, promptly on demand by holders of such stablecoins, any such stablecoins so tendered for redemption," and that "(ii) [s]uch redemption shall be made by exchanging each stablecoin for its reference asset at the relevant redemption value." *Infra* app. § 3.01.

264. *Infra* app. § 5.02.

265. *Infra* app. § 5.03(A)-(B).

266. The U.S. federal government has broad discretion, for example, to revoke granted rights. *Cf.* 12 C.F.R. § 747.402 (2020) (allowing the National Credit Union Administration to suspend or revoke a federal credit union's charter after finding it violated *any* provision of its charter or any applicable regulations). The Office of the Comptroller of the Currency may even terminate the charter of a bank that "encounters significant financial deterioration." *Comptroller's Licensing Manual: Termination of Federal Charter*, OFF. OF THE COMPTROLLER OF THE CURRENCY 2 (Jan. 2019), https://www.occ.gov/publications-and-resources/publications/comptrollers-licensing-manual/files/licensing-booklet-termination-of-federal-charter.html [https://perma.cc/MV9A-BMW4].

267. *Infra* app. § 5.03(C).

268. *Infra* app. § 5.03(D).

269. For example, Finland uses a "day-fine" system for traffic violations, in which fines are calculated as a multiple of one-half of the estimated amount of spending money that the offender has each day. Joe Pinsker, *Finland, Home of the $103,000 Speeding Ticket*, ATLANTIC (Mar. 12, 2015), https://www.theatlantic.com/business/archive/2015/03/finland-home-of-the-103000-speeding-ticket/387484/ [https://perma.cc/ME4D-WMAF]. The multiple represents the number of

provide realistic deterrence.[270] The Model Law also gives the Supervisory Agency discretion to impose any lesser penalties as it deems appropriate.[271] This discretion provides flexibility to avoid imposing penalties that could cause a violator to fail.

III. EXAMINING THE MODEL LAW'S FEASIBILITY

Next, this Article examines the Model Law from the standpoints of legal feasibility, political feasibility, and economic feasibility.

A. Legal Feasibility

To the extent nations enact the Model Law into their domestic law, there should be no concerns about international enforceability or other legal feasibility.[272] A nation's law generally is respected under international law so long as it is not discriminatory or arbitrary.[273] The Model Law's principal operative provisions should not be discriminatory or arbitrary.

The Model Law delegates authority to the Supervisory Agency to study certain topics covered by the Model Law and thereafter to promulgate rules and regulations based on its study.[274] It also authorizes the Supervisory Agency more generally to issue rules and regulations to carry out the provisions of the Model Law.[275] Some nations, however, might not currently delegate lawmaking authority to

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days for which the offender should be deprived of that money and is based on the severity of the crime. *Id.* To illustrate, imagine that a driver is caught going fifteen miles per hour above the speed limit, an offense that carries a multiplier of twelve days. *Id.* Further imagine that this driver is estimated to have $100 of daily spending money. *Id.* The penalty for this driver would be $600, or one half of his daily spending money (0.5 x $100 = $50), multiplied by the twelve-day multiplier ($50 x 12 = $600). If another driver commits the same offense, but has only $50 of daily spending money, then his penalty would be $300. *Id.*

270. *Id.* (finding the deterrent effect may be the same across income levels if a sliding scale is used).

271. *Infra* app. § 5.03(E).

272. *Cf. supra* note 18 and accompanying text (raising those concerns absent an international legal framework); Gilles Cuniberti, *Is the CISG Benefitting Anybody?*, 39 VAND. J. TRANSNAT'L L. 1511, 1514 (2006) (observing that "legal scholars have essentially justified the unification of international sale law . . . by claiming that the [uniform model law on the sale of goods] improves the legal environment in which international sales are concluded by increasing legal certainty and reducing transaction costs").

273. *See* 1 OPPENHEIM'S INTERNATIONAL LAW 918–21 (Sir Robert Jennings & Sir Arthur Watts eds., 9th ed. 1992) (applying this proposition to nations' laws regarding expropriation of alien property).

274. *See infra* app. § 3.04(A) (delegation regarding "how operational resilience of stablecoin usage and the stablecoin infrastructure should be regulated"); *infra* app. § 3.04(B) (delegation regarding "how stablecoin cybersecurity should be regulated"); *infra* app. § 3.05(C) (delegation regarding "how the monetary integrity of stablecoin use should be further regulated").

275. *Infra* app. §§ 4.01-.03.

administrative agencies.[276] In those nations, legislatures enacting the Model Law should consider delegating to the Supervisory Agency sufficient jurisdiction and power under applicable national law to carry out its rulemaking responsibilities.

Another legal issue could arise if a nation attempts to expropriate an issuer's stablecoin-related assets, such as reference assets, intellectual property, or computer servers. Under international law, nations may expropriate assets only to further a public purpose, with just compensation and without discrimination among nationals and aliens.[277] Thus, if Meta Platforms, Inc. (formerly Facebook, Inc.) issued stablecoins linked to the Turkish lira, and Turkey expropriated the lira held as reference assets in that nation, Meta would have a claim against the Turkish government. International law provides a treaty-based arbitration process for resolving this type of claim; 157 nations have ratified the ICSID Convention,[278] which allows for arbitration "between investors and host state governments" before the International Centre for Settlement of Investment Disputes.[279] Even if Meta ultimately wins the arbitration,[280] however, it faces a potential delay in performing its stablecoin-redemption obligations. The ICSID arbitration process can take years to resolve.[281]

This expropriation risk could superficially be addressed by including a provision in the Model Law prohibiting expropriation of stablecoin-related assets. A government that chooses to expropriate those assets in violation of international law, however, might well either ignore its domestic national law or simply cause its legislature, at the time of the expropriation, to amend the law by excluding that

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276. *Cf.* Benedict Kingsbury & Megan Donaldson, *Global Administrative Law*, MAX PLANCK ENCYC. OF PUB. INT'L L. ¶ 10, https://www.iilj.org/wp-content/uploads/2016/08/EPIL_Global _Administrative_Law.pdf (last updated Apr. 2011) [https://perma.cc/8N49-K4PL] ("In many national legal systems, the process of administration is distinguished sharply from the process of legislating, and rule-making is understood as part of legislation and therefore outside the scope of administrative law.").

277. Alexa Ashworth et al., *What Constitutes "Taking" of Property*, 13A FED. PROC., LAWS. ED. § 36:505 (2022).

278. *List of Contracting States and Other Signatories of the Convention*, INT'L CTR. FOR SETTLEMENT OF INV. DISPS. (July 14, 2022), https://icsid.worldbank.org/sites/default/files/ 2022_July_14%20_ICSID%203_ENG.pdf [https://perma.cc/CL5G-4KRC].

279. Kenneth J. Vandevelde, *A Brief History of International Investment Agreements*, 12 U.C. DAVIS J. INT'L L. & POL'Y 157, 174–75 (2006).

280. *See id.* at 184 n.173 (evaluating forty-one awards and noting a fifty-four percent success rate against the state).

281. *See* Bettina Müller, *ICSID Tribunal Dismisses Expropriation Case Against Venezuela on Jurisdictional Grounds*, INT'L INST. FOR SUSTAINABLE DEV. (Apr. 24, 2018), https:// www.iisd.org/itn/en/2018/04/24/icsid-tribunal-dismisses-expropriation-case-against-venezuela- jurisdictional-grounds-bettina-muller/ [https://perma.cc/F7D5-M3BZ] (observing that it can take over five years to receive an arbitral award in an expropriation case).

provision. The real solution to expropriation risk is practical: an issuer should not maintain any of its stablecoin-related assets in a nation where expropriation might become a reality.

B. Economic Feasibility

The economic feasibility of the Model Law will turn on its costs and benefits, both to nations and to users of global stablecoins: Do the overall benefits of the Model Law exceed its costs?[282] This cost-benefit balancing follows Kaldor-Hicks efficiency, the practical standard used by economists to assess the economic desirability of a project.[283] A project is Kaldor-Hicks efficient if its overall benefits exceed its overall costs, regardless of who bears the costs and who gets the benefits.[284]

As this Article has discussed in detail, implementing the Model Law should bring substantial benefits, including reducing cross-border costs, assuring legal enforceability, protecting consumers and privacy, and protecting monetary integrity and financial stability. Furthermore, in international financial markets, uniformity should benefit investors.[285] It is difficult to attempt to quantify these benefits, but they are almost certainly huge. Protecting financial stability would alone provide a major benefit. The cost of the 2008 financial crisis has been estimated, for example, as exceeding twenty-two trillion dollars.[286] If implementing the Model Law reduces the risk of another financial collapse by even five percent, that could save tens of billions of dollars, if not more.[287]

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282. *Cf.* Eric A. Posner & E. Glen Weyl, *Benefit-Cost Paradigms in Financial Regulation*, 43 J. LEGAL STUD. (SPECIAL ISSUE) S1, S3 (2014) (arguing that financial regulation should be subject to cost-benefit analysis); Cass R. Sunstein, *Financial Regulation and Cost-Benefit Analysis*, 124 YALE L.J.F. 263, 263 (2015) ("Cost-benefit analysis is best understood as a way for agencies to ensure that their decisions are informed . . . .").

283. ROBIN PAUL MALLOY, LAW IN A MARKET CONTEXT: AN INTRODUCTION TO MARKET CONCEPTS IN LEGAL REASONING 190 (2004).

284. *Id.*

285. *See* Paul G. Mahoney, *Securities Regulation by Enforcement: An International Perspective*, 7 YALE J. ON REGUL. 305, 305–06 (1990) (observing that with the internationalization of the securities markets, the SEC has advocated "more uniform regulation of international markets [in order to] benefit investors").

286. Eleazar David Melendez, *Financial Crisis Cost Tops $22 Trillion, GAO Says*, HUFFINGTON POST (Feb. 14, 2013, 7:49 PM), https://www.huffingtonpost.com/2013/02/14/financial-crisis-cost-gao_n_2687553.html [https://perma.cc/GE7K-RXXF]; *see also* FED. RSRV. BANK OF MINNEAPOLIS, THE MINNEAPOLIS PLAN TO END TOO BIG TO FAIL 60 (2017), https://www.minneapolisfed.org/~/media/files/publications/studies/endingtbtf/the-minneapolis-plan/the-minneapolis-plan-to-end-too-big-to-fail-final.pdf?la=en [https://perma.cc/829M-EJ68] (observing that as a result of the financial crisis, "trillions of dollars in American wealth was destroyed").

287. The ability of nations to use the Model Law as a template for legislation also would avoid the "destructive [political] noise and pressure" that often accompanies new legislation. Shmuel I.

Implementing the Model Law could certainly generate costs. For example, a nation would limit its ability to craft a unique law to regulate stablecoins. This cost, however, could be controlled by the nation enacting the Model Law with appropriate modifications to address its unique circumstances.[288] Alternatively, a nation simply could choose not to enact the Model Law. Other possible costs would be disintermediation as well as a nation partially relinquishing monetary sovereignty by allowing the use of a global stablecoin in its jurisdiction. This Article, however, has analyzed in detail how nations could control these costs.[289]

It therefore appears that the benefits of implementing the Model Law should significantly exceed the costs. Because its cost-benefit balancing is based on rough approximations, this Article does not purport to claim that this balancing is definitive. At the very least, however, it should provide a useful way of thinking about whether, from an economic perspective, the Model Law should be implemented.

C. Political Feasibility

As discussed, a model-law strategy should be politically more feasible than a treaty because it would not need the widespread consensus that can discourage a treaty's adoption.[290] A single nation could enact the Model Law as its domestic law, thereby beginning a legislative process.[291] As each additional nation chooses to enact the Model Law, that would help "to develop consensus around ideas that are commercially sound and legally effective."[292] A model-law strategy

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Becher, *Unintended Consequences and the Design of Consumer Protection Legislation*, 93 TUL. L. REV. 105, 107–08 (2018). This destructive tendency is especially likely to occur with complex and fast-moving innovations, such as global stablecoins. *Cf. id.* at 108–09 (observing that "legislatures cannot be expected to acquire the expertise needed for an efficient analysis of the numerous markets and issues consumer protection legislation addresses" and that "[l]egislatures will often be too slow-moving and too rigid in their procedures to cope efficiently and successfully with the rapid changes of modern consumer markets").

288. *Cf. supra* notes 62–66 and accompanying text (discussing why the flexibility of states to experiment with different versions of the UCC has been invaluable).

289. *See supra* notes 234–237 and accompanying text (discussing how nations could control disintermediation); *supra* notes 240–248 and accompanying text (discussing how nations could protect their monetary sovereignty).

290. *See supra* note 41 and accompanying text.

291. *See supra* note 50 and accompanying text.

292. Oonagh E. Fitzgerald, *Next Steps Towards a Multilateral Debt Workout Process, Part 2*, CTR. FOR INT'L GOVERNANCE INNOVATION (June 4, 2015), https://www.cigionline.org/articles/next-steps-towards-multilateral-debt-workout-process-part-2/ [https://perma.cc/T6AK-RY7E] (observing this in the context of implementing a model law for sovereign debt restructuring).

also could be pursued in parallel with other multilateral approaches as part of an overall strategy for regulating global stablecoins.[293]

The Model Law itself should be politically feasible for nations to enact. As this Article explains, it is generally consistent with the principles and recommendations concerning domestic and global stablecoins that have been published, or otherwise announced, by the world's leading central banks (including the U.S. Federal Reserve), the Bank for International Settlements, the G20 nations' Financial Stability Board, the G7 nations' finance ministers, and the Financial Action Task Force.

No article could conclude with certainty, however, that the proposed Model Law will be politically feasible. For example, some political groups may oppose model laws generally on the grounds that they are often passed by legislators to serve corporate interests.[294] At the very least, however, this Article should serve to increase the Model Law's political feasibility by explaining its approach and potential benefits and limitations. An incremental approach to developing norms has strong precedent in the legal ordering of international relationships, especially "where the subject is either controversial or technical,"[295] such as global stablecoin regulation.

CONCLUSIONS

The United States, other governments and multinational organizations, and the private sector are urgently exploring the possibility of employing digital currencies, especially for facilitating retail consumer payments domestically and across national borders.[296] Stablecoins represent one of the two types of digital currencies that are likely to become feasible in the near future. Epitomizing the financial

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293. *See id.* ("[A] multilateral framework developed though an inclusive process will strengthen legitimacy and accountability and prevent a race to the bottom in sovereign debt regulation.").

294. *See* Rob O'Dell & Nick Penzenstadler, *You Elected Them to Write New Laws. They're Letting Corporations Do It Instead.*, CTR. FOR PUB. INTEGRITY (Apr. 4, 2019), https://publicintegrity.org/politics/state-politics/copy-paste-legislate/you-elected-them-to-write-new-laws-theyre-letting-corporations-do-it-instead/   [https://perma.cc/9EQ9-BPYL]("For lawmakers, copying model legislation is an easy way to get fully formed bills to put their names on, while building relationships with lobbyists and other potential campaign donors.").

295. *See* Susan Block Lieb & Terence C. Halliday, *Incrementalism in Global Lawmaking*, 32 BROOK. J. INT'L L. 851, 852 (2007); Oona A. Hathaway, *Between Power and Principle: An Integrated Theory of International Law*, 72 U. CHI. L. REV. 469, 531 (2005) ("[S]tates can be gradually led toward stronger legal rules . . . [b]y starting with relatively weak international rules backed by little or no sanctions that all states feel comfortable joining, but then gradually pushing states to accept successively stronger and more challenging requirements.").

296. *Cf.* PRESIDENT'S WORKING GRP., *supra* note 9, at 3 (observing in November 2021 that the "rapid growth of stablecoins increases the urgency of this work").

system's complex evolution towards more public-private interdependence, stablecoins are nongovernment-issued digital currencies that are backed by "reference assets" having intrinsic value, such as dollars.

Although everyone agrees that a viable retail digital currency will require a robust legal framework, the application of multiple, and potentially conflicting, national laws to the cross-border use of stablecoins (as so used, "global stablecoins") would generate high costs[297] and also create uncertainty about international enforceability.[298] This Article analyzes how to reduce those costs and better assure enforceability by comparing potential regulatory strategies—an international treaty and a uniform model law—and explains why the latter would be more effective.

The Article also designs, critiques, and proposes possible text for such a uniform model law. The Model Law addresses both the basics of stablecoin regulation and its cross-border elements; it, therefore, should be applicable not only to regulating global stablecoins but also, by excluding its cross-border elements, to regulating domestic stablecoin usage.

The text of the Model Law is designed to be generally consistent with the principles and recommendations advanced by the world's leading central banks and multinational financial organizations for regulating global stablecoins. The Model Law thus should provide a possible legal template for enactment in nations in which stablecoins become widely used.[299]

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297. *See supra* notes 17–18 and accompanying text.

298. *See supra* notes 17–18 and accompanying text.

299. The Appendix to this Article cautions that, although generally consistent with the aforesaid principles and recommendations, the text of the model law is tentative because those principles and recommendations have been stated at a very high level. At the very least, however, such text should be useful in fostering a dialogue about how to apply those high-level principles and recommendations.

APPENDIX – PROPOSED TEXT FOR A MODEL LAW

The following "Stablecoin Regulation Act" proposes possible text for a Model Law to regulate digital currencies consisting of global stablecoins. This text closely follows the analysis of the Article to which this Appendix is attached. Questions that arise in interpreting the Stablecoin Regulation Act should be resolved by reference to that Article.

As that Article observes, although the Stablecoin Regulation Act is generally consistent with the principles and recommendations advanced by the world's leading central banks and multinational financial organizations for regulating global stablecoins, its text necessarily is tentative because those principles and recommendations have been stated at a very high level. Nonetheless, the Act's text should be useful in fostering a dialogue about how to apply such high-level principles and recommendations, recognizing that future analysis and experience almost certainly will prompt changes to the text.

MODEL LAW:
STABLECOIN REGULATION ACT[300]

PREAMBLE

The purpose of this Law is to harmonize and make uniform the regulation of digital currencies known as stablecoins, including their cross-border use. Such uniform regulation will help to reduce costs and assure international enforceability. It also will protect not only consumers and the privacy of stablecoin users but also monetary integrity and financial stability.

ARTICLE I – DEFINITIONS

§ 1.01. CONSUMER. The term 'consumer' shall mean a natural person who buys goods and services for personal use.

§ 1.02. LEGAL TENDER. Without limiting its meaning for other currencies, the term 'legal tender' means stablecoins that are legally

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300. The text of this Model Law is in part inspired by the proposed Stablecoin Classification and Regulation Act of 2020, H.R. 8827, 116th Cong. (2020). The Act was proposed in 2020 but ultimately never received a vote. *H.R. 8827 (116th): Stablecoin Classification and Regulation Act of 2020*, GOVTRACK, https://www.govtrack.us/congress/bills/116/hr8827 (last visited Sept. 20, 2022) [https://perma.cc/E87Y-V5J5].

valid to offer and to be accepted in payment of all debts, public charges, taxes, and dues.[301]

§ 1.03. REDEMPTION VALUE. The term 'redemption value' means the value of the reference asset for which a stablecoin is stated, or otherwise expected, to be exchangeable.

§ 1.04. REFERENCE ASSET. The term 'reference asset' means the asset in which a stablecoin is denominated or by reference to which it is priced.

§ 1.05. STABLECOIN. The term 'stablecoin' means any nongovernment-issued cryptocurrency or other digital financial instrument that is—

     (A) issued for the purpose of circulating as money, making payments, satisfying debts, or storing value;

     (B) denominated in, or priced by reference to, a reference asset; and

     (C) issued (i) with a stated redemption value or (ii) in such a manner that establishes a widespread public expectation that it will have a fixed or relatively stable redemption value.

§ 1.06. SUPERVISORY AGENCY. The term 'Supervisory Agency' means this nation's governmental agency having supervisory oversight over stablecoins, which currently is [name of agency]. [*Alternative if no such agency yet exists:* The term 'Supervisory Agency' means a government agency that this nation's central bank designates as having supervisory oversight over stablecoins.]

§ 1.07. TRADE. When used with respect to stablecoins, the term 'trade' means buying, selling, or otherwise exchanging stablecoins in currency-exchange or other commercial markets, for the purpose of making a profit.

ARTICLE II – ISSUING AND TRADING STABLECOINS

§ 2.01. RIGHT TO ISSUE STABLECOINS. The following persons, only, shall have the right to issue stablecoins:

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301. A legislating nation might wish to consider amending the above definition, as discussed *supra* notes 119–121 and accompanying text. Also, a legislating nation opting not to include section 3.06 of this Model Law should delete the above definition of Legal Tender. *See infra* note 302 (detailing a solution for nations so inclined); *infra* app. § 3.06.

(A) banks whose deposits are insured by a governmental entity of this nation, provided the Supervisory Agency does not revoke that right pursuant to § 5.03 of this Act; and

(B) any other persons for which the Supervisory Agency approves the right to issue stablecoins, provided the Supervisory Agency may condition such right on subjecting such persons to appropriate requirements in addition to those imposed pursuant to § 4.02 and other provisions of this Act.

§ 2.02. RIGHT TO TRADE STABLECOINS. The following persons, only, shall have the right to trade stablecoins or otherwise to engage in any stablecoin-related services or other activities:

(A) persons for which the Supervisory Agency approves that right; and

(B) persons that, pursuant to § 2.01 of this Act, have the right to issue stablecoins.

§ 2.03. NOTICE, REPORTING, AND DISCLOSURE REQUIREMENTS.

(A) Any person intending to issue or trade stablecoins or otherwise to engage in any stablecoin-related services or other activities shall—

(i) notify the Supervisory Agency of such person's intent at least six months in advance thereof;

(ii) describe the issuing, trading, or other stablecoin-related services or other activities in which such person intends to engage;

(iii) provide ongoing analysis to the Supervisory Agency of any potential systemic impacts or monetary policy implications of engaging in any such issuing, trading, or other stablecoin-related services or other activities; and

(iv) if such person intends to issue stablecoins, specify (a) the reference asset that underlies, or that will underlie, the stablecoins; (b) the means by which stablecoin holders have, or will have, the right to redeem their stablecoins for the reference asset; and (c) any other means, including but not limited to buying back outstanding stablecoins, by which such person shall ensure the stablecoins' stable value.

(B) Each such person promptly shall disclose, on an ongoing basis, any changes to the information required to be disclosed pursuant to the foregoing § 2.03(A).

§ 2.04. ACCESS TO CENTRAL BANK LIQUIDITY FUNDING.

(A) Any person that, pursuant to § 2.01, has the right to issue stablecoins shall have access to liquidity funding from [specify name of this nation's central bank] on the terms and conditions specified by the Supervisory Agency.

(B) All liquidity funding advances must be secured by collateral acceptable to the Supervisory Agency.

(C) Not later than the end of the six-month period beginning on the date of effectiveness of this Act, and from time to time thereafter as it deems appropriate, the Supervisory Agency shall specify the further terms and conditions of any such liquidity funding, including setting the maximum maturity term of advances and describing the nature of acceptable collateral.

(D) All determinations by the Supervisory Agency under this § 2.04 shall require consent of [specify name of this nation's central bank].

§ 2.05. LIMITATIONS ON STABLECOIN ISSUANCE AND USE.

(A) Without limiting its rights under § 4.02 of this Act, the Supervisory Agency shall condition or otherwise limit stablecoin issuance and use as it deems necessary or appropriate to protect financial stability and monetary policy.

(B) The Supervisory Agency's authority under subsection (A) above may include, without limitation, creating public-private partnerships in which stablecoin issuers delegate control over the issuance of new stablecoins and stablecoin usage to the government, and the government, for a fee, guarantees issuers' ability to redeem their stablecoins and/or in which stablecoin issuers deposit their reserves in accounts directly at the central bank.

(C) The Supervisory Agency shall exercise its authority under this section in cooperation with stablecoin issuers and, as it deems appropriate, any other relevant private-sector market participants.

ARTICLE III – STABLECOIN REQUIREMENTS

§ 3.01. REDEMPTION.

(A) OBLIGATION TO REDEEM STABLECOINS.

(i) Any person issuing stablecoins shall be obligated to redeem, promptly on demand by holders of such stablecoins, any such stablecoins so tendered for redemption.

(ii) Such redemption shall be made by exchanging each stablecoin for its reference asset at the relevant redemption value.

(B) MAINTAINING ABILITY TO REDEEM STABLECOINS. Any person issuing stablecoins shall maintain the ability, at all times, to redeem all such outstanding stablecoins for their applicable reference assets at the relevant redemption value.

(C) EVIDENCING THE ABILITY TO REDEEM STABLECOINS. Subject to rebuttal by the Supervisory Agency, the following mechanisms (or a combination thereof) shall be presumed to evidence an ability to redeem stablecoins as required by § 3.01(B):

(i) the stablecoin's redemption is insured or otherwise guaranteed by a governmental agency of this nation; or

(ii) the obligation to redeem the stablecoin is (a) collateralized by investment-grade-rated short-term money-market instruments; (b) guaranteed by one or more parties each of whose long-term unsecured debt is rated at least investment grade by a globally recognized statistical rating organization; or (c) backed by reserves that are maintained and managed in a segregated account in form and substance acceptable to the Supervisory Agency.

§ 3.02. CONSUMER PROTECTION. Consumers shall have the following rights when engaging in stablecoin transfers or other transactions:

(A) The liability of a consumer for any unauthorized transaction shall not exceed [specify this nation's monetary equivalent of U.S. $100].

(B) All persons issuing or trading stablecoins or otherwise engaging in any stablecoin-related services or other activities shall adequately inform consumers of their rights under this Act.

(C) No waiver of consumer rights shall be effective under this Act.

(D) No person issuing or trading stablecoins or otherwise engaging in any stablecoin-related services or other activities shall charge consumers excessive fees, as determined by the Supervisory Agency from time to time.

(E) Consumers shall have the right to redress erroneous transactions.

§ 3.03. PRIVACY. Each person that issues or trades stablecoins or otherwise engages in any stablecoin-related services or other activities shall—

(A) publicly disclose how they are protecting the privacy of stablecoin users, including Consumers;

(B) protect the financial records of such stablecoin users from government access, except to the extent needed to comply with § 3.05 of this Act; and

(C) not use, share, sell, or otherwise profit from data or other information relating to any such stablecoin users without such user's explicit written consent, provided such consent shall not be made a condition of stablecoin use.

§ 3.04. OPERATIONAL RESILIENCE AND CYBERSECURITY.

(A) The Supervisory Agency shall study how operational resilience of stablecoin usage and the stablecoin infrastructure should be regulated and shall, within the time frame specified in § 4.03 of this Act and from time to time thereafter, promulgate rules and regulations based on that study. That study shall include, without limitation, examining whether to require stablecoin issuers to back up their cryptology through separate networks, to maintain backup validator nodes, and to utilize more secure hardware technology.

(B) The Supervisory Agency shall study how stablecoin cybersecurity should be regulated and shall, within the timeframe specified in § 4.03 of this Act and from time to time thereafter, promulgate rules and regulations based on that study. That study shall include, without limitation, examining how the risks of double spending and making transfers involving an unverified account should be regulated, including whether to utilize blockchain technology that digitally identifies stablecoin transfers and/or a centralized clearinghouse that records stablecoin transfers.

§ 3.05. ANTI–MONEY LAUNDERING AND RELATED PROTECTIONS.

(A) This Act hereby adopts as legislative policy the recommendations of the Financial Action Task Force ("FATF") regarding anti-money laundering and combatting the financing of terrorism and proliferation, as published by the FATF from time to time, to the extent those recommendations pertain to virtual assets and virtual asset service providers.

(B) The Supervisory Agency shall review those recommendations and, as it deems necessary or appropriate and within the time frame specified in § 4.03 of this Act, promulgate rules and regulations redacting those recommendations as the law of this nation.

(C) The Supervisory Agency also shall study how the monetary integrity of stablecoin use should be further regulated, and shall have the authority from time to time to promulgate additional or different

rules and regulations based on that study. That study shall include, without limitation, analyses of how know-your-customer rules should apply to the retail use of stablecoins and how a decentralized use of stablecoins, without financial intermediaries, should be regulated.

[This section is optional:][302] § 3.06. LEGAL TENDER. Only stablecoins (A) meeting all of the foregoing requirements of this Article III and (B) having this nation's currency[303] as their reference assets shall be legal tender.

ARTICLE IV – ADMINISTRATIVE SUPERVISION

§ 4.01. IN GENERAL.

(A) The Supervisory Agency shall have general regulatory authority over the matters covered by this Act.

(B) Without limiting the foregoing, the Supervisory Agency shall work with [specify name of this nation's central bank] to promulgate rules and regulations and otherwise carry out the provisions of this Act.

§ 4.02. PROTECTING FINANCIAL STABILITY.

(A) As it deems necessary or appropriate, the Supervisory Agency shall monitor, supervise, and regulate to protect against any potential systemic impacts or monetary policy implications regarding stablecoins or any persons issuing or trading stablecoins or otherwise engaging in any stablecoin-related services or other activities.

(B) Such regulation may include imposing liquidity and capital requirements on, and ring-fencing, persons issuing or trading stablecoins or otherwise engaging in any other stablecoin-related services or other activities.

(C) Such regulation shall not limit the application of any other government regulation intended to protect financial stability.

§ 4.03. RULEMAKING. Not later than the end of the [12] month period beginning on the date of effectiveness of this Act, and from time to time thereafter as it deems appropriate, the Supervisory Agency shall promulgate rules and regulations to carry out the provisions of this Act.

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302. A nation enacting the Model Law could opt not to recognize stablecoins as legal tender by omitting this section 3.06 and the definition of Legal Tender in section 1.02. *Cf. supra* note 301 (observing the foregoing); *supra* notes 113–123 and accompanying text (analyzing legal tender).

303. A nation enacting the Model Law might consider amending "this nation's currency" to read "the currency of this nation or of [specify other nation(s)]" if that nation has declared those other currencies also to be legal tender.

§ 4.04. INTERNATIONAL COOPERATION. The Supervisory Agency shall cooperate, to the extent appropriate, with Supervisory Agencies of other nations and with any international supervisory agency or any other multigovernmental organization responsible for the cross-border use of stablecoins or for the potential threat such use poses to international monetary and financial stability. Such cooperation shall include the cross-border monitoring, risk-assessment, and regulation of stablecoins.

ARTICLE V – PENALTIES

§ 5.01. IN GENERAL. The Supervisory Agency shall have discretion to penalize any person for violating the provisions of this Act or of any rules or regulations promulgated pursuant to this Act.

§ 5.02. FAILURE TO MAINTAIN ABILITY TO REDEEM. Without limiting § 5.01 above, if at any time the Supervisory Agency determines that an issuer lacks the ability to redeem all outstanding stablecoins, upon demand, for their reference assets at the relevant redemption value, the Supervisory Agency shall have discretion to penalize such issuer.

§ 5.03. SCOPE OF AVAILABLE PENALTIES. The foregoing penalties may include—

(A) the revocation of a person's right to issue or trade stablecoins or otherwise to engage in any stablecoin-related services or other activities;

(B) the revocation of a person's access to central bank funding liquidity and any government guarantee granted to such person;

(C) the revocation of a person's banking or other government-conferred charters;

(D) the imposition on a person of monetary fines not to exceed, per violation, the greater of (i) [specify this nation's monetary equivalent of U.S. $1,000,000] and (ii) 10% of this nation's currency equivalent of the face value (whether denominated in, or priced by reference to, this nation's currency or another national or subnational currency) of such person's issued and outstanding stablecoins; and

(E) any lesser penalties as the Supervisory Agency deems appropriate.

ARTICLE VI – EFFECTIVENESS

§ 6.01. This Act shall become effective 30 days after its enactment.